

A practical treatise on medical inhalation, or, The direct and local application of remedies to the air passages : with cases demonstrating its palliative and curative power in consumption, bronchitis, asthma, and other diseases of the respiratory organs : the opinions of Rush, Scudamore, Eberle, Mudge, Crichton, Thomas, Corrigan, Ramadge, and the author will be fully and fairly presented / by Edward Jenner Coxe.

Contributors

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A
PRACTICAL TREATISE
ON
MEDICAL INHALATION
OR
THE LOCAL APPLICATION OF REMEDIES
FOR DISEASES
OF THE
THROAT and LUNGS
BY EDW. JENNER COXE, M.D.

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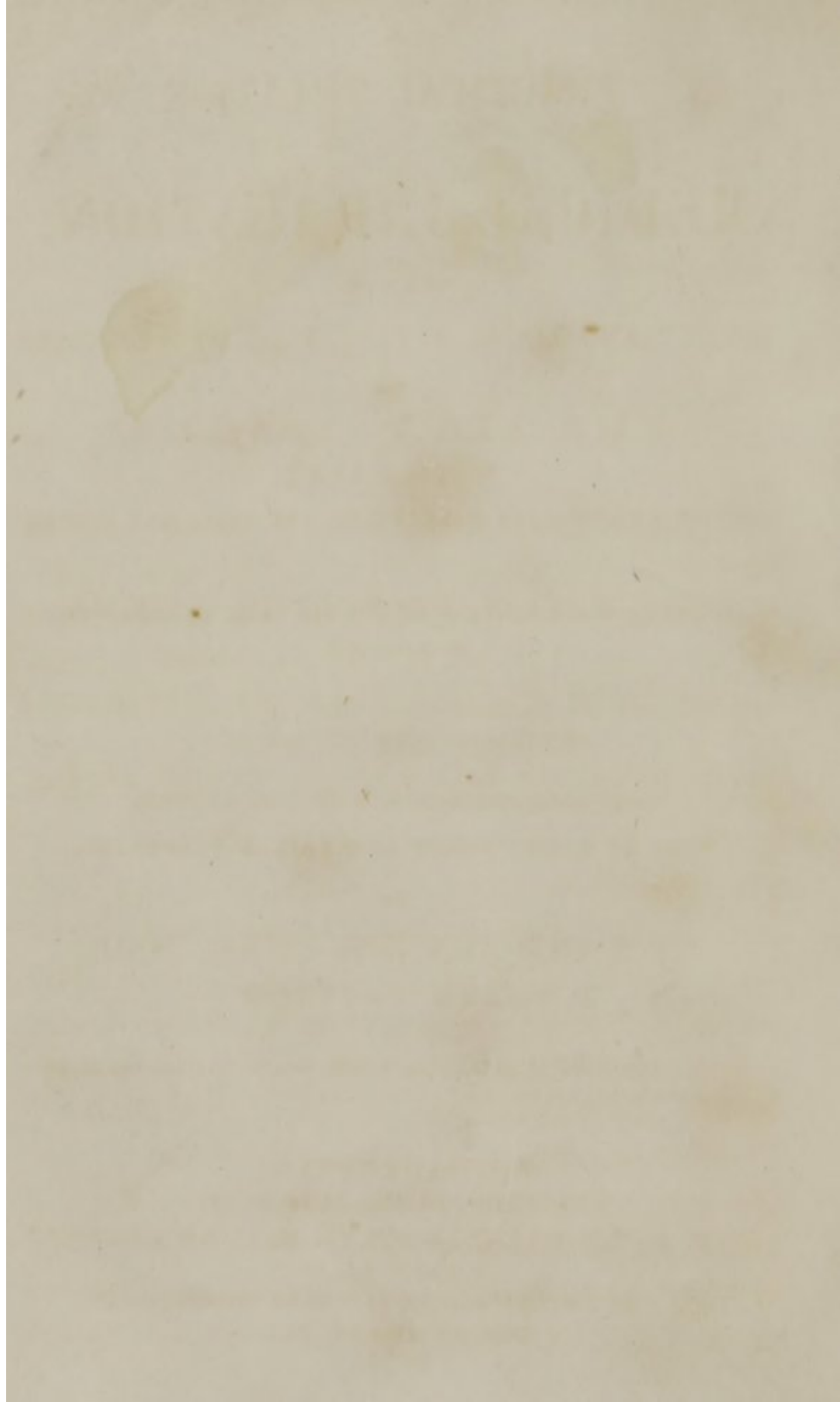
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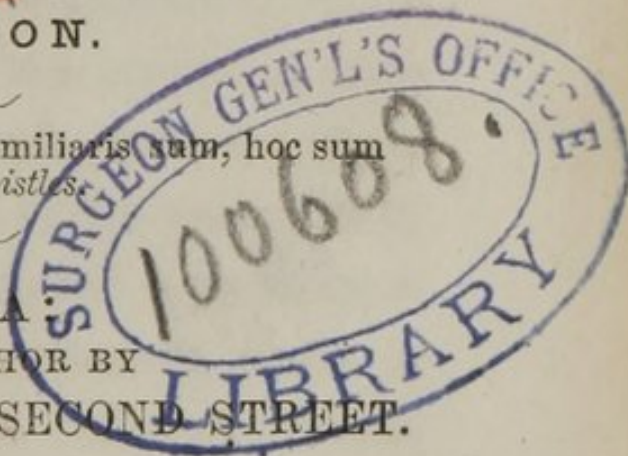
A
PRACTICAL TREATISE
ON
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OR THE
DIRECT AND LOCAL APPLICATION OF REMEDIES
TO
THE AIR PASSAGES.
WITH CASES
DEMONSTRATING ITS PALLIATIVE AND CURATIVE POWER
IN
CONSUMPTION, BRONCHITIS, ASTHMA,
AND OTHER
DISEASES OF THE RESPIRATORY ORGANS.

THE OPINIONS AND EXPERIENCE OF
RUSH, SCUDAMORE, EBERLE, MUDGE, CRICHTON, THOMAS,
CORRIGAN, RAMADGE, AND THE AUTHOR,
WILL BE FOUND FULLY AND FAIRLY PRESENTED.

BY
EDWARD JENNER COXE, M. D.
THIRD EDITION.

Non scribo hoc temere. Quo minus familiaris sum, hoc sum
ad investigandum curiosior!—*Cicero's Epistles.*

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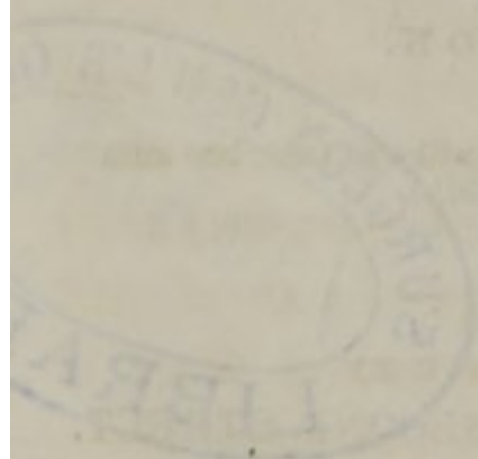
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1854

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TO THE MEMBERS
OF THE
MEDICAL PROFESSION.

THE principal object of the following remarks upon medical inhalation, is to collect and concentrate the observations of many writers upon the subject, thereby more particularly directing attention to a plan of treating consumption, bronchitis, and other affections of the respiratory organs, which, although not possessing the merit of entire novelty, has, until the last few years, been too much neglected.

The importance of those diseases for the treatment of which, this direct local application of remedies is peculiarly appropriate, has caused it once more to be brought into notice with such an accumulated mass of facts, in support of its value, as to warrant the belief of its being assigned a prominent and permanent place among the various plans of treatment for pulmonic diseases. Among those who have proclaimed the curative powers of medical inhalation, no one has pursued it with more perse-

verance, or given a greater number of successful cases, than Sir Charles Scudamore.

His work and communications in several of the English medical periodicals contain so much practical information upon this subject, that I have thought the interest of the profession, and the benefit of mankind would be advanced by presenting the greater part of his observations in his own language, and I sincerely hope, as I really believe, that the success which he, many others, and myself have derived from this AUXILIARY MODE OF TREATMENT, WILL PROVE EQUALLY GREAT IN THE HANDS OF OTHER PHYSICIANS.

It may not be improper to remark that I had derived all my experience, and written these remarks, before I was aware of the existence of the observations of Sir Charles Scudamore and a majority of those whom I have consulted; consequently, the coincidence of views and results which will be found to exist, cannot but be considered an additional argument in favor of the curative powers of the direct application of remedies to diseases of the lungs. Firmly convinced of the value of medical inhalation in various diseases of the respiratory organs, it was with the greatest pleasure I found that the experience of many medical men well known to the profession, could be adduced in support of its positive curative powers; and I may confidently assert,

that these remarks will be found to contain all the information necessary to enable medical men to pursue this interesting and important subject with benefit to their patients and to the advancement of the science.

Although medical inhalation will not, and necessarily cannot, in all cases, succeed in effecting the utmost of our desires, it will, under the most adverse circumstances, generally prove a valuable palliative, and but little, if any doubt, can reasonably be entertained of its coming into general use for the treatment of consumption, bronchitis, and other diseases of the air passages.

Confidence in the real value of this remedial means, an ardent desire to do all in my power, as a member of the profession, to alleviate the sufferings of the sick, and to contribute my efforts to the advancement of the most interesting part of the science of medicine, that of curing disease, have been my sole reason for appearing before the public; and I hope all inaccuracies of style, or other defects, will be overlooked by those to whom I dedicate these remarks, and prove a sufficient apology, if such be necessary, for endeavoring to bring more generally into notice the important subject of Medical Inhalation.

EDWARD JENNER COXE, M. D.

New Orleans, November, 1841.

In publishing, at the expiration of four years, a second edition of this work, it is only necessary to remark that the object for which it was intended has been fully realized, and that additional experience has more strongly convinced me of the importance of Medical Inhalation as a means of cure.

E. J. C.

October, 1845.

In publishing a third edition of this work, it is with pleasure I can state that the main objects, the extension of the knowledge of the remedial and curative powers of Medical Inhalation, the benefits to be derived from its employment, and the positive good conferred upon many, have been realized.

Unfortunately, the principal diseases, for which Medical Inhalation is serviceable, have thus far been found most intractable, or almost incurable by any or every mode of treatment, principally, because the prominent local symptoms have been allowed to progress too far, to the neglect of the primary constitutional symptoms, before any appropriate remedial and preventive measures have been brought into action, and vigorously pursued.

That consumption is a curable disease, if taken in time, is admitted by most of the faculty, but to succeed in accomplishing a cure, proper means must not be neglected until the last and most un-

favorable moment, when all remedial measures must necessarily prove of no avail.

At an early stage of consumption, medical inhalation, in conjunction with appropriate dietetic, tonic, and hygienic measures, will accomplish a great deal, far more than the debilitating remedies so generally resorted to.

In that very prevalent disease, implicating the larynx, trachea, and ultimately, in numerous cases, the bronchi, popularly known as chronic bronchitis, and clergyman's sore throat, the utmost confidence can be placed in the curative power of proper remedies locally applied by inhalation, and if with it, the valuable auxiliaries of cold bathing, saline and astringent liniments, hard friction, daily exercise of various kinds, and, above all, the ridding the throat of all superfluous covering, which always proves injurious, very few cases would be found incurable, or compel an abandonment of the professional duties of a valuable class of society.

Could the public mind be fully impressed with the absolute necessity of attending to the first manifestation of symptoms, or appearances, indicating the probability of the existence of the germ of those fatal diseases of the throat and lungs, requiring only a repetition of slight causes to give a firm root, and that then was the time to counteract the predisposi-

tion to so insidious a disease, a belief in the curability of consumption would be more generally entertained, and more numerous facts in proof of such cures be recorded in honor of our profession.

EDWARD JENNER COXE, M. D.

May, 1854, 95 Camp Street.

A PRACTICAL TREATISE
ON
MEDICAL INHALATION,
AND

ITS APPLICABILITY AS A REMEDIAL AGENT FOR THE PREVENTION AND CURE OF CONSUMPTION, BRONCHITIS, AND OTHER DISEASES OF THE RESPIRATORY ORGANS.

BY
EDWARD JENNER COXE, M. D.

By Medical Inhalation, is to be understood the inspiration of air, impregnated with the active principle of medicines, calculated to produce a local remedial and curative effect upon that part of the mucous membrane of the respiratory organs which may be in a morbid condition, and, indirectly, upon diseases implicating other portions of the lungs.

To accomplish this object in a perfect manner, two modes may be employed.

One, by causing the patient to breathe, in a close room, the vapor of such medicines as may be considered appropriate to the existing disease. This is accomplished by placing the solid or fluid medicine in a vessel over live coals, or a lamp; an ordinary nursery lamp will answer the purpose.

The other, most efficient, and only correct mode, is by means of a properly constructed inhaler, which will enable the air breathed to pass through a medicinal fluid, and thus, impregnated or saturated

with the power of the medicine employed, to reach the minutest air-cells.

This direct application of a remedial agent to the seat of the disease, independently of the many facts to prove its value, cannot but commend itself to the best of all tests—the common sense of each individual.

In reference to the action of the principal medicines found most useful for inhalation, it may be truly said that there is, as a general rule, more certainty of producing the effects desired than when given internally, with the decided advantage of not harassing the stomach, so often, directly and sympathetically, affected in many chronic diseases of the lungs.

Of the various diseases incident to individuals of all ages and both sexes, none possesses stronger claims upon the serious attention of the medical profession than consumption, of common occurrence, and the now more frequently observed chronic diseases of the larynx, trachea, and bronchi, generally designated chronic bronchitis. It is needless to dwell upon the facts that at present, as formerly, these diseases are, when fully developed, generally fatal, and that medicine, strictly speaking, internally administered, possesses but a slight controlling or curative influence. That the prevention and cure of these diseases may justly be considered equally important and interesting subjects of medical investigation, will be admitted by all. When the protracted, if not violently painful suffering, and the confessed great mortality caused by the above-named diseases of the respiratory organs, are seriously looked into, can it be doubted that any means calculated to lessen the amount of human suffering, and arrest the slow, though generally sure approach of death, is de-

serving of serious consideration, and has a right to claim such from all the profession.

To the present time, although rapid strides have been made, by Laennec, the immortal discoverer of the stethoscope, his pupils, and followers, in detecting and distinguishing the various sounds indicating, with almost unerring accuracy, the precise morbid condition of every portion of the lungs, in the various diseases of those organs, the question naturally presents itself, whether an equal, or indeed any, advance has been made in our power to control or cure these prevalent diseases. To judge from accurate statistics, in our country and Europe, we are obliged to admit the truth of so lamentable a fact.

May it not be reasonably expected that the more thorough knowledge and the more correct application of medical inhalation, as a preventive and curative agent, will enable a greater degree of success to crown our efforts, and a larger number to reach the allotted age of threescore and ten years.

From a distant period to the present time, consumption, as well as many diseases incident to the larynx, trachea, and bronchia, have engaged the talents and untiring application of many members of that profession, whose noble occupation is the endeavoring to alleviate the sufferings of their fellow-beings, by a successful application of the various means appertaining to the different branches of medicine.

Painful as must be the admission, our science has to regret that, among the few diseases which to this day continue to be ranked as the *opprobria medicinæ*, none have proved more generally invincible than many of those to which the different parts of the respiratory organs are subject.

In proof of the inability of medicine to materially arrest the fatal progress of certain diseases of the respiratory organs, we need but refer to the bills of mortality in almost every section of the globe; and, as further illustrative of this melancholy fact, it may be mentioned that in England, at the present day, it is estimated that, of the annual deaths, about one-fourth is caused by consumption.

Sydenham expressed the opinion that the fifth part of mankind died of this disease. The statistics of our own country show that, in our principal northern cities, of the deaths annually occurring, about one-sixth is caused by consumption, and kindred diseases of the lungs.

With such facts presented to the notice of all, would it not be an anomaly, did not medical inhalation, as a preventive and curative agent, receive from the public, who are chiefly interested, a due and serious consideration?

Disclaiming any pretension to originality in the direct local application of remedies to the various diseases of the respiratory organs, my principal object is to place before the profession a mass of testimony upon the subject, and for that purpose I shall draw largely from those who have recorded the results of their experience with it.

In the course of these remarks, I hope to be able to prove conclusively that to the treatment of many diseases of the larynx, trachea, bronchi, and lungs, medical inhalation is not only peculiarly applicable, but that, upon many occasions, it has displayed unequalled powers in the cure of diseases of those organs which had baffled the usual resources of our art, and which, as a necessary consequence, entitle it to be ranked among the most useful means which

can be employed for the treatment of those diseases.

That this simple, powerful, and efficient auxiliary has been too much neglected, I feel no hesitancy in asserting; for, independently of the observations of many well known medical men, positive experience in my own person, as well as upon others, authorizes my asserting that medical inhalation, properly performed, has succeeded in overcoming that chronic disease, implicating the larynx, trachea, or bronchi, generally, however, incorrectly termed bronchitis, without reference to the precise seat of the disease, which, in a practical point of view, may be considered a matter of little importance.

From the great frequency of diseases of the mucous membrane of the larynx, trachea, and bronchi, the difficulty, and, in many cases, the impossibility of effecting a perfect cure with the ordinary plan of treatment, it has become a subject not only of common observation, but of very general interest.

The value and efficacy belonging to this remedial measure, may to a certain degree be estimated from the fact that, in the majority of cases in which I have successfully employed it, not only was the disease of many years' duration, but the long-continued trial of the various remedies generally recommended, and upon whose curative powers the experienced of our profession almost solely depend, had proved entirely ineffectual.

TO PREVENT MISCONCEPTION AS TO MY OPINION OF THE VALUE OF THIS IMPORTANT MODE OF TREATMENT, I CONSIDER IT PROPER TO STATE THAT I BY NO MEANS WISH TO ASCRIBE TO MEDICAL INHALATION SO UNIVERSAL OR ABSOLUTELY CERTAIN A

CURATIVE POWER, IN THE VARIOUS DISEASES OF THE ORGANS OF RESPIRATION, AS TO ENABLE PHYSICIANS TO DISPENSE WITH THOSE ACKNOWLEDGED BENEFICIAL REMEDIES IN COMMON USE, AND WITH WHICH THIS METHOD OF TREATMENT MAY JUDICIOUSLY AND SUCCESSFULLY BE CONJOINED. I CANNOT, HOWEVER, FORBEAR EXPRESSING THE BELIEF, BASED UPON EXPERIENCE, THAT MEDICAL INHALATION, MORE ESPECIALLY IN CHRONIC DISEASES OF THE MUCOUS MEMBRANE OF THE LARYNX, TRACHEA, AND BRONCHI, IS, BY ITSELF, WHEN PROPERLY APPLIED, CAPABLE OF EFFECTING AS MUCH, IF NOT MORE, REAL BENEFIT THAN CAN BE ACCOMPLISHED BY THE CONJOINED POWERS OF THE VARIOUS REMEDIES FOR THOSE DISEASES IN GENERAL USE AT THE PRESENT DAY. Similar views are held by Sir C. Scudamore, who says: "Although I place my great dependence on the use of inhalations, I consider it, in most instances, useful or necessary to call the power of medicines internally to my aid."

Regarded as a powerful auxiliary to the ordinary modes of treatment of some diseases of the air passages, can any reasonable doubt be entertained that medical inhalation is entitled to persevering trials? From a due consideration of the testimony adduced in support of its power and efficacy, have we not a right to infer that many diseases of the lungs will be found more amenable to treatment, and that many more perfect cures will result?

Although I have most frequently employed medical inhalation for the treatment of chronic diseases of the mucous membrane of the air passages and consumption, there can be no question of its judicious application proving eminently serviceable in

the acute diseases so common to the pulmonic system.

When we consider the importance of a healthy condition of the mucous membrane of the respiratory organs to the whole system, the numerous causes, either local or general, capable of exercising a morbid influence upon it, as well as the great increase and acknowledged difficulty of curing many diseases to which the various parts of this membrane are subject, is it not the duty of one who has been cured by its employment to endeavor to extend information upon so important a subject by adducing proofs from many sources? In every case in which I have employed it, the effect has been either an entire cure, or so decided an amelioration, as to call forth the warmest approbation from those to whom it had been ordered.

In reference to my own case, the first in which I had tried it, it may not be amiss to state that, for years, I had given an ample trial to all the remedies which were suggested by many of the most experienced American and French physicians, without being able to effect more than an alleviation of the most distressing symptoms attendant upon a chronic disease of the mucous membrane of the larynx and trachea, seriously affecting the voice, attended with pain and considerable purulent expectoration. This alleviation could only be finally accomplished by abandoning the practice of my profession, and calling into requisition the advantages of sea voyages, a long residence in warm climates, and such other means as were considered appropriate, all of which will be more particularly noticed in the history of the case. Such being the fact, well known to medi-

cal and other friends, and considering the decided effect produced by medical inhalation, to which I fortunately had my attention directed by a casual reference to one of those authors who had successfully employed it, I could not but attach great importance to it.

This mode of treatment was eagerly embraced; by pursuing it regularly, and finally employing the most active medicines in a different manner from that generally recommended, I succeeded in accomplishing that which had previously appeared impossible, being now in the enjoyment of excellent health, and enabled to attend to the duties of an active life; either or both of which results, would, I suppose, be considered sufficiently strong arguments to any one who may have the misfortune of being similarly afflicted.

Like other individuals, I am liable to have the same part affected by an acute attack of inflammation; and, as might naturally be supposed, when we consider the abnormal condition of the mucous membrane, after so long an existence of a serious chronic disease, a more powerful impression would be expected in my case than in those whose organs had always been in a healthy condition prior to such an attack. Notwithstanding my having suffered frequently from such an acute attack, in parts so long the seat of disease, I have each time been enabled to arrest its progress, and restore them to their usual healthy condition in the course of a week or ten days, without the necessity of confinement or the use of any other remedy than bathing the throat, breast, and arms, night and morning, with cold water, followed by hard friction.

In chronic diseases of the respiratory organs, so extremely susceptible do individuals become to a recurrence and consequent increased violence of the disease from the slightest exposure, and so anxious are all to prevent these repeated and almost unavoidable attacks, by enveloping the throat and breast in various thicknesses of flannel, the daily repetition of the most active remedies, and deprivation of every kind, that those only who have been compelled to endure these trials for years, can form the slightest idea of the real enjoyment resulting from an ability to throw aside such preventive and remedial measures, and participate in the active duties of life, free from the constant apprehension of the injurious effects so apt to follow a moderate exposure.

It is frequently observed, that a mild attack of disease of the throat will occur in the winter or spring, be recovered from during the summer to recur the following winter, and pursue this course for many years, when it will be found to have acquired such force as to be with difficulty cured; and this, regardless of the usual course of treatment. In these cases, inhalation is almost certain to succeed. The earlier commenced the greater the hope of a cure.

Medical inhalation having proved so successful in my own case, and many others for which I have ordered it, I cannot but consider it possessed of greater and more certain remedial powers than have been generally awarded to it, and consequently meriting the most serious consideration, and more frequent application.

Although medical inhalation does occasionally display its curative powers in a short time, it must not

be supposed that such will invariably result, or that in all cases it will succeed in effecting a cure. Like all remedial measures, it must necessarily fail sometimes, but most unjust would it be did such cause it to be neglected; for, are we not accustomed in many diseases of the respiratory organs, to witness the constant failure of all the remedies that have been proposed for their treatment? still are they not only continued, but regarded as remedies upon which our principal reliance is placed.

That the practical application of medical inhalation is but little known, and in our country, still less employed at the present day, cannot be denied. Let not, however, preconceived ideas as to its capability of effecting much or little good, prevent an impartial and sufficiently extensive trial. The responsible duties which medical men owe to mankind, to the profession, and to themselves, demand that the merits claimed for this plan of treatment should be duly investigated; experience, derived from its practical application, can alone enable a correct estimate of its value to be formed. As will be seen in the course of these remarks, the testimony of many medical men of Europe and this country, is most decided upon the curative power of the local application of remedies in consumption, and other diseases of the respiratory organs.

The endermic application of remedies for many diseases is now not only acknowledged to be of great utility, but is more or less employed, and with equal reason might it be denied that remedies so applied could produce their specific effects upon the system, as to assert that medical inhalation is incapable of exerting, either locally or constitutionally, any well

marked curative power in diseases of the respiratory organs.

The fact of the specific effects of medicines locally applied by inhalation is constantly observed, in some cases very strongly; and it is upon this undeniable fact that are based all arguments in favor of medical inhalation.

The curative powers of medical inhalation, I consider well established, and those, who, laboring under any chronic affection of the respiratory organs, are generally made to depend upon the uncertain effects of sea voyages, and change of climate, however inconvenient such may be, for a probable restoration to health, after a long continued, though most frequently inefficacious treatment, have certainly a right to require from their medical advisers, that the alleged efficacy of medical inhalation, as a powerful auxiliary, be faithfully and fully tried in their cases.

It may be mentioned, as by no means a slight recommendation of this remedial measure, that it does not in any way interfere with any particular plan of general or local treatment which may be considered appropriate to each individual case; it being of easy application, and productive of no unpleasant effects, properly applied.

It may naturally be asked why medical inhalation, which is asserted to have been used with success in many diseases of the respiratory organs, should have been consigned to unmerited neglect, or why its real or presumed merits have not been more generally commented upon in the many practical works recently published. Granting that this remedial measure may not have proved equally beneficial

in the hands of all medical men who may have resorted to it, it certainly is no reason why a fair statement of facts should not have been presented to those who read for practical information, or why an enumeration of those diseases in which it has been successfully employed, as well as the various remedies recommended, and the best manner of using them, should not have been detailed, thereby presenting to those members of the profession, who might be disposed to direct their attention to the subject, certain data upon which to proceed.

Various reasons can be assigned, to account in a measure for the little progress made in the correct application of medical inhalation. The principal and most cogent reason is, that the process has been performed in a manner totally incapable of producing the effect desired.

By means of an ordinary teapot, or holding the mouth over a basin or bowl of hot water, to which some medicinal article has been added, the effect never can be produced. Inhalation, properly so called, cannot be carried on in that manner with the least hope of benefit. When medical inhalation is tried, let it be done correctly, in which case positive benefit may be anticipated.

Another reason may be attributed to the real difficulty in selecting the most appropriate remedy; but by commencing with one calculated to soothe irritation, others, as may appear indicated for specific objects, can be selected and varied as circumstances indicate.

As might be supposed, a manifest difference of action and consequent result will necessarily occur,

depending upon the adaptation of the remedy to the existing disease and effect sought.

With medical inhalation, as with ordinary remedies, there is a proper time for resorting to them in all diseases. And in what, it may be asked, does sound medical judgment or experience consist, if it is not in the correct adaptation of the remedies employed to the existing condition of the system and stage of the disease? and surely, the advocates of medical inhalation have a right to claim for it an equal discrimination in selecting appropriate remedies, as well as in their correct application.

However beneficial the use of the fumigation of the vapor of tar, and similar articles, may have proved in consumption, it is unquestionable that, prior to their use, judging from the accounts given by different writers, the disease had progressed so far as to forbid the hope of benefit from any plan of treatment; and the only astonishment is that, under such circumstances, the slightest amelioration should have resulted; which, we are informed, was decidedly the case.

When it is considered that, as a general rule, this local application of remedies was not resorted to until after every other remedy had been unsuccessfully tried, it might certainly be regarded as rather more than unreasonable to anticipate any positive curative effect from medical inhalation, when resorted to at so unfavorable a period of the disease.

The *modus operandi* of medical inhalation, as a remedial measure, may, I think, be regarded as twofold, depending entirely upon the condition of the individual for whom it may be ordered; first, a purely mechanical action; and, secondly, the direct

application of an air saturated with the active principles of such medicines as may be selected for use.

By the first, we have the mucous membrane lining the air passages, the lungs themselves, as well as the thorax, so acted upon by a regular and slowly increased expansion of those parts, that, like exercise upon the muscular system, an additional degree of volume and strength is acquired, and, as a necessary consequence, a capability of resisting, to a much greater degree, those morbid impressions likely to result from an exposure to the various causes known to produce disease in the different parts of the pulmonary organs.

In the second place, I attribute great curative power to the direct local application of the active and peculiar properties of the various medicines employed, the proof of which cannot be denied by any reflecting mind.

Although doubted, and even denied by some, that such an effect can result from medical inhalation, I feel thoroughly assured of the correctness of my opinion, inasmuch as positive experience has convinced me that, in many cases, precisely similar effects have followed the inhalation of remedies upon the system as would have been produced by their internal administration, and it is utterly impossible to account for the effects which have actually resulted, unless we admit the local and general action of such remedies; and, as will be seen, the testimony of other medical men upon this point is of the most positive character.

That this mode of applying remedies exerts a decided influence upon the general system, I feel convinced; for the inhalation of the narcotic extracts

produces their usual soporific and soothing effects even upon those accustomed to their daily use, while that of balsam copaiva and turpentine frequently imparts to the urine that peculiar odor so well known to follow their internal administration.

Was it considered necessary, additional proof of the correctness of such an opinion might be adduced from the experiments which have been made upon pulmonic absorption, without reference to its remedial application.

I assume it, therefore, as a fact which cannot reasonably be denied, that medical inhalation does possess positive curative powers in consumption, bronchitis, and other diseases of the pulmonary organs.

The importance of a regular and full expansion of the lungs in preserving those organs in a healthy condition, as well as the necessary influence exerted through them upon the entire system, must be manifest to every one, and we have naturally suggested to us the propriety of bringing to our aid, as a preventive of disease, some of the powers of inhalation.

In youthful persons, where there is reason to apprehend a predisposition, either hereditary or acquired, to disease of the lungs, as may frequently be discovered by the conformation of the thorax, as well as by attending to the process of respiration, have we not a right to infer that great benefit will result from an increased exercise given to the lungs by the regular use of the inhaler? There can be no question that many of the ill effects resulting from tight lacing in females, would be prevented or removed by the same means.

Dr. Thomson, dom. man. of sick room, London, 1845, correctly remarks: "There is one description

of exercise too little attended to; but which is, nevertheless, of great importance in warding off pulmonary diseases; namely, the exercise of the chest. Nothing is more essential for the preservation of health than the full expansion of the lungs, so as to maintain the free passage of the air to the minutest tubes and all the air-cells, to promote the pulmonary circulation, and to favor that complete change in the blood, for which the respiratory function is intended.

In support of the correctness of these opinions, the well known effects produced by a regular and gradually increased amount of exercise, upon the muscular system, so frequently and beneficially recommended in a remedial point of view, may properly be adverted to.

That so desirable a result as the preventing or overcoming the first appearance of some of the diseases to which the pulmonic system is liable, by enlarging and strengthening those organs, is capable of being at times accomplished, does not admit of a doubt. An additional argument in favor of the producing by means of exercise, an increased capacity and strength of the lungs may be drawn from effects produced in the lungs of those inhabiting mountainous regions, or in those undergoing the process of training. In both instances, from the effect of exercise, the lungs are enabled to support, with perfect ease, such an amount of fatigue, that, to those unaccustomed to such exercise, however robust in person, would be beyond imitation, or endurance.

While endeavoring to produce so beneficial an effect upon the respiratory organs, we may, in fur-

therance of it, and at the same time materially improve the general health, call to our aid the exercise of properly conducted gymnasia, the daily use of frictions, and such other means as are known to contribute to the end in view.

The benefit resulting to debilitated constitutions, as well as to those predisposed to laryngeal, tracheal, or pulmonic affections, from the daily morning use of cold bathing, locally, is generally conceded, and daily observation fully proves that as a curative means, and more especially as the sole preventive of the increasing proclivity to catching cold from changes in the weather, it stands unequalled, properly used, by any other method ever proposed.

Necessarily, it should in many cases be commenced carefully, for a short time at first, and gradually increased as we find the system to fully react under its impression. As a general rule to those unaccustomed to it, I direct the end of a coarse towel dipped in cold salt and water, and spirits of wine, to be well rubbed over the throat, breast, and arms for a few minutes, then using a dry towel with some force, so as to produce a decided glow over the parts, and finally, to finish with friction with a flesh brush, or horsehair glove or strap. By pursuing this course, gradually increasing the time for the application of the water, I have enabled individuals who took cold from the slightest change of weather, or from being exposed to a draught, to overcome such a predisposition without any inconvenience during the trial.

To some delicate and enfeebled persons, before venturing upon the cold water, I have commenced with the following stimulating lotion used as above,

and immediately followed by the use of the flesh-brush or hair-glove. R.—Mur. sodæ ℥ij; camphor ℥ij; capsici ℥ij; aq. ammon. fort. ℥j; water oz. iv; alcohol oz. x. After the use of this lotion for one or two weeks, the cold salt and water has been advantageously resorted to, and I have thought it advisable to use the stimulating lotion after the salt and water, finishing with the dry towel, and flesh-brush or strap.

Of such absolute importance do I consider the free use of cold water, locally applied, followed by friction with a not gentle hand, that I spare no exertions to bring the system to the point of endurance and full reaction.

There is one remark of great value in reference to the use of cold water in all cases, and more especially, if intended to be applied to a local disease of the throat or lungs.

Whenever such local disease exists, personal experience, and that on others, has convinced me that the head, face, throat, and breast, should be thoroughly bathed before applying the water to the lower extremities, or putting the feet in a bucket of cold water. This last may be done with safety and advantage, if the upper parts of the body have been previously acted on. To the strong and robust, I offer no advice; let the delicate, with a local affection of the throat and lungs, observe this precaution, and they will experience the superior good effects resulting from such a course.

To strengthen the thoracic organs in weak and delicate children or adults, a proper course of the above cannot be too strongly commended as a valuable and powerful hygienic measure.

The following remarks, coming from high authorities cannot be read without interest, and must be considered strongly confirmative of the propriety of endeavoring to strengthen the pulmonary organs, to accomplish which, I strongly and confidently advise the regular use of the inhaler, as well as bathing and friction.

The following remarks of Dr. Tweedie, in reference to the advantages resulting from mechanical means in certain diseases of the air passages, cannot but be regarded as applicable and valuable. He says, chapter on Hypertrophy and induration of the air-tubes : "Changes of structure in the bronchial tubes are most commonly the result of inflammation, or of some kindred modification of the nutritive process. Frequent recurrence, or long continuance of inflammation of the bronchial membranes, as in other structures, changes their condition; and the mechanical forces to which they are subjected in the function of respiration, may variously modify this change.

"Inasmuch as these lesions seem to arise from continued inflammation, it becomes of the more importance to direct remedies against those forms of bronchitis that are habitual, or frequently recurring. An imperfectly cured cough will often harass a patient for months, and even for years. In process of time the breathing becomes permanently shortened, and an irritation is often fixed in some of the tubes, manifesting its effects on their secreting function by habitual expectorations, generally thin and mucous, sometimes muco-purulent.

"There is one point with regard to treatment particularly suggested by a knowledge of this change

of structure, that, not only should the practitioner persevere in the use of the means which tend to eradicate the low degrees of inflammation that produce it, especially alkaline expectorants, and counter-irritants, but he should also endeavor to counter-vail, by mechanical means, that mechanical limitation which this change induces in the size of the tubes.

“If the patient use no exertions, and give his lungs little play, any increase in the rigidity of the tubes will more readily fix them in their present contracted state; but if he take moderate exercise, increased as habit improves his power, the lungs will be kept in that free mobile condition that is least favorable to rigidity or deposition of any kind.

“Probably, special efforts of inhalation would be useful with the same view, and, as this might be combined with some mildly stimulating vapor, such as that of water impregnated with tar, or camphor, it might also be serviceable in improving the secreting properties of the membrane.”

Dr. Good, in his *Study of Medicine*, observes: “A moderate use of the vocal organs, as of any other, tends to strengthen them, and to enable public speakers, singers, and performers on wind instruments, to go through great exertion, without inconvenience, which would be extremely fatiguing to those who are but little practised in any of these branches; but the labor is often carried too far, and the lungs become habitually irritated, and hæmoptysis succeeds.” In another place, Dr. G. says: “The organs of respiration, like those of every other kind, derive strength instead of weakness, from a temperate use of them.”

Dr. Rush, in his "account of the efficacy of common salt in the cure of hæmoptysis," says his inquiries led him to attend more particularly to the following facts: "Those persons who have been early instructed in vocal music, and who use their vocal organs moderately through life, are seldom affected by a hemorrhage from the lungs. Lawyers, players, public criers, and city watchmen, all of whom exercise their lungs either by long or loud speaking, are less affected by this disease than persons of other occupations."

Dr. Rush, in his *Treatise upon Consumption*, says: "The lungs, when debilitated, derive equal benefit with the limbs, or other parts of the body, from moderate exercise."

Whether all the beneficial effects that may be considered possible to result from the use of the inhaler, either as a preventive or curative agent, will be realized, must be determined by further observation; it is, however, to be hoped that the general want of success attending the present mode of preventing or curing consumption, will induce physicians to give a fair and full trial to a remedial measure which certainly appears well calculated to effect a great amount of good.

The fact is unquestionable, that, within the last twenty years, the existence of a disease implicating the mucous membrane of the larynx, trachea, and bronchi generally, though incorrectly termed bronchitis, without reference to the precise seat of the disease, has become much more frequent and difficult of cure than was previously observed.

It may not be altogether useless to endeavor to

account for such a fact, for, if generally acquiesced in, it is possible some plan might be devised by which to lessen or counteract so constantly an acting morbid power.

The much greater frequency of these diseases may be attributed, in a great measure, if not entirely, to the introduction and general use of coal fires. The atmosphere, so essential to a healthy action of the lungs, and through them of the whole system, is to a certain degree vitiated by the removal of a greater part of its moisture, and its too general excessive heat.

That a preternaturally hot and dry atmosphere is capable of producing so injurious an effect upon the mucous membrane of the respiratory organs, as to augment its irritability, and render it morbidly sensible to atmospheric vicissitudes, and less able to resist the constant operation of so powerful an agent, appears self-evident, and requires no argument in support of the assertion.

Few are to be found who have not experienced a dry and uncomfortable feeling in the throat, as well as a general uneasiness, when long compelled to breathe this dry and hot air.

It may be remarked that, upon the first introduction of furnaces into cellars, it was of frequent occurrence to hear individuals complain of great uneasiness in the head and breast, most of which sensations have, however, entirely disappeared since the adoption of a plan by which a large quantity of water is made to be evaporated, and circulated through the house, along with the heated air. It is well known that a large bucketful of water will, in this manner, be distributed through all parts of the

house in the course of twenty-four hours, without any evidence of moisture being perceived.

What stronger evidence of the injurious effects likely to be produced from a hot dry air, than the fact of old furniture and thick doors being frequently cracked, though well seasoned?

What but injurious consequences could be expected from the application of a preternaturally hot and dry air to the delicate membrane lining the air passages, for a considerable period at a time, and then suddenly exposing it to the direct action of an external atmosphere varying from thirty to fifty degrees lower than that just before breathed?

From a consideration of this fact resulted the use of cold water for inhalation, and the consequent disapproval of warm or hot water, except for occasional instances, where, the patient being confined to bed or the room, such may seem preferable.

The following remarks of Mr. Carlisle, in a letter to Dr. Beddoes, are strongly in favor of the correctness of the above opinion:—

He says: "The gilders in London are very subject to consumption of the substance of the lungs, but no other scrofulous symptoms. They work in heated rooms, and are often induced to expose themselves suddenly to cold and damp. I am told six out of seven die in their apprenticeship."

It were easy to augment the number of facts calculated to strengthen the above position, did not the object of these remarks preclude the possibility of more than a reference to subjects incidentally connected with it.

I shall now proceed to cite the authorities in favor of the local application of remedies to diseases of the

lungs, by inhalation. The first, as far as I have been able to discover, who wrote a systematic treatise upon the subject, and used a proper inhaler, was Dr. John Mudge, of England, in 1799.

“Every medical discovery,” says Dr. M., “has certainly a claim to the public attention; for though, on a superficial view, the disease should seem slight, or the treatment trifling, yet, when we reflect that the welfare of the great body of mankind is concerned, deriving consequence from that consideration, it swells into importance.

“Upon the whole, if the remedy here proposed, when early applied and properly directed (FOR ON BOTH THESE ITS SUCCESS ENTIRELY DEPENDS), shall be found effectual, it will immediately and radically cure a complaint very troublesome and fatiguing, as it frequently harasses the patient some weeks. I shall not enlarge upon the probability there is, that one part of this curative process, the use of the inhaler, may be extended to other beneficial purposes, though it by no means seems ill-adapted to some species of asthmas, or perhaps even to peripneumonic complaints. Indeed, it was from a conviction that the catarrhus cough arose from some degree of actual inflammation of the pituitary lining of the organs of respiration, that the idea of this species of cure was first suggested; for if the disorder of the membrane is only the effects of a cause which is topical, sudden, and temporary, it becomes reasonable to suppose that a well-adapted local remedy would be productive of the same good consequences in this as in any other species of inflammation.”

Dr. Mudge concludes, from his experience, that the two great indications of preventing an increased

irritation by the cough on the inflamed parts, and removing inflammation itself by such emollient applications as could most conveniently be applied to them, are thoroughly answered by opium, and the inhaling warm steams into the lungs; and the fact is past dispute, says he, that the conjoined powers of those agencies are a sure, and, in general, an immediate cure.

“The effect of this remedy is so very sudden and certain, when used the same day the cold is contracted, that it was with difficulty, and not till after several trials, that I could myself credit the reality of the cure.” “As I have, all my life, from tender lungs, had a propensity, on taking cold, to a cough of this sort (which, in the ordinary course of it, used to harass me for three weeks or a month, and sometimes much longer), I was myself the first subject of the experiment. The night the remedy was first used, was passed without the least tendency to cough; and the next morning, by one or two very gentle efforts, a small quantity of concocted matter was discharged, without the least disposition to cough afterwards; notwithstanding which, I could not be persuaded, the whole succeeding day, that the cough was radically cured, and, accordingly, was in constant expectation of its return, which, however, it did not.”

Van Swieten, in his commentaries upon Boerhaave, article “Phthisis,” remarks: “It is certain that steams and vapors, drawn in with the air in respiration, may be of use, as they everywhere come in contact with the whole aerial cavity of the lungs; and thus various remedies may be applied, according to the various conditions of the ulcer.”

In quinsy, should leeching and other treatment not materially lessen the inflammation of the tonsils, and velum pendulum palati, Dr. M. Baillie, of London, recommended the progress of the inflammation to be encouraged by inhaling the vapor of boiling water and vinegar; by this means, the disease goes more quickly through its process, and the patient suffers less.

In Dr. Rush's Pringle, chapter "Pleurisy and Inflammation of the Lungs," we find the following remarks of Dr. P.: "I have likewise observed good effects from making the patient breathe over the steam of hot water; a practice recommended by Boerhaave, and Baron Van Swieten, and confirmed to me by the repeated trials of Dr. Huck, who found it more beneficial when the phlegm was viscid, as well as more grateful to the patient, by adding a small portion of vinegar." Dr. Rush, in a note, remarks: "Too much cannot be said in favor of this simple and powerful remedy; the editor has seen patients snatched from the jaws of death by it."

Dr. Tweedie, *Diseases of Respiratory Organs*, says: "The inhalation of steam, in some cases, rendered slightly stimulant and alterative by the addition of camphor, turpentine, or a balsam, has been found useful in promoting the secretion of the diseased membrane."

He also recommends the use of sedatives, and antispasmodics, as belladonna, camphor, ether, and opium, by inhalation in chronic laryngitis, to relieve the urgent symptoms of the cough, or difficult breathing.

An Account of some Experiments made with the Vapor of Boiling Tar, in the Cure of Pulmonary Consumption, by Alexander Crichton, M. D., 1817.

“AN ACCIDENT HAVING LED ME LAST YEAR TO A DISCOVERY, WHICH PROMISES TO BE OF IMPORTANCE IN THE CURE OF SOME VARIETIES OF PULMONARY CONSUMPTION, I FEEL IT A DUTY TO COMMUNICATE THE RESULT AS SOON AS POSSIBLE, WITHOUT WAITING UNTIL A GREATER NUMBER OF CASES BE COLLECTED, IN WHICH THE REMEDY MAY HAVE BEEN SUCCESSFUL; FOR I SHOULD DEEM IT A JUST REPROACH, IF, FROM ANY NEGLIGENCE ON MY PART, OR FROM AN INTERESTED MOTIVE, I WERE CAPABLE OF WITHHOLDING THE PUBLICATION OF ANY MEANS WHATEVER, THAT MIGHT SAVE THE LIFE OF A SINGLE INDIVIDUAL, OR EVEN THAT COULD DIMINISH THE SUFFERINGS OF A NUMEROUS CLASS OF UNFORTUNATE PATIENTS, IN FAVOR OF WHOM THE MEDICAL ART OFFERS SO FEW RESOURCES.”

From a trial in many cases of consumption, of the plan proposed by Dr. Crichton, Drs. Bluhm and Von Roos, who were specially charged with the treatment and observance of the facts in each case, report as follows:—

“The undersigned have the honor of laying before you the result of the trials made with tar vapor in the hospital for the poor, according to the directions we received from you.” After detailing the cases, they conclude: “The result of our observations, is, that the tar fumigation produces a very quick and salutary effect upon the cough, expectoration, and respiration; that the sleep becomes more

tranquil, continued, and restorative, and that the patient regains strength.

“Patients, who, before entering the tar vapor, kept their beds constantly, soon regained sufficient strength to rise from them, and walk about the ward the whole day. All those submitted to the tar fumigation have become convalescent; but it is too early yet to affirm that any are completely cured.

“From all we have hitherto seen of the tar fumigation, we must attest, that it appears to us the most efficacious means of relieving pulmonary patients.”

Dr. Wochler also gives the details of one case in which the tar fumigations had a most happy effect, for he concludes by saying: “This patient is dismissed from the hospital to-day, perfectly cured.”

The following are some of the remarks of Dr. Crichton on the cases given by the above physicians:—

“It must be evident from the preceding cases, that the tar fumigation, though completely successful in some of them, did not produce the same good in all; but on the other hand, the very great relief which every patient experienced at first from it, particularly in the diminution of cough, expectoration, and hectic fever, is a fact which ought to encourage us to multiply the trials of this remedy as far as possible.

“The tar vapor seems to have healed the ulcers, and removed the inflammation of the tubercles in the greater number of such cases, but I do not believe it produces the absorption of the tubercles themselves.

“At that period, when the cough, expectoration, and hectic fever are greatly subdued by the influence of the tar fumigation, it seems to me often injudicious to continue it longer, or at least in so strong a degree as before. Notwithstanding the great power of this means of cure, I never employed it quite alone, but at the same time prescribed internal remedies, such as the nature and urgency of the symptoms seemed to require; but these have been the same as every practical physician has recourse to in similar cases.” The adjuvants of tonics, bathing, friction, and exercise, are here of great value.

The kind of tar recommended by Dr. C. is that used for the cordage of ships, and to every pound he added half an ounce of subcarbonate of potash, in order to destroy the pyroligneous acid.

The simplest and best manner of filling a room with the vapor, is to place the vessel containing the tar over a spirit lamp, taking care that it should boil slowly, and not burn. The vessel should be cleaned every day, and the fumigation repeated every three hours.

In the chronic cough of old age, occurring in long paroxysms, with a viscid and mucous discharge excreted with difficulty and laborious breathing, Dr. Good remarks, that the vapor of tar, as recommended by Sir A. Crichton, is frequently employed with advantage.

Bennet, in his treatise upon consumption, remarks, that “steams and fumigations are accounted amongst the more valuable remedies, and trusted to in the most pressing necessities, but that like all other remedies they should be used with prudence.”

Delpit, in the article "Phthisis Laryngea," in the *Dictionnaire des Sciences Médicales*, thus concludes: "S'il est une espèce de phthisie où les fumigations simples ou composées puissent devenir utiles, c'est sans contredit celle du Larynx, plus accessible à ce genre de remèdes, et par conséquent plus susceptible d'en ressentir l'impression favorable ou funeste."

In the same work, article "Inhalation," by Rullier, are the following remarks, which are important as referring to one of the modes by which we are enabled to account for the beneficial effect produced by the local application of remedies to diseases of the lungs.

"Les vapeurs animales exhalées des chairs et du sang encore chaude des animaux, et mêlées à l'air que nous respirons, ainsi que les émanations des cuisines et des étables, regardées avec raison comme propres à favoriser le bon état de la nutrition chez les bouchers et les cuisiniers, ou à rétablir l'embonpoint de certains malades; l'humidité de l'air atmosphérique, qui diminue le besoin de la soif, et retarde les funestes effets de la faim prolongée, produisent sans doute une partie de ces effets à l'aide de l'absorption des voies aériennes, devenue alors vraiment congénère de l'absorption cutanée."

In the article "Phthisie," by Maygrier, of the *Dictionnaire des Sciences Médicales*, we find the following:—

"On connaît l'influence salutaire de l'air que les phthisiques respirent dans l'étable des vaches; de plus, Lepois cite des exemples des personnes guéries de la phthisie, en respirant habituellement l'air balsamique de quelques mines, ou de quelques ateliers.

Les Anglais ont observé que les ouvriers qui travaillent aux mines de charbon de terre ne sont jamais atteints de la phthisie. Galien envoyait les phthisiques de Rome à Naples respirer l'air sulfuré des volcans. Celse usait du même moyen. Nous voyons rarement nos bouchers et leurs épouses mourir de la consommation pulmonaire."

"On a un certain nombre d'exemples des malades menacés ou atteints de consommation pulmonaire, qui ont été soulagés notablement ou guéris, en établissant leur demeure dans une étable à vaches. Mascagni a dit que si jamais on découvre un remède efficace contre les maladies de poitrine, ce sera un de ceux qu'on peut appliquer au poudon à l'aide de l'inspiration."

Speaking of the custom of sending patients to Mount Tabio, near Vesuvius, the Doctor continues: "Galien y envoyait les phthisiques respirer un air chargé des vapeurs sulfureuses et humides qui leur étaient fort salutaires."

"Beaucoup de médecins ont employé et loué l'action d'un air impregné d'eau et de soufre, mais ils ont averti, avec raison, que les malades devaient respirer un pareil air pendant longtemps, s'ils voulaient en retirer tous les bons effets qu'il peut produire sur la maladie du poudon. Bennet a conseillé d'imiter par l'art, ce moyen de salut qu'offrent aux phthisiques seulement quelques lieux, et il avertit en même temps que pour l'ordinaire, la première fumigation fatigue les malades, mais qu'ils supportent beaucoup plus facilement les suivantes.

"Il n'est pas inutile d'ajouter ici cette autre observation de M. Baumes, c'est que dans une fabrique en grand d'acide sulfurique, on n'a jamais vu les

ouvriers être atteints de la phthisie du poumon, et que ceux d'entre eux qui avaient quelque disposition à cette maladie, ou quelques uns des premiers symptômes, s'étaient rétablis par leur séjour habituel dans ces ateliers."

Dr. Thomas, *American Medical Recorder*, vol. v. p. 660, gives the particulars of a case of whooping-cough, of nearly three weeks' standing, which was cured in ten days by the inhalation of nitrous gas. The following was the mode of obtaining and using it. "I confined him (a boy about four years and five months) in his chamber, with every aperture through which the gas might escape closely stopped. I then placed a teacup in a sand-bath; half an ounce of sulphuric acid was poured into this cup, to which half an ounce of pulverized nitrate of potash was gradually added at such intervals as to occupy the space of one hour each night, by which means the room was kept filled with nitrous vapor, and respired by my patient, without exciting a paroxysm of coughing; indeed, I particularly noticed that, during the process of decomposition, he was not seized with a single paroxysm, but he generally fell asleep in the early part of it."

In conclusion, Dr. T. remarks: "In the foregoing case, it appears evident to me, and I trust it will to all those who read it, that the vis medicatrix naturæ had no agency in relieving the patient. I am willing at all times to pay due homage to that power, but not at the expense of truth and justice; let us, therefore, 'render unto Cæsar that which belongs to Cæsar,' and not ascribe merit where none is due."

Dr. Pearson, in the course of his remarks, thus

speaks of the effects of the vapor of ether in certain affections of the air passages:—

“Although it does not strictly belong to pneumatic medicine, the writer of the preceding observations cannot let go this opportunity of mentioning, that he has found the vapor of ether remarkably serviceable in phthisical cases. It abates the hectic fever, checks the sweats, removes the dyspnoea, and greatly improves the smell, color, and other qualities of the expectorated matter. Patients who have inhaled it two or three times, find it so grateful to their feelings, that they are disposed to have recourse to it too often, and cannot readily be prevailed upon to lay it aside when it is no longer necessary. Ether, impregnated with musk, camphor, opium, assafetida and the like, may in some cases be preferable to pure ether. Where, as in certain asthmatic affections, the object is to remove spasmodic constriction of the bronchiæ, and to promote expectoration, the ether may be impregnated with squill, by adding to it either tincture of squill, or squill triturated with a little water of ammonia. The finer particles of the squill applied to the lungs in this manner, along with the vapor of ether, gently stimulate the secreting surfaces of the bronchiæ, and promote the mucous discharge; and if applied in sufficient quantity, to produce sickness, which takes off the spasm, and is otherwise serviceable in such cases. An emetic given in this manner, is very different from an emetic thrown into the stomach in the ordinary way; for, besides having the same general effect upon the system with this last, it has at the same time a peculiar topical operation.”

Within the last few years, "there has appeared a work, entitled *Consumption Curable*, by F. H. Ramadge, M. D. The main object of the plan proposed by the Doctor is the producing an artificial enlargement of those portions of the lungs which are pervious to the air, which is effected by causing consumptives to breathe through an inhaler or a long tube."

From very repeated trials with tubes of various length and diameter of bore, I am convinced, that, as regards inhalation, precisely similar effects are produced by the use of the inhaler I employ; and in reference to expiration, by allowing the air to escape from the lungs through a very small opening of the lips, which answers every purpose of a valve, as long a time may be occupied in emptying the lungs as by the employment of a mouth piece, however small it may be. In addition, then, to the effects desired and produced by the plan recommended by Dr. R., we gain, by the use of the inhaler I employ, the great and undeniable peculiar effects produced by the local application of various remedies, upon which point there exists now such a mass of positive evidence, as to forbid its being questioned.

"The reader," observes Dr. R., "will perhaps learn, with some degree of surprise, that no inconsiderable number of the cases of pulmonary catarrh, and of habitual asthma, are the sequelæ of the disease which forms the subject of this work, more or less perfectly cured. It is, indeed, strange that medical men have not noticed the non-liability of the asthmatic individual to pulmonary consumption, and

that various species of catarrh are the instruments by which nature chiefly arrests that disease.

“All who, from any cause, labour under prostration of strength, or general debility, are prone to fall victims to the insatiable tyrant, consumption, for reasons precisely similar, inability to take inspirations of depth sufficient to keep up the necessary changes produced by the air on the venous circulation. I have said that it is requisite to distinguish betwixt the direct and indirect causes of consumption; not that there are any that can with propriety be termed direct, but in order to impress thoroughly upon the mind the grand truth, that phthisis is the sequence of debilitated bodily health alone.

“When the general health becomes impaired, a total change takes place in the fluids and secretions of the body, and there is, consequently, an aberration of nutriment; on this, the formation of tubercles soon follows.

“It would be endless to enumerate the various causes of consumption; for, in fact, whatever is capable of impairing the constitution is liable to produce a phthisical state.”

Under the head of Prophylactic Treatment, Dr. R. observes: “The advantages derivable from short excursions, or, still better, voyages by sea, always invited my recommendation when circumstances rendered them available. Impregnated as the sea breezes are with saline particles, they act, I conceive, both as stimulants of the lungs to deeper and more frequent inspiration; thus forwarding the enlargement of the chest, a point to which I have more than once adverted, in the course of this work, as of primary importance.”

The following remarks of Dr. Good, in reference to the causes of the beneficial effects of sea voyages, appear much more consonant to reason; and from much observation in a number of sea voyages, in company with those laboring under consumption, I feel perfectly convinced of their correctness:—

“After all,” says Dr. G., “the most equable of temperatures is that of the sea itself; and hence many patients, who feel inconvenience from a residence on the sea-side, are almost instantly relieved by sailing, at a few miles distance from it. This has often been resolved into the exercise of sailing, or the sea-sickness which, in many instances, is hereby excited. It is, nevertheless, a distinct advantage from either, and resolvable into the explanation just stated, viz: a change to an atmosphere of a more refreshing and invigorating power, to a climate still mild, but less exciting, equable in its thermometer, and tonic in its general influence. The exercise of sailing is useful on another and a very different account. All motion without exertion, or with no more exertion than gives a pleasurable feeling to the system, which the Greeks expressed by the term *Æora*, instead of exhausting, tranquillizes and proves sedative. It retards the pulse, calms the irregularities of the heart, produces sleep, and even costiveness.”

In a palliative or curative point of view, judging from observations made on others and myself during many sea voyages, and comparing their effects with those produced upon a number of consumptive invalids, by the climates of Madeira, Nice, Pisa, Rome, and Naples, it appears to me that much greater and more frequent benefit would result, were

physicians accustomed to order patients afflicted with a disease of the pulmonary organs, requiring a change of climate, to take long sea voyages, MORE ESPECIALLY IF UNDERTAKEN IN THE COMMENCEMENT OR FORMING STAGE OF THE DISEASE, in preference to resorting to those places generally recommended wherein to pass the winter.

In addition to the reasons advanced by Dr. Good, in support of the remedial efficacy of the sea air and voyages, may be added another, which, although of a negative character, cannot fail to exert a decided influence in advancing a restoration to health. I allude to the non-exposure to many of the exciting causes of disease which necessarily tend to increase that existing, thereby preventing the full beneficial effects of any climate or remedial course. Those who have had opportunities of observing the natural fondness for sight-seeing carried out to its utmost extent by invalids, ordered from home for the benefit of their health, cannot but agree in opinion that many are injured by injudiciously visiting the various places of interest in each of the cities of Italy.

Invalids, by properly timing their departure, may enjoy all the benefits of a long sea voyage, and an almost perpetual summer's atmosphere for as long a period as may be required; and by sailing for many places in the southern hemisphere, they will be able, upon their arrival, to pursue a judicious course of exercise, until the fall months in those latitudes, when it will be proper for them to return home, where they should arrive about the end of May. If necessary, the voyage may be repeated.

"Inhalation," says Dr. R., "performed two or

three times daily, for half an hour each time, will, in the space of a few weeks, work a wonderful change on the chest, externally; the muscles concerned in respiration will be manifestly enlarged, and the bony compages of the chest, both before and laterally, visibly increased, whilst, at the same time, the natural respiratory murmur will be heard internally far more distinct than ever. Though I attach but little value to the substances that are inhaled, still, as we find patients more willing to receive into their lungs something having sensible properties, rather than pure atmospheric air, I recommend a handful of hops, a little vinegar, or a tablespoonful of spirits of turpentine, to be added to the warm water in the inhaler.

There can be no question of the great benefit resulting, in many cases, from the mechanical distension of the lungs, to which I attach no little importance, in certain conditions of the lungs, though there are some states in which it cannot be performed without positive inconvenience or injury; and yet, in these cases, the inhalation of certain remedial substances can not only be endured, but will prove beneficial. Facts alone are to be considered in such important matters. Opinions are apt to be erroneous, from various causes.

Dr. Elliotson, in the *Medico-Chirurgical Transactions*, vol. xix. p. 217, in his lecture upon the "Properties of Creasote," says, in reference to its inhalation, that "he has made many phthisical patients breathe for four or five minutes, four or five times a day, through a mixture of it with mucilage and water, but with no further effect, in general, than occasionally an increased facility of respiration,

and a diminution of the cough and expectoration. Some, it always appears to irritate, and all, in whom any degree of inflammation exists. I am satisfied it is no remedy for tubercles. Where, however, only a single ulcer, or but a small number exist in the lungs, and there is no disposition to further tubercular formation, it is very beneficial. In bronchorrhœa, or that state of the bronchial mucous membrane which consists in a profuse secretion without inflammation, I have seen its inhalation of essential service; and, in one instance of this affection, in which the expectoration was extremely offensive, the cure was very rapid.

“In asthma, also, dependent upon morbid excitability of the bronchial membrane, its inhalation is often useful.”

In chronic affections of the fauces, larynx, trachea, and bronchi, I have employed creasote, by itself or conjoined with other medicines, with much advantage, and without ever having seen any inconvenience produced by its use.

Dr. Mackintosh, *Practice of Physic*, article “Croup,” says: “The inhalation of hot vapor will be found very serviceable in that disease, and in chronic uncomplicated cases of bronchitis, service may be expected from the inhalation of tar vapor.”

In scarlet fever, when the throat is much affected, Dr. M. says that “inhaling the vapor of warm water affords more ease than any gargle.”

The following valuable remarks upon medical inhalation are from Dr. Eberle’s *Therapeutics*:—

“The inhalation of aeriform fluids may be employed to great advantage in the treatment of pulmonary affections. In this way, we are enabled to

make direct impressions on the respiratory organs, a circumstance which experience has shown to be of much consequence in many of the diseases to which these organs are liable."

In reference to aqueous vapors, Dr. E. remarks: "In catarrhal affections, attended with painful and difficult expectoration, much benefit may generally be obtained from the inhalation of the steam of hot water, or of vinegar and water. This acts as an emollient and soothing application to the tender and inflamed vessels of the internal surface of the bronchial tubes. In pneumonia, also, after the violence of the arterial excitement has been reduced by depletory measures, the inhalation of steams of hot water, or decoctions of emollient herbs, will often contribute much to the support of an easy and regular expectoration. In no affections, however, are inhalations of this kind more decidedly beneficial than in the paroxysms of asthma." To moderate the severity of the paroxysms in asthma, says Dr. Thomas, "we cannot employ a more powerful and efficacious means of relief than the inhalation of warm steam frequently from an inhaler. An infusion of chamomile flowers, with the addition of a little ether, may be used on the occasion." Inhalations of warm water and vinegar are also often very serviceable in cynanche tonsillaris and trachealis.

"The inhalation of ethereal vapors," says Dr. Eberle, "is a remedy of very considerable value in certain affections of the respiratory organs. In dyspnœa, depending on a spasmodic condition of the pulmonary system, I have frequently derived very great benefit from the inhalation of the vapors of sulphuric ether."

Mr. Alibert states, on the authority of an author whose name he does not mention, that the inhalation of sulphuric ether was found quite useful in a case of catarrhal phthisis, complicated with hysteria.

Quite recently, Dr. Böttcher, of Copenhagen, has published some observations on the efficacy of the vapors of camphor in complaints affecting the cavities of the nose, the throat, and the chest.

In the treatment of hooping-cough, the inhalation of tar fumes often proves highly beneficial.

Mr. Wansbrough, of Fulham, in England, has related some very remarkable instances of the efficacy of this remedy, in this, as well as in several other diseases attended with difficulty of respiration.

Dr. Eberle states that, "in two cases of hooping-cough, that had been mismanaged during the early periods of the disease, and in which the expectoration had assumed a purulent appearance, I have derived decided benefit from tar fumigations. This remedy has also been found very useful in asthmatic affections. In acute inflammatory affections of the lungs, however, it cannot be employed without doing mischief. The inhalation of the tar fumes appears to be particularly beneficial in chronic bronchitis, or in that form of pulmonary consumption which depends on a chronic inflammation of the mucous membrane of the bronchiæ; and Mr. Wansbrough says that, in chronic pulmonary affections, and also subsequent to the existence of increased arterial action, he has no doubt of the superior efficacy of this remedy.

Sir Charles Scudamore, in the *Lancet* for 1830, 1831, vol. ii. p. 189, gives an account of several cases of consumption, as well as the formula of the

iodine mixture, which he had been led to prefer as a principal remedy in his method of treatment by inhalation.

R.—Iodinæ gr. viij.
 Potassæ hydriodat. gr. v.
 Alcoholis ℥ss.
 Aquæ destillatæ ℥vss. m. ft. mist.

Dr. S. says, as this delicate agent, iodine, is very volatile, I find it very advantageous to divide the dose for each inhalation, whatever it may be, into two portions, and recommend two-thirds to be used for the first half of the time (the whole time being fifteen or twenty minutes); the other third for the remaining period.

“In commencing with the remedy, I never think it necessary to prescribe less than a drachm as the total quantity for each inhalation, and rarely find it expedient to go beyond six drachms. Almost invariably, I use with each inhalation from 25 to 40 drops of the saturated tincture of conium, which has the effect of softening the action of the iodine, without impairing its useful qualities, in addition to its distinct power of allaying irritation.”

“Much professional skepticism appears to be entertained concerning the possibility of affording any material relief in cases of consumption. This I must condemn. It is, I conceive, less adverse to the interests of science than of humanity, to consider any disease as absolutely incurable. Our art is doubtless bounded by certain limits, but let not these limits be still further circumscribed by our own supineness and prejudices.”

The first case related by Dr. S. was that of a lady, æt. 56, with ulceration of the mucous membrane of

the trachea, for which the usual remedies had in vain been tried. The inhalation of iodine with conium, counter-irritation to the throat, and internal remedies adapted to the varying circumstances of the case effected a cure in six weeks.

Case 2.—"A gentleman, aged 30, of slight figure, and rather a narrow chest, had been the subject of consumptive symptoms for two years; improving a little in health in the summer months, but during the rest of the year confining himself to a regulated temperature in contiguous apartments. Even with this care he suffered from an incessant cough, attended with copious expectoration, puriform, and often sanious; the respiration was hurried by slight causes. He had pains occasionally in the chest, and always a sense of restraint, night perspirations, considerable emaciation, great debility, the pulse usually beyond 100, the animal heat 100° . The examination by the stethoscope indicated pectoriloquism and gargouillement on the right side. On the left side the voice did not give any marked indications, but the respiration was imperfect, and the sound on percussion not sufficiently clear. His medical attendants had pronounced him to have tubercles and ulceration, and advised a change of climate as the only chance of prolonging his life.

"I submitted this patient to the combined treatment of inhalation of iodine and conium; of counter-irritation by means of the acetic solution of cantharides; used leeches twice for the relief of pleuritic pain; directed the chest to be washed night and morning with a mixture of a solution of tannin, eau de cologne, and acetic acid; prescribed medicine internally, partly sedative, and partly tonic, every

attention being paid to the state of the digestive organs, and the diet also being strictly regulated.

“Four months have now elapsed, and the patient is almost restored to health. Every urgent symptom is removed. He is quite free from cough; the expectoration is reduced from three or four ounces in the twenty-four hours, to two or three drachms. He progressively gains both flesh and strength; and it may be truly stated, that marked amendment took place from the first moment the inhalation was used.”

Case 3.—A lady, æt. 32, took cold in June, 1830, and soon became affected with a troublesome cough, speedily followed by hectic fever, emaciation, and debility. In January, 1831, upon Dr. S.'s first visit, she was found as follows; pulse from 120 to 130, cough violent, expectoration to the extent of three or four ounces in 24 hours, partly colored with blood, and the rest of very puriform appearance, emaciation excessive, and debility such that she was carried from room to room. The night perspirations so profuse as completely to saturate the bedclothes with moisture, the whole aspect of the patient was that of one fast hurrying to the grave. This lady has most steadily pursued the inhalation of iodine and conium, with the exception of using chlorine and conium for ten days, when I again directed the iodine from a conviction of its superior efficacy. Counter-irritation constantly maintained on some part of the chest, and the chest washed night and morning with the astringent lotion of tannin. Sulphate of quinia, and the *mistura ferri composita*, with an opiate at night when necessary, have been given with much benefit. The diet

throughout has been allowed to the full point of nutrition, animal food having been taken twice a day since the change of appetite. Porter of the best quality has been taken daily to the amount of a pint and a half.

The present condition of the patient is as follows: Pulse soft, regular, firm, and in frequency only from 86 to 96, cough very slight, expectoration not exceeding half an ounce in the 24 hours; perspiration at night very moderate, and not always occurring; the sleep continued through the night almost without interruption, the strength much restored and flesh returning. The convalescence of the patient, however, appears to me now much more assured than at any former period.

Dr. Elliotson, in the same volume of the *Lancet*, says he has used the inhalation of iodine in several cases of consumption, but that in none of them has there been such an improvement as to make him entertain very sanguine hopes of success; still does the doctor recommend a continuance of such trials, and strongly condemns those who are content with allowing their patients to die under the old established jog-trot routine of means well established as unsuccessful.

In reference to a case of consumption, where a very small quantity of the saturated tincture of iodine in three-quarters of a pint of water could not be inhaled without producing considerable irritation, Doctor E. says: "And yet she is able to inhale in the same quantity of water, twenty drops of the saturated solution of the chlorine; and the effect has been such that her cough is nearly gone, and her expectoration reduced in a very great degree. I cannot

believe that she will get well, but the amelioration has been such as I never saw before under the use of narcotics, or any other means whatever."

Speaking of another case of consumption in which chlorine inhalations were used, the Doctor observes, that the expectoration still exists to a certain extent, but the mitigation has been such as I never saw before in phthisis from any means whatever.

Dr. Elliotson continues: "I THINK, AS MEDICAL MEN, WE HAVE ALL BEEN MUCH TO BLAME FOR NEGLECTING THE INHALATION OF VARIOUS SUBSTANCES, THOUGH PROPOSED AND PRACTISED THIRTY OR FORTY YEARS AGO; because we make application to the surface of the body when it is variously diseased, and to the alimentary canal, and by inhalation we can make applications to the air passages themselves when they are diseased."

From a work by Sir Charles Scudamore, entitled CASES ILLUSTRATIVE OF THE EFFICACY OF VARIOUS MEDICINES ADMINISTERED BY INHALATION IN PULMONARY CONSUMPTION, CERTAIN MORBID STATES OF THE TRACHEA, AND BRONCHIAL TUBES, ATTENDED WITH DISTRESSING COUGH, AND IN ASTHMA, London, 1830, I shall extract all the practical information; fully confident that, in so doing, I shall be carrying out the views of the author, in his endeavors to diminish the amount of human suffering, by extending the results of his experience in the treatment of pulmonary diseases, from which he says he has had the satisfaction of proving the great advantage of using various medicines by the mode of inhalation, iodine more especially.

Case 1.—Phthisis Pulmonalis in the last stage. The patient, a young man, aged twenty-two, much

emaciated, and extremely debilitated. On first using the inhalation (a weak solution of iodine with the addition of some saturated tincture of conium, mixed with water of 120 degrees of heat, to be inhaled for fifteen or twenty minutes, three times a day), he experienced slight giddiness for a few minutes, and some sense of soreness, with dryness in the tongue and throat; but the patient rather mentioned these sensations on being interrogated than complained of them; and they did not continue. He soon found that it afforded him great relief, the power of expectorating being remarkably facilitated; the cough also very much abating; the respiration becoming comfortable; and the chest materially freed from oppression. In all respects he improved in a surprising manner. The patient always expressed in strong and grateful terms how much comfort and benefit he derived from inhalation. Death finally closed the scene; for, as remarks Dr. S., "It is in the early stage of the disease that the physician has the opportunity of being most useful; and in which, more particularly, I have enjoyed the inexpressible satisfaction of witnessing the curative agency of inhalation."

"My object was to put to the test the powers of inhalation, to mitigate the symptoms in an incurable case. In this respect, the result was in the highest degree satisfactory; for, previously, the medicines which had been administered, gave little or no relief."

Case 2.—"Phthisis Pulmonalis in the last stage. As in the former case, the disease evidently incurable, and rendered more inveterate by its complication with tubercles, and ulceration in the intestines.

An inhalation of iodine with conium was ordered, in conjunction with other appropriate remedies. Extremely debilitated as this patient was, he could use the inhaler without difficulty, thus affording a proof of the convenience of this simple apparatus. The patient's description of the effects of inhaling was, that it abated the cough remarkably, and rendered the expectoration, which before had been much suppressed, easy and free; from which change ensued a comfortable state of chest, with a great improvement in the breathing. He used the inhalation regularly, almost up to the period of his death, and always described in strong terms the relief which it gave to his chest."

The doctor remarks, that "if he had been governed by a rigid solicitude for the credit of the method of inhalation, he might, from the utter hopelessness of the case, have declined its application. But surely it is the duty of humanity to adopt the use of those means which we know from experience are the most capable of relieving the symptoms; of mitigating the sufferings of the unfortunate patient; and thus rendering more smooth the path to death."

Case 3.—Hæmoptysis, succeeded by ulceration: Hectic fever, well marked; from all concurrent symptoms the existence of phthisis pulmonalis established; the curative powers of iodine inhalation strongly displayed. A weak solution of iodine was ordered for inhalation; at the end of a few days she found herself improved, and particularly as to the greater facility of expectorating, more ease of chest, and better respiration. The cough, however, still being very irritable, I added more

conium to the inhaling mixture. The mitigation of the symptoms was now very obvious, and at the end of a fortnight, the amendment was great. From having caught a severe cold, she suffered severely for twenty-four hours from disorder of the bowels and spasms; the cough became more irritable; but otherwise the pulmonary symptoms were not aggravated. I changed the inhaling mixture for one consisting of conium and prussic acid. This indisposition soon yielded to treatment, and the iodine inhalation with conium was resumed, and with an increased proportion of iodine. At the end of a month her appearance was remarkably improved, and all the symptoms were relieved. The pulse was reduced from 120 to 80; the respiration appeared unembarrassed; the cough was comparatively slight; the sputa small in quantity, and much improved in character; there was no longer hectic fever; and the night-sweats were much lessened. She had gained flesh, and some improvement of strength. The inhalation of iodine and conium, such medicines as appeared indicated by the symptoms, and a suitable diet, in which a little animal food every other day and a small quantity of old port wine in a tumbler of water at dinner, were allowed, were regularly continued. She continued to amend regularly. The catamenia returned. Three months having elapsed, she had recovered so completely that no further treatment appeared to be necessary. For the last week she had inhaled only once a day. She improved in flesh, and was so much stronger, that she declared herself better in health altogether than she had been for six or seven years."

The patient removed to a very distant county, but I have heard favorable accounts of her health.

Case 4.—Bronchitis, attended with high irritation. The utility of inhalation sufficiently well shown, as materially assisting the removal of the symptoms. A married woman, æt. forty, of delicate appearance, contracted chest, labored under a severe cough, which had been existing, more or less, for two years, but lately much aggravated, and accompanied with great wasting of flesh, loss of sleep, night-sweats, and reduction of general strength. Four months before, she had been delivered of a child, and the catamenia had not returned; the pulse 140, and animal heat 102° ; expectoration difficult, and sputa muco-puriform, but not copious. The digestive organs were not in a healthy state, and irritation prevailed over the whole system. Leeches to breast, a blister between the shoulders, acetate of morphia at night, a mixture in the day of sulphate of magnesia, infusion of roses, and one minim doses of hydrocyanic acid; with the following inhaling mixture, of which half an ounce divided into two portions was used three times a day: *R.*—Acid. hydrocyan. \mathfrak{zss} ; tinct. conii \mathfrak{zss} ; tinct. ipecac. \mathfrak{zii} ; aq. rosæ \mathfrak{ziii} .—*M. ft. mist.* From these measures, the urgent symptoms became speedily relieved, and, at the end of a few days, the inhalation of iodine with conium was directed. She used the inhalation for twenty minutes three times a day, and at the end of a week the proportion of iodine was increased, and the conium omitted, on account of the diminution of all the symptoms, which no longer required the assistance of the narcotic ingredient. The use of the sedatives was also discontinued, and a saline cascarilla draught ordered

twice a day. In another fortnight the patient was satisfactorily convalescent, pulse ranging from 70 to 76, and the animal heat reduced to 95° , respiration natural, cough so slight as to be scarcely troublesome, and a return of the catamenia. The inhalation was continued twice a day for another week, and once a day for a short time. All internal medicine discontinued, and the woman's health in the course of a few weeks became well established."

The doctor observes: "I was much satisfied with the sedative influence of the first inhaling mixture, and still more with the curative power of the iodine. The degree of animal heat was remarkably high, and together with the rapid pulse, was indicative of much pulmonary irritation, rather than active inflammation, and the subsidence of the symptoms chiefly from the employment of sedative treatment, confirms this view. The patient looks well, and expresses herself to be quite comfortable in her feelings at the present time, six months having elapsed since her illness just described."

Case 5.—Chronic cough, apparently depending on tuberculous irritation, cured by the inhalation of iodine and hemlock. "A gentleman, aged twenty-five, first suffered from cough five years ago, from which he had never since been free, although it always became alleviated in the summer months. The pulse was 96, animal heat 98° ; the cough was exceedingly irritable, hard, and sonorous, unattended with secretion, and the digestive organs not in a healthy state. In conjunction with other treatment, an inhalation with a weak solution of iodine was ordered. Such was the extraordinary irritability of the cough, attended with a harassing tickling in the

trachea, that I found it expedient to add some conium to the iodine ; and this had the effect of softening the inhalation remarkably, to use the language of the patient, and of rendering its operation very soothing. The cough became surprisingly relieved in the course of a week, the pulse reduced to 84. He could now use a larger proportion of the iodine, still, however, combined with conium, and praised the effects of the inhalation in the strongest terms. At the end of two months, he expressed himself as enjoying the feelings of health—felt better than he had been for years ; he could take active exercise without any embarrassment in his breathing ; he had, in the last fortnight, lessened the frequency of inhalation to twice and once a day, and without the hemlock. He now discontinued all treatment, and set out on a tour, and I have the satisfaction of hearing from him that he continues perfectly well.”

“ When all the circumstances of this case are considered, those revealed by means of auscultation and percussion, those which appear from the patient’s own history, and the symptoms themselves, it seems reasonable to believe that tubercles existed. Certainly, from no means that had ever before been tried did any benefit arise comparable with that produced by the inhalation. It will perhaps be objected to my praise of the inhaling treatment, that, as internal remedies were administered, the benefit might with as much propriety be ascribed to their operation as to the inhalation. In answer, I must observe, that an immediate and decided relief to the cough was given by the inhalation, such as could not be ascribed to any other cause ; that various medicines, which had been tried, had proved ineffectual ; and

that, in similar cases, I have wholly failed to produce the same benefit by internal medicines alone."

Case 6.—Phthisis Pulmonalis; tubercles in each lung; hectic fever present; the iodine inhalation highly beneficial; the tubercular irritation removed, and the patient restored to health. "A gentleman aged forty-nine, short and slight, and evidently of weak constitution, subject to winter cough, was seized with hæmoptysis some months before the attack of illness which I am about to describe; I was consulted in June, and found him affected with very irritable cough, short breathing, a painful state of the chest, with oppression, very disturbed sleep, and night perspirations."

"The expectoration was copious, consistent, of greenish appearance, of faint, disagreeable odor, and it afforded a colored ring when examined as before described. In addition to other treatment, he entered immediately on the use of the iodine inhalation combined with conium. He was sensible of a very soothing influence from the inhalation; it caused an easy expectoration, relieved the cough most satisfactorily, and rendered the breathing at once comfortable. In two days, the sputa became of creamy-white color, and still of a faint unpleasant odor. The tongue was coated with whitish flakes, and the gums were spongy, as if from mercury, but without ptyalism. This state of the tongue and gums was in part produced by the inhalation, an effect, particularly as regards the tongue, which I have occasionally witnessed. At the end of three weeks, the amendment was still more confirmed; the respiration was quite comfortable, the cough very slight, the sputa small in quantity, and consisting chiefly of

frothy mucus; the nights were passed with good sleep, and freedom from perspiration; the tongue was almost clean, and the gums nearly restored to their natural state, although the inhalation had been regularly continued three times a day. I never witnessed, in so short a time, such a happy change in the looks as this gentleman displayed. He spoke in the highest terms of praise of the inhalation; and as this gentleman was very intelligent and minute in his observations, I attached the more importance to his report. He stated that it invariably gave ease and comfort to his chest, quickly improving the breathing, and relieving the cough. The patient continued to improve progressively in the most favorable manner. At the end of two months, he discontinued the inhalation, and at this period he was free from all symptoms of illness, quite relieved from cough, with recovered flesh and strength. At the present time (October), his breathing is so greatly improved that he can walk six or seven miles a day without inconvenience."

"I advert to this case with infinite satisfaction, as proving the great benefit of iodine inhalation. I had the fullest persuasion of the existence of tubercles, and could scarcely doubt the presence of some ulceration. The patient had made previous trials of medicines for the cough, without any apparent good effect. The bad symptoms were in active progress when I commenced my treatment."

Case 7.—A very interesting one of empyema, with tubercles in the lungs, attended with purulent and bloody expectoration, in which the iodine and conium inhalations produced remarkably beneficial effects, and the patient was advancing rapidly to

recovery, when he indiscreetly exposed himself to wet and cold, and brought on a renewal and aggravation of the disease which art could not oppose; a strong lesson to the consumptive patient, upon whom it is ever incumbent to avoid, to the utmost of his power, all remote causes of injury, and especially a careless exposure to the vicissitudes of the atmosphere.

Case 8.—"Ulcer of the Larynx, with tubercles at the apex of the lung," equally instructive with the last, in proving the very great efficacy of iodine and conium inhalations. The cough became abated, the expectoration was reduced to one-eighth in quantity, much less consistent, and almost free from disagreeable odor. The patient described that the inhalation afforded him very sensible relief, enabling him to expectorate without difficulty, and thus rendering his chest comfortable, and his breathing exceedingly relieved. But this prosperous course of improvement was suddenly interrupted by an exposure to damp and cold, in a change of apartments, which was followed by a new and violent accession of symptoms, and in a few weeks death closed the scene.

"The improvement was so decided as, I conceive, to justify the remark that, had this poor patient enjoyed all the advantages and comforts which his delicate condition required, he might have regained a tolerable state of health; and had the treatment been used at a much earlier period, permanent success might perhaps have been obtained."

Case 9.—Asthma, Bronchitis, promptly and very remarkably relieved by inhalation of iodine with conium.

“ A gentleman, aged sixty-four, for many years constantly more or less affected with humoral asthma, was seized with severe symptoms of acute bronchitis, which were mitigated by the usual treatment, but passed into the chronic form. Cough frequent, and distressingly violent; expectoration profuse, usually amounting to about a pint in the twenty-four hours; it was in part frothy, but in the largest proportion it was heavy, tenacious, highly offensive in smell, and occasionally mixed with blood. The breathing was sometimes alarmingly embarrassed after the fits of cough, and exceedingly oppressed also whenever the foul secretion was much collected in the bronchial tubes. The patient was much reduced in flesh and strength, with some hectic fever every day. He had taken various expectorants latterly with but slight relief; he had removed to a favourable situation for change of air, and received all the advantages of regulated diet and regimen; but the bronchial symptoms continued almost as urgent as before, when I put him on the plan of inhalation, using the iodine mixture with conium. The good effects which were quickly produced exceeded my most sanguine expectation. Even in the short space of two days, great relief was experienced; and at the end of ten days the expectoration was lessened to about an ounce in the twenty-four hours, was simply mucous, and no longer offensive in odor.

“ He described that he felt his whole chest comforted by the inhalation; that he could without difficulty disengage the expectoration, which before had required for its expulsion such paroxysms of cough as were frightful and overwhelming. The patient recovered his health to a point of improvement be-

yond what was usual for him to enjoy ; but a perfect restoration was not to be expected in a case where such complicated disease of the lungs had long existed."

The doctor observes: "The powers of the iodine inhalation in correcting the morbid condition of the mucous membrane of the bronchiæ were here most happily manifested. The patient had of his own accord, made trial of the iodine mixture without the conium; but he found that, used alone, it produced an inconvenient degree of irritation, and excited too much cough. The conium was then added, and with perfect success."

Case 10.—Chronic Bronchitis. The cough extremely urgent, the secretion from the mucous membrane remarkably viscid. The iodine inhalation curative within a short period of time.

J. C., aged 54, tall and robust, and in good health till two months before the present illness, was attacked in March with bronchitis, the acute symptoms of which were not of long continuance. "When he consulted me, he was laboring under severe cough, sometimes of half an hour's duration, and especially troublesome at night. He had great difficulty in lying down, and was disturbed every hour or two by the accumulation of sputa, which were so glutinous and ropy as with great difficulty to be discharged even by the most continued coughing. He suffered much from night perspirations; appetite was deficient, but the digestion for the most part regularly performed.

"I did not think it necessary to prescribe any internal medicine, and limited the treatment to the

use of the inhalation of iodine with conium; but I recommended that he should omit this narcotic ingredient, except when the cough was particularly troublesome; for I conceived that the use of the iodine alone was more favorable to the discharge of the glutinous sputa, and so the result proved. He quickly improved in the most satisfactory manner. He expressed that the inhalation created an immediate facility of expectorating, the effects of which were quite delightful to his feelings; "that the phlegm seemed to come from the bottom of his lungs, and that, when this was cleared away, his chest was light and easy." His cure was completed in about three weeks.

Case 11.—Habitual Asthma. "A gentleman, aged 27, slight in figure, and pigeon-breasted, had been asthmatic from infancy; and two years before consulting me, experienced a dangerous inflammation of the lungs, which had left him almost constantly suffering more or less from irritable cough, and especially in the winter season.

"When I first saw the patient, he was evidently laboring under bronchitis. The symptoms were very urgent, but wholly of a chronic character. Cough extremely irritable, bronchial secretion copious, viscid, of disagreeable odor, and of greenish color. The respiration, always embarrassed, was now much hurried, 32 in the minute, and distressingly on going up stairs. He complained of a sense of stricture and oppression of the chest, some sense of tightness in the trachea; had considerable difficulty in lying down in bed; and, when he arose in the morning, the struggle to free the air passages from the secretion which had been collected during the night, was

often so severe as to weaken and render him languid for the whole day."

Conjoined with other remedies for his general health, the doctor prescribed the inhalation of iodine alone or conjoined with conium, directing him to add the latter ingredient only when the cough was irritable; and further, that when the asthmatic embarrassment was troublesome, he should add some saturated tincture of stramonium. The result of this treatment was perfectly satisfactory. He made the following report of the effects of the inhalation: "He used it regularly on first rising in the morning, sometimes before quitting his bed, and immediately obtained a facility of expectorating, which superseded the necessity of the usual cough, and prevented its taking place in any troublesome degree. The breathing was rendered easy, and the chest light and comfortable; a happy exchange, he said, for the feelings of oppression and restraint which formerly always affected the windpipe and the chest more or less severely. He repeated the inhalation in the middle of the day; for the most part he employed the iodine mixture separately, as he conceived that it acted more strongly as an expectorant when thus used, although occasionally, he found the advantage of adding the other ingredients.

"It could not be expected," observes Dr. S, "that so confirmed an asthmatic patient should acquire the possession of perfect health, but it is satisfactory to report that the state of his chest was rendered, for the most part, very comfortable. He obtained every morning, by means of the inhalation, an effectual clearance of the bronchial tubes; by the use of the shower bath, the ablution, friction, and dumb bells,

he gained a very marked increase of strength in the muscles of the chest, and in the body altogether, and his general health became equally amended."

Case 12.—Chronic Laryngitis. A lady, aged 36, was subject to chronic inflammation of the larynx, the symptoms of which were a sense of burning heat in the part, a viscid mucous secretion difficult to be excreted, impediment in swallowing the saliva, occasionally an irritable cough, and an uneasy and at times painful respiration. I prescribed for inhalation a mixture of conium and hydrocyanic acid. The effects were quite satisfactory. All the symptoms were immediately relieved; and, at the end of a week, I directed this lady to use the iodine inhalation twice a day, with a view to produce a more permanently healthy state of the mucous membrane of the air passage. I was not disappointed in my expectations. She related that from the first inhaling mixture she experienced a soothing warmth in the windpipe and over the chest, with an equal relief of the breathing and the cough; and, finally, from the use of the iodine, a gradual recovery of the natural powers of the voice and the respiration.

Case 13.—Common irritable Cough.

A lady, for the most part enjoying good general health, had long suffered inconvenience from an irritable state of the trachea; so that from the slightest exposure to cold, she became affected with a spasmodic kind of cough, unattended with secretion. In this case, I found the use of an inhalation of conium prove sufficient for the complete relief of the cough; and my patient humorously said that she never would travel without her excellent friend the pipe."

"I subsequently recommended other means for the purpose of giving tone to the affected parts; but this simple treatment proved quite sufficient for the removal of the cough; and not finding the smallest inconvenience from the inhalation, this lady extolled its influence as far more agreeable and satisfactory than that of internal medicines, of which she had on previous occasions made a free use."

Case 14.—Chronic Bronchitis.

A female, aged 54, tall and slight, of delicate constitution, having rather a contracted chest, subject to winter cough for the last twenty years, with asthmatic breathing, consulted me in the latter part of autumn, for a cough of unusual severity, from which she had suffered three weeks. It was a strong sonorous cough, and so irritable, that she could scarcely carry on any conversation. The quantity of expectoration was upwards of half a pint in the twenty-four hours, partly frothy, but, in great part, also extremely viscid and ropy, and of a disagreeable faint odor. When this was much accumulated, the fits of coughing were of such violence as to threaten suffocation. The digestive functions in a natural state, and the constitution not affected except with nervous irritability, in consequence of loss of sleep at night from the urgency of the cough, which scarcely intermitted throughout the twenty-four hours.

I prescribed a mixture for inhalation composed of tincture of conium, hydrocyanic acid, and tincture of ipecacuanha; the application of the acetic acid with cantharides to the upper part of the chest, and no other internal medicine than a little magne-

sia, as occasion should require. The good effects of the inhalation were immediately apparent, and in two days the cough was so much abated, that I directed the iodine inhalation; but prematurely, as was shown by an immediate and continued aggravation of the cough. She resumed, therefore, the first mixture, and with the former success. She had attentively used the inhalation three times a day for a week; at which period the cough was comparatively slight and unfrequent; the sputa were much reduced in quantity, and amended in quality, but still there was much of the peculiar viscid secretion before described. I now directed that the iodine inhalation should again be tried, but with the addition of conium. It agreed perfectly, and proved soothing instead of irritating, and she was much struck by the facility which it gave her of expectorating, still more decided than from the use of the other mixture.

The secretion from the bronchial mucous membrane was gradually corrected, and brought to the natural state of health. In three weeks this patient recovered entirely, and for the last few days had used the inhalation only once or twice in the day.

Sir Charles Scudamore observes: "As far as relates to the treatment of bronchitis not attended with active inflammation, I should be almost contented to rest my conviction of the efficacy of inhalation on this case, so unequivocal was the benefit speedily obtained. The patient herself contrasted it with the slow and imperfect advantages which she had derived from ordinary internal medicines, administered for a long period in the preceding win-

ter, when the bronchial attack, according to her own account, was less severe than the one now described."

Case 15.—Bronchitis, unattended with Fever. "A female, aged 40, of robust form, the mother of several children, for years past affected with severe cough in the winter season, had been ill for a fortnight, when she consulted me. Cough very hard, and so violent and incessant as to disable her from occupation in the day, and disturb her rest at night; breathing short, and felt almost a constant tickling in the larynx; the sputa copious, and she expectorated with much difficulty; considerable perspirations at night. The digestive functions were not much disturbed, and I ventured to submit this case to the sole influence of the treatment by inhalations."

"I prescribed, therefore, as in the last case, a mixture of conium, hydrocyanic acid, and ipecacuanha, which she inhaled three times a day. The effects were quite satisfactory. At the end of five days, the cough was so much mitigated that she declared herself to be almost cured; and that, in this short space of time, she had received more benefit from inhalation than from internal medicines formerly taken for a considerable time.

"Although I wish, in the general character which I offer of the treatment by inhalation, to speak of it as a valuable auxiliary rather than as being in itself sufficient, yet I shall express the truth only when I affirm that I have in many other instances, as well as in these just related, been able to effect the cure of bronchitis, and catarrhal cough, by pursuing the same method, without prescribing any internal medicines."

Case 16.—Spasmodic Asthma. “A married lady, aged 36, had been subject to attacks of spasmodic asthma for some years past, from which she obtained relief by the use of antispasmodic and expectorant medicines; but her stomach was often disordered by their influence, and she had recourse to them with reluctance. I was desirous of trying the comparative power of inhalation, and prescribed for this purpose a mixture consisting of ether, conium, and ipecacuanha. I subjoin a statement of its effects in the words of the intelligent patient. “I inhaled the medicated vapor during fifteen minutes before going to rest. The first sensations it occasioned me were slight fatigue in breathing, and an aching pain in the breast, which, however, subsided by degrees; and when expectoration took place, which occurred copiously within half an hour after the inhalation, I felt completely relieved. Afterwards, in the course of the night, whenever I awoke (instead of feeling the oppression, and the difficulty of breathing which often distressed me), expectoration, without effort, took place; and, breathing easily and freely, I then slept again immediately. Usually, whenever I awake with the sensation of tightness across the chest, I do not sleep for an hour or two afterwards. During two days after the inhalation, slight expectoration continued; and ever since (now ten days) my breathing, both night and day, has been perfectly free.”

*Case 17.**—Tubercular Phthisis Pulmonalis, much advanced; repeated relapses from fresh softening of

* No. 1, new series, in the last edition of Sir C. Scudamore's work.

tubercles. A lady, aged 32, of delicate constitution, took cold in June, 1830, and soon became affected with a troublesome cough, followed by hectic fever, emaciation, and great debility. Her situation when I first visited her, January, 1831, was very alarming, being much emaciated, and extremely weak. The cough was violent, and so peculiarly harassing at night, that the sleep was constantly disturbed; pulse ranged from 120 to 130. Expectoration difficult, and in quantity about four ounces in the day, partly colored with blood, of puriform appearance, and of a peculiar, faint, and offensive odor. Morning and evening accessions of hectic fever; night perspirations very profuse; digestion weak and irregular; the catamenia suspended about six months. She was so reduced in strength, as to require being carried from the bed to the sofa in the adjoining room. The iodine and conium mixture for inhalation was prescribed, and, should expectoration be very difficult, from 20 to 30 drops of the tincture of ipecacuanha were to be added occasionally. Particular attention was paid to the diet, which was of a supporting, nourishing character, and such internal and external remedies were ordered as the case seemed to demand. In the first fortnight, the improvement in every particular was very remarkable. A relapse soon occurred; still, the case presented some features of amendment; the countenance being less haggard, the hectic paroxysms less urgent, expectoration less in quantity, the appearance of blood less frequent, and the nights more comfortable.

In the beginning of March, this lady was brought to town and placed under my immediate care. She

had again improved since my last report, but had subsequently relapsed; and it was manifest that there had been fresh softening of tubercles, indicated by increase of hectic fever, and night perspirations, by increase of expectoration, and its bloody and more puriform appearance, with an offensive odor; by greater quickness of pulse, and loss of the newly-recovered flesh and strength. During the progress of this case, several relapses occurred, in which the fresh softening of tubercles was on every occasion indicated, always preceded by increased frequency of pulse, alternate chills and heat, return of night perspirations, quickly followed by increased debility, purulent expectoration, frequently mixed with blood.

The inhalation was never neglected; on two occasions I changed the iodine for chlorine, for about ten days each time; but I was convinced, by the patient's statement of its sensible effects, and by my own observation, that the iodine was much the most efficacious remedy. I latterly increased the proportion of iodine in the prescription, and in the quantity employed for each inhalation.

Towards the latter part of May, the strength was so improved, as to allow of carriage airing on every favorable day.

Notwithstanding the occasional relapses, the general state of the patient was that of decided and very encouraging amendment. She was on full diet, and drank upwards of a pint of porter daily, besides having a glass of sherry or madeira. In July she was so much recovered, that, on account of the heat of the weather, she was removed to a healthy spot in the country, for the advantage of

country air. Afterwards, the progress of recovery was almost uniformly favorable. The catamenia returned, and by degrees the general powers of the constitution were comfortably restored. The inhalation was continued. Internal medicine was laid aside, with the exception of a dose of the *mistura ferri compos.*, or a quinine draught, on those days when languor or a sense of weakness might be experienced. From this time no serious relapse occurred. Within these few days, "November, 1833," I had the satisfaction of seeing my patient quite restored to health, strong, and embonpoint.

The Dr. remarks: "To lessen or remove the perspiration, which depends upon tubercular irritation, and forms a part of the hectic fever, occurring in the highest degree at that period when tubercles begin to undergo the softening process; general means of treatment, as ablution of the skin with an astringent lotion; a moderately warm apartment; the avoidance of unnecessary clothing; care not to take unnecessarily relaxing diluents, are of importance, and should be attentively considered, but the real remedy is that which may exert a palliative and curative influence on the tubercular disease itself.

"I know of no mode so rational in theory as the treatment by *inhalation*, which affords us the opportunity of conveying the power of the agent to the very seat of disease; and I trust that, in this volume, I am fully borne out in the zeal which I show to enforce the merits of the practice.

"In no case which has ever come under my care, have I been more satisfied than in the present, with the propriety of directing a full and highly support-

ing diet, always, of course, being careful to avoid any sensible oppression of the stomach and digestive powers. The good condition, for the most part, of the digestive organs was undoubtedly one of the most encouraging circumstances of the case; as, by the converse, loss of appetite, weak digestive power, and constant tendency to diarrhœa, must weaken, if not destroy our hopes of success. As the name of the disease, consumption, so forcibly expresses, the waste that is going on from absorption and irritation requires a countervailing proportion of nourishment, and, as a general rule, I should wish to give the consumptive invalid as much supporting food as could be comfortably digested."

Case 18.—Tubercular Phthisis Pulmonalis. A gentleman, aged 30, of slight stature and delicate constitution, consulted me in January, 1831, on account of cough and symptoms of consumption. He was very weak, and much reduced in flesh; pulse from 100 to 112; the cough very distressing at night, attended with more or less perspiration. The expectoration was about three ounces in the day, greenish or ash-colored, and frequently streaked with blood, and of a faint offensive odor; the digestion weak and irregular. The iodine and conium mixture was ordered for inhalation, and he was put on a mild, nourishing diet. The rest at night was most satisfactorily improved, and he enjoyed much refreshing sleep. The cough was usually troublesome during the process; but the increased facility of expectorating, and the subsequent quiet of the chest for an hour or more, made full amends for the temporary irritation. When expectorating was difficult, from

20 to 30 drops of the tincture of ipecacuanha were also added with the other ingredients.

In two months, the improvement of the patient was more manifest. He evidently gained flesh. He inhaled now only twice a day, but with regularity, and invariably expressed the sensible benefit which he derived from it.

This patient improved to such a degree as to be enabled to go abroad on some mercantile concerns; he had no relapse, but, unfortunately, some time afterwards, lost his life at sea by an accident.

Case 19.—Very irritable cough; much soreness of the larynx on pressure. A lady, aged 56, of delicate constitution, caught a severe cold, speedily followed by cough, which fixed itself in a very troublesome manner. She complained of much soreness and tenderness to pressure on the larynx, just below the thyroid cartilage. Every afternoon, a paroxysm of incessant coughing came on, attended with very great difficulty of breathing, and continued till evening. Pulse quick and weak; considerable perspiration towards morning; expectoration purulent, and frequently mixed with blood.

An inhaling mixture of tincture of conium, tincture of ipecacuanha, and hydrocyanic acid was ordered, which agreed perfectly, and was useful.

After a few days, the tracheal irritation being diminished, the iodine and conium mixture was prescribed, together with such internal and external remedies as appeared necessary.

The inhalation invariably agreed, and the occasional aggravation of cough during the process was fully compensated by the increased freedom of expectoration, and the subsequent comfortable relief

of the cough and the breathing. The appearance of the expectoration gradually improved, and at the end of two months the cure was complete.

Case 20.—Bronchitis, acute, and afterwards chronic. A gentleman, aged 30, of slight form, and not of strong constitution, was attacked with acute bronchitis, the more violent symptoms of which had been removed by appropriate treatment. He was now laboring under a frequent pulse, free from hardness; heat of skin, and, towards morning, perspiration always considerable, and sometimes excessive. Cough irritable by day and night; expectoration partly flaky and yellowish, chiefly mucilaginous, and very viscid. In similar cases, in which febrile irritation prevailed, as the attendant of some remaining inflammatory action in the bronchial tubes, I had found advantage from joining digitalis with the other ingredients in the state of herb. I used the following in the present instance: Of digitalis and conium, cut fine, each ten grains; powdered ipecacuanha two grains; water, of the temperature of 80° , raised by means of a lamp to 130° or 140° , as the patient should find most comfortable. To be used three times a day.*

This inhaling mixture produced very good effects, relieving the irritability of the cough, and producing a more easy expectoration.

* In cases similar to the above, where much irritation exists, I have employed the following recipe with much benefit, adding one or two teaspoonfuls several times a day to the inhaler, having previously poured into it the requisite quantity of water.

Rx.—Ext. opii ℥iiss;
 Ext. conii ℥i;
 Vin. ipecac. ℥ij;
 Aq. rosæ ℥iiss.—M. E. J. C.

In four or five days, I changed the inhaling mixture for that of the iodine and conium; and, from its use, almost without any further internal medicine, all complaint was removed in about a fortnight.

Dr. S. observes: "Although I should avoid all proposal of inhalation during the state of acute bronchitis, yet I am persuaded of the propriety of adopting the treatment, without delay, after the removal of the inflammatory symptoms."*

Case 21.—Irritable cough, with hoarseness. I was consulted in the case of the wife of a medical gentleman, who had long suffered from a highly irritable cough, attended with great hoarseness. I prescribed a mixture of conium, ipecacuanha, and hydrocyanic acid for inhalation, and suggested that, in a short time, it should be changed for the use of iodine and conium. The following report I received after several weeks:—

"The hoarseness is considerably relieved, and her morning paroxysm of cough is not so severe. She still continues the practice of inhaling, night and morning, and has found that when, by accident, she has omitted it, she has not rested so well, and her cough has been more troublesome. She has found more relief from the mixture with hydrocyanic acid, conium, &c., than from the iodine."

* I am accustomed to order warm inhalations in acute or inflammatory diseases of the mucous membrane of any portion of the air passages, and have always had reason to be satisfied with the effect produced.

The inhalation may be of warm water alone, or with from 30 to 60 drops of laudanum, paregoric, tincture of conium, or of the recipe of the preceding note added to it. To maintain the temperature of the fluid in the inhaler, this should, when in use, be placed in a vessel of boiling water.—E. J. C.

Case 22.—Asthma; much morbid secretion of the bronchial membrane. A gentleman, aged 66, of delicate constitution, subject to asthma during the last 20 years, is occasionally in a high degree distressed with bronchial irritation, attended with excessive secretion of viscid mucus, and urgent cough. He finds great relief and permanent benefit from having recourse to inhalation, using a mixture of hydrocyanic acid, tincture of conium, tincture of ipecac. and rose-water, with the addition of tincture of stramonium, when irritation of the membrane strongly predominates; and, when this subsides, he has recourse to the mixture of iodine with conium, using the iodine in small doses. This patient has found, by comparative experience, that his humoral asthma is more quickly relieved by inhalation than by medicines taken in the usual way.

Case 23.—A remarkably morbid condition of the bronchial membrane, in which there was strong evidence of ulceration. A gentleman, aged 60, a severe sufferer from asthma during the greater part of his life, caught cold, and experienced an attack of subacute pneumonia. By means of bleeding and other remedies, the inflammatory symptoms were in a short time for the most part removed; but the morbid secretion of the mucous membrane which followed was remarkable, being often streaked with blood, and very offensive in its odor. There was also an abundance of the ropy mucilaginous secretion so common to asthmatic persons. I directed inhalation; using the mixture with stramonium mentioned in the last case “22;” it agreed perfectly and gave relief; but as the same bad appearance of the sputa continued, I made choice of the iodine

mixture with conium and ipecacuanha; and the good effects which soon resulted were most satisfactory. At the end of three weeks, the state of the bronchial membrane was restored to health.

Case 24.—Cough of long standing, of a very spasmodic nature, attended with colored expectoration. A gentleman, aged 34, had suffered from a cough for three years, when he consulted me for a very aggravated state of his usual symptoms in May, 1832. The cough was urgent, expectoration free, flaky, ash-colored, and occasionally streaked with blood; pulse 120; hectic irritation at night, and towards morning considerable perspiration; there was loss of flesh. Premising such remedies as the general health required, there was ordered after a few days, an inhaling mixture of iodine, conium, and tincture of belladonna, the last being added with reference to the highly spasmodic nature of the cough.

At the end of a month, the cough was almost cured. The patient had previously made trial of various remedies without success; and the complete removal of a cough, which had harassed him almost constantly during three years, within a less space of time than two months, was very satisfactory.

Case 25.—Tubercles in the right lung. A delicate young woman, aged 24, evidently scrofulous, subject to cough for years, which became severe after repeated colds in the spring of 1833. She had a hectic appearance, complained of much debility, had lost flesh, pulse 100, respiration oppressed, and distressingly hurried by the slightest exertion. Her sleep much disturbed, and before rising, perspiration very copious; the catamenia had been for some time suspended, the cough almost constant; expectoration

considerable in quantity, offensive, and frequently streaked with blood. I prescribed the inhaling mixture of iodine and conium, together with such other remedies as appeared requisite. At the end of a week there was a considerable alleviation of all the symptoms. At the end of another week, there was some further improvement.

The case went on most favorably. At the end of three months, she expressed herself to be quite recovered; the catamenia had returned.

Although I do not, says Dr. S., relate this case as a clear example of tubercular excavation, yet it was undoubtedly one of aggravated disease, with the certainty of tubercles. It may be offered as a corroborating instance of the useful and important effects of iodine inhalation.

Case 26.—Chronic Bronchitis with suspicion of tubercles. A gentleman, aged 38, subject for many years to attacks of acute bronchitis. Two years previous to his present illness, he suffered much from an affection of the trachea.

I found him suffering severely from symptoms of subacute bronchitis. I directed the usual means for the removal of inflammatory action; employing at the same time, with much relief to the patient, an inhalation, composed of conium, digitalis, ipecacuanha, and small doses of hydrocyanic acid.

He was in a short time relieved from the most severe symptoms, but the complaint assumed a chronic character. The cough was very irritable, the expectoration viscid, creamy, frothy, of disagreeable odor, and excreted with difficulty.

He complained of much internal soreness along the whole course of the sternum, and, in particular,

of an internal itching irritation in the same direction.

The iodine and conium mixture was now ordered for inhalation, with the effects of which there was every cause to be satisfied. He found the itching sensation within quite relieved by it. The feeling of oppression of the chest was removed, and the expectoration was rendered free and easy.

He recovered entirely in the course of two months, and remained well for almost two years, when the complaint returned in a less inflammatory form than before; and again he experienced the most marked benefit from the inhalation.

Case 27.—Tubercular Phthisis Pulmonalis. A young man, aged 22, having enjoyed from childhood general good health, caught cold in December, 1832, while under the influence of mercurial medicine. He complained of a distressing sense of tightness and oppression across the chest. He had a very troublesome cough, the expectoration not very abundant, greenish, of a faint, offensive odor, occasionally mixed with blood. The pulse from 100 to 120, soft and tremulous, and a distinct hectic paroxysm twice a day, with considerable perspirations towards morning; no appetite. He lost flesh rapidly, and had a truly consumptive appearance.

In conjunction with other remedies, I commenced with an inhaling mixture of aqua rosæ, tinct. conii, tinct. ipecacuanhæ, and acid hydrocyanic, using of the last medicine only three drops as the total quantity for each inhalation. This proved soothing and comfortable.

After a few days, I began with the iodine and conium mixture, which agreed perfectly, and pro-

duced an agreeable sense of warmth, and more power and freedom of respiration; although, in the act of using it, more cough took place, attended, however, with increased freedom of expectoration.

In about ten days, there was a change in the symptoms, and in the sputa. The hectic fever, and the night perspirations were diminished, the pulse rather less frequent. The expectorated matter of a mixed nature, chiefly viscid, but in part grumous and curdy, occasionally mixed with blood. For some time his state fluctuated between amendment and relapse. By strict attention to relieve the various symptoms, by appropriate internal and external remedies, and changing the iodine inhaling mixture for one of conium, digitalis, and hydrocyanic acid, he gradually improved. The former plan of treatment was resumed. The iodine inhalations now again agreed perfectly. He took the sulphate of quinine joined with small doses of sulphate of magnesia and sulphuric acid with benefit. The night perspirations had lately so much increased that I ordered the tannin lotion to be used and followed by the flesh brush.

The appetite improved, and I ordered a very restorative diet, and porter as the beverage. In June, he was sufficiently recovered to go and reside at a short distance from town, where he might have the advantage of a change of air. He continued all the means of treatment; gentle horse exercise proved very useful, and he gradually but regularly improved.

At the present date, December, 1833, he expresses himself as feeling quite well. He has a little cough in the morning on first rising, but alto-

gether does not expectorate more than a drachm. This expectoration retains much of its puriform character. I advise him to continue the inhalation of iodine and conium once every day. He has never yet relinquished its use for more than one fortnight from the commencement. I enjoin him to guard most carefully against cold and damp, and to consider himself as an invalid.

The experience of Sir Charles Scudamore entitles his remarks upon medical inhalation to serious consideration, and from his observations and conclusions, appended to the previous cases, I extract all that particularly appertains to the subject.

“It has often happened that valuable remedies have been laid aside or neglected, in consequence of some mismanagement in their use, or, perhaps, from an excessive zeal in the recommendation of them by their authors; so that, not being found capable of producing the promised effects, they have experienced the unmerited fate of being rejected as useless.

“Some of the medicines which I have recommended for inhalation are agents of much delicacy and power. My conviction of their most perfect safety, employed in this manner, has not been shaken by a single untoward instance; but it is right to state that their administration requires careful attention and management. The composition of an inhaling mixture, and the doses to be used, are to be adapted to the particular case, and changed according to its varying circumstances, in the same manner as we find it necessary and proper to alter and accommodate our treatment with internal medicines.

“As by mixing the tincture of iodine with water, the iodine itself separates into flakes, which become precipitated, and as this medicine is very sparingly soluble in water alone, I found it expedient to form a preparation which should be uniform, and preserve its transparency when united with water. This advantage is effected by adding together iodine, hydriodate of potash, distilled water, and alcohol. The proportions of the ingredients are to be varied according to the circumstances of the case.

“Of all the agents employed, iodine is the most active, and that in which I place my confidence as the curative remedy in phthisis pulmonalis. The average frequency for inhalation is three times a day. The inspiration should be as strong as can be conveniently made, in order that the vapor may freely enter into the lungs; but the patient should inhale in a manner not to fatigue the chest, and this evil will be avoided if he allow himself sufficient interval between the periods of inhaling to recover power.

“I lay it down as a principle, that inhalation should always be so conducted as not to produce fatigue to the patient in any way, either as regards the composition of the mixture, its strength, or the period of carrying on the process.

“In first entering on the treatment of inhaling, the irritation of coughing is usually produced, and in some cases this happens on every subsequent occasion; but unless this prove excessive or permanent, it does not form an objection to the treatment, for the power of expectorating is remarkably facilitated, and the bronchial tubes being cleared, a material subsequent relief to the cough is afforded. But a

curative and not merely a palliative effect is the object to be held in view.

“The administration of the iodine inhalation is improper when any decided inflammatory action is present. It happens, occasionally, in phthisis pulmonalis, that blood is coughed up, either pure or mixed with the sputa. In the first case, it is most probably the consequence of a rupture of a vessel, caused by the force of coughing, when there is an increased capillary circulation; and such appearance should induce us either to suspend the inhaling process altogether, or to use only sedative ingredients, till the expectoration ceases to be colored. But, when the blood is of a very dark color, instead of being of a bright scarlet, and more especially when it forms only a proportion of the sputa, we may conclude that it is the consequence of that slow ulceration by which small vessels are eroded; and in such circumstances, I have not been deterred from using the iodine, but have always blended with it the conium. The disappearance of color in the expectoration will confirm the propriety of the treatment.

“The admixture of iodine, and also of chlorine, with hydrocyanic acid, is incompatible, as is also that of iodine with chlorine. The tincture of conium is usually very soothing in its effects, and may be mixed with any of the other materials. The tincture of digitalis produces sedative effects, and more especially when united with hydrocyanic acid. In one case in which spasmodic irritation, united with slight symptoms of inflammatory action, prevailed to a great degree, I obtained the best effects from this mixture.

“The tincture of stramonium exerts an antispas-

modic power in asthma. The tincture of ipecacuanha is expectorant.

“The internal use of hydrocyanic acid is by some practitioners contemplated with great apprehension.* I do not prescribe it except in very small doses, and which are perfectly safe; but I can confidently state that no inconvenience attends its employment as an ingredient for inhalation, while it often proves highly serviceable as a sedative and antispasmodic.

“Ether is found to be very useful in a spasmodic condition of the air passages, and contributes to facilitate expectoration. It may be joined with any of the other ingredients, or used separately.

“In cold weather, especially, it will be necessary to keep the inhaler containing the mixture (of any kind) immersed in hot water during the process, in order that the proper temperature be kept up.†

* In consequence of the inequality of strength known to exist in hydrocyanic or prussic acid, the many accidents that have occurred from that cause, and the quickness and facility with which it is decomposed, it appears to me that physicians would be enabled more accurately to estimate the true value of this acknowledged powerful and valuable remedy, by substituting for it the salt, cyanuret of potash, which, as it can always be had pure, and of uniform strength, precludes the possibility of accident or disappointment from its use. As a palliative, I have used the cyanuret of potash frequently within the last few years, and have had reason to be perfectly satisfied with its beneficial local action upon diseased conditions of the pulmonary organs.—E. J. C.

† In acute diseases of the mucous membrane of the air passages, the patient being confined to his bed, or room; or, in other cases, before going to bed, there can be no question of the propriety and advantage of warm inhalation, which, acting as an emollient conjoined or not with more active re-

“Of the chlorine solution, I have to observe that, as a remedy employed in the same manner, and with the same views as iodine, it has not afforded me results approaching in value to those obtained from the latter medicine. In several cases of phthisis pulmonalis, I substituted the chlorine for the iodine, but did not continue its use for more than a few days, as its beneficial action was, in my opinion, very decidedly inferior; and, on every occasion, the patient, when resuming the inhalation of iodine, in strong language expressed his conviction of its being by far the most serviceable remedy.

“In consumption, even in desperate circumstances, I recommend the use of inhalations, as being calculated, more than any other treatment, to mitigate the most troublesome symptoms, and afford the patient great comfort and relief. Also, I am persuaded, that such treatment affords the strongest chance of cure.

“Before the disease has made much destructive progress, and especially in the very early stage of phthisis, I have the highest opinion of the efficacy of the treatment. But I desire to repeat what I have before said, that internal treatment and general management should be joined with the plan of in-

medies, favors the resolution of the disease by expectoration or otherwise.

In cases, however, of a more chronic character, experience has convinced me that cold should be preferred to warm inhalation; for, independently of the same remedial effects being produced in both cases, we prevent the possibility of rendering the parts liable to be acted upon injuriously by an immediate exposure to an atmosphere, especially if in winter, much below, both in heat and moisture, that to which they had just before been accustomed.—E. J. C.

halations. I have occasionally, as shown in some of the cases which I have related, found the pulmonary or bronchial disease in so great a degree local, that I have chiefly or wholly trusted to the use of inhalations, and with success; but these are exceptions to the general rule."

The doctor concludes with "the hope that I have performed some service to medical science and to humanity, in proposing a treatment novel in many essential points, always perfectly safe, and never failing to render more or less of benefit when the case is appropriate for its employment. In chronic bronchitis, the benefits of inhalation are so well proved by the speedy favorable alteration produced both in the quantity and quality of the expectoration, and by the sensible relief which is experienced by the patient, that no question of the value of the remedy can be reasonably entertained. It gives relief to the asthmatic patient; proves often curable in cases of phthisis pulmonalis, not become desperate in their nature; and is capable of much useful influence even in those extreme examples of the disease which too probably admit only of alleviation, and seem to bid defiance to the ordinary rules of practice."

In the *London Medical Gazette*, for February, 1840, Dr. S. has given additional observations upon medical inhalation in tubercular consumption, from which it appears that the practical results derived from an experience of ten years fully authorize his speaking with increased confidence of the efficacy of the inhalation of iodine and conium, as an important auxiliary in the treatment of consumption. The formula at present preferred by Dr. S. differs slightly from that previously given, and is as follows:—

R.—Iodini pur. ;
 Iodid. potassii, āā gr. vj ;
 Aquæ destillatæ ℥v. ad ℥vj ;
 Alcoholis ℥ij.—M. ft. mistura.*

The tincture of conium is always to be added at the time of mixing the iodine solution with the water, and it should be a saturated tincture, prepared with the most genuine dried leaves.

From half a drachm to a drachm of the iodine mixture, and half a drachm of the soothing tincture (though this last may be increased if the cough be very troublesome), the doctor considers sufficient when commencing its use, for an inhalation of eight or ten minutes, to be repeated two or three times a day.

In the course of a few days, the doctor recommends the quantity of the iodine mixture to be augmented, progressively, from ℥j to ℥iv; but, also, then prolonging the time for inhaling; he divides the iodine dose, putting two-thirds at first, and the rest after the expiration of seven or eight minutes.

“It is of the utmost importance that the strength of the inhaling mixture should be considered in relation to the particular case; the feelings of the patient will be a great guidance.”

In the *Dublin Medical Journal* for March, 1839, there are important observations on the exhibition of various remedies, in the form of vapor, in pulmonary diseases, by inhalation, by Dr. D. J. Corrigan.

* In general, I have not found Sir C. Scudamore's preferred iodine mixture to equal the other medicines, which, in consequence, I more generally employ. Occasionally, I have seen great benefit from its use, in three or four times the strength of the preparation suggested by Dr. S.

“Of the powerful influence which various vapors, and even changes in the air itself, as to heat, moisture, constitution of the atmosphere, &c., exercise as local agents on the lungs, there cannot be a doubt.

“Every day’s observations shows it, every one in his own person feels it. Even allowing most fully for the exaggerated encomiums of some of the older advocates of inhalation, enough remains in the attestations of such men as Darwin, Beddoes, Withering, and their contemporaries, to forbid us to abandon this plan of treatment.

“I think,” observes Dr. C., “these few observations justify me in coming to the conclusion that remedies in the form of vapor exert a powerful influence over diseased action; and that, as it is only in this form we can ever administer remedies to act locally upon diseased tissues in the lungs, the exhibition of remedies in this form merits close attention and further perseverance.”

Dr. A. B. Maddock, London, in his interesting work upon the efficacy of medical inhalations in the treatment of consumption, asthma, bronchitis, &c., has appended many cases strongly confirmative of the power of that means of cure.

Not having kept a record of the many interesting cases in which I have successfully employed medical inhalation, I am unable to give more than the following; but they are of a sufficiently positive character to prove the value of the local application of remedies to diseases of the respiratory organs.

Had I no other case to report, it would be sufficient to prove that medical inhalation does possess positive curative powers, which the apathy of most

of the profession, or the hopelessness of all cases of consumption, in the last stage, cannot deprive it of.

The fact that this case could not be cured by the ablest American or French physicians, and that medical inhalation did, will answer all sneers or denials, though made by the editors of the *New Orleans Hospital Gazette*.

Did they but devote half of the time and attention to the subject, for the good of the sick, and the real advance of the *ars curandi*, that I was compelled by illness to do, they would be able to alleviate many distressing symptoms, effect a greater number of cures, and learn the true value of medical inhalation.

My own case commenced in 1819, when a student of medicine in the University of Pennsylvania, and, though kept at bay by severe treatment for a number of years, finally ended in chronic inflammation of the mucous membrane of the larynx and trachea, gradually increasing in the severity of the symptoms, until at last so correctly did they correspond with those of phthisis trachealis, that but little doubt was entertained by my medical friends of its terminating as that disease generally does. Without pretending to give the particulars of the treatment, I shall confine myself to the more important points; sufficient, however, to prove that few, if any remedies, were left untried.

As generally happens in diseases of a similar character, I suffered every winter, for many years, a great aggravation of all the symptoms, caused by the unavoidable exposure incident to the practice of my profession, and could only procure relief by resorting to the most active treatment, general and local bleeding frequently repeated, an almost per-

petual blister of Spanish flies, or tartar emetic, a low diet, and the constant use of those medicines usually given in such cases internally.

During the summer, there was a great abatement of the more prominent symptoms, but each succeeding winter clearly proved that the disease was gradually gaining strength, as evinced by the earlier appearance of the symptoms, the necessity of a more frequent resort to the remedies above named, and the greater time required before they produced their usual beneficial effects.

Such continued to be the case until the fall of 1832, when, from the severity of the attack, its early appearance, and the great difficulty experienced in alleviating the more prominent symptoms, I was advised by my medical friends to try the effects of a long sea voyage, and accordingly embarked for Buenos Ayres. The most decided benefit resulted from the voyage and residence there, and so much improved was I upon my return in May, that I resumed my practice, but unfortunately having been caught in several rains, I experienced a return of the disease, which proved so violent and intractable, that I was then advised to abandon my profession for several years, and try the effects of a residence in the milder and more equable climates of Madeira, or south of Europe.

In October, 1833, I sailed for Madeira, and by a regular continuance of the active treatment, *ut supra*, in conjunction with the equable temperature of that climate, as well as absence from exposure, I was enabled to pass a very comfortable winter. While there, in addition to the other treatment, I introduced a large seton in the upper part of

the breast, which proving very beneficial, I determined to keep up the influence of so valuable and constant-acting a remedy; and, as the friction of the clothes, and exercise, caused it to wear out, I was compelled for the same reason to introduce six in the course of two years and a half, during which time the discharge was kept up. At one time I had two in at once, one in the throat, longitudinally, and the other in the upper part of the breast.*

* In chronic diseases it has long been admitted, that very great benefit results from maintaining a drain from the neighborhood of the diseased part; and for this purpose, blisters, tartar emetic, croton oil, issues or setons are generally employed.

The important point is to decide upon that one, which, while accomplishing most effectually the end in view, should do it with the least pain or annoyance to the patient.

Having given a full and fair trial in my own person, and upon others, to the above means, I unhesitatingly give the preference to a seton, which keeps up a constant discharge, is attended with little, if any pain, after the first few days, and is the most cleanly and easily dressed.

Shortly after having introduced the first seton in my breast, I found the old plan of allowing the skein of silk, or thread, to remain permanently, only moving it a little from day to day, to be attended by many inconveniences, the greatest being the offensive odor, which, even with the greatest care, it was impossible entirely to prevent.

I soon, therefore, adopted the following plan, which I can confidently recommend as the best mode of dressing a seton.

After having introduced the skein of silk with a common seton needle, I allow it to remain until suppuration has freely commenced, when it is withdrawn, and a seton prepared in the following manner is inserted in its place, and renewed every day.

Take a piece of old and soft linen or muslin, about four inches long, by two or three broad; roll it up with the fingers into the shape of a quill, or bougie; then partially unroll it, and spread a little ointment on both sides, when it is to be again rolled up quite tight. A little ointment being smeared

By such means I was enabled to prevent an increase of the disease, and enjoy a freedom from the usual severity of the symptoms, which had previously existed during the winter; a continuance, however, of slight pain and uneasiness caused by a constant tickling sensation in the trachea, with a continual expectoration, though diminished in quantity, fully proved that a perfect cure had not yet been accomplished. In the spring I sailed for Italy, and passed the summer and fall with but little inconvenience; but during the winter I was again obliged to have recourse to the usual remedies, and in addition to those already mentioned, I applied every two days three or four leeches.

In looking over some medical works, my attention was directed to the use of inhalation in various diseases of the pulmonary organs, and I soon determined upon calling its remedial power into requisition. I had an inhaler made upon the principle of that long since proposed by Mudge, and commenced inhaling through a hot infusion or decoction of various medicinal substances.

Of the benefit resulting from this local application of remedies I soon became convinced, and from that time to the present, increased experience has confirmed my opinion of the positive remedial value of medical inhalation, in a number of diseases in-

over it, it will be found to pass very readily, giving it a slight rotatory motion.

Should there be any apprehension of this seton falling out, a piece of thread or tape may be passed around the two ends in the shape of a figure of 8.

A piece of muslin or linen spread with any simple ointment, and tied around the neck, or pinned to the clothes, will effectually prevent their being soiled.—E. J. C.

cident to the respiratory organs. I may in this place incidentally remark, that the use of inhalations afforded great relief to many of the distressing symptoms attendant upon confirmed consumption in two English gentlemen whom I attended; and also that, in one case of asthma of many years standing, the employment of the inhaler afforded greater and more immediate and permanent relief than had been experienced by the individual from the various remedies generally prescribed for him.

In the fall of 1837, I returned to Philadelphia, very much improved; but, doubtful of the propriety of resuming my profession, and incurring the great risk attendant upon the necessary exposure incident to it, I determined upon embarking in another business, in the southern part of our country, and selected New Orleans as my residence.

The first winter passed there, I experienced so little uneasiness that I was only occasionally obliged to resort to the inhaler; but, in the second, I unfortunately contracted a very severe cold, which had the effect of bringing once more into action the disease of my throat, with the usual unpleasant symptoms.

Now it was I decided upon abandoning the usual mode of inhalation through hot fluids, having determined to try other remedies than those I had heretofore employed. It was with no little pleasure I discovered, in the course of a few days, that inhalation carried on through a fluid at the ordinary temperature of the atmosphere, to which was added, two or three times a day, a small quantity of a mixture composed of extract of cicuta, balsam copaiva, creasote, tincture of cicuta, and peach water, pro-

duced a speedy and most decided effect; for in about ten days, without the aid of any other remedy, engaged as I was in business, I succeeded, by this remedial measure, in completely restoring my throat to its former, comparatively speaking, healthy condition. Since that time I have regularly, every winter, experienced one or two attacks of the same kind, and I am desirous it should be distinctly understood that in no one instance has medical inhalation failed to arrest, in the course of a few days, the progress of the disease, and restore the part to its now natural condition, and that, as before remarked, without employing any other remedy, changing my diet, or confining myself to the house.

ALTHOUGH I LAY PARTICULAR STRESS UPON THESE FACTS AS EVINCING THE EXTRAORDINARY CURATIVE POWERS OF MEDICAL INHALATION IN DISEASES OF THE AIR PASSAGES, I BY NO MEANS WISH TO BE UNDERSTOOD AS RECOMMENDING IT TO THE EXCLUSION OF OTHER REMEDIES, whether internal or external; for, as previously remarked, I am desirous that the local application of remedies to diseases of the respiratory organs should be regarded as an auxiliary of the most decided and valuable character.

Attacks similar to those just noticed occurring before I was accustomed to employ medical inhalation, required months of active treatment, previously to my being able to subdue the severe and painful symptoms of the disease, and, until the commencement of summer, I could not dispense with many of the remedies.

If the result of medical inhalation in my case is not sufficient proof of its decided remedial powers,

I am at a loss to imagine what more conclusive evidence could possibly be desired.

Case 2.—Mr. R., laboring under a chronic disease of the mucous membrane of the trachea, and upper portion of the bronchi, attended with pain, constant uneasiness in those parts, as if from the presence of some foreign substance, and disposition to cough, with the expectoration of sputa of a mucopurulent character. He had been under treatment for several years, but finding the disease to be gradually increasing, and not much under the control of the ordinary remedies, he removed from the north to the more temperate climate of New Orleans. Much benefit was not derived from this change, in consequence of his being obliged to expose himself to all weathers, in the pursuit of his business.

From an examination of his case, it appeared to me that medical inhalation offered more than a reasonable probability of materially alleviating his disease, if it did not effect a perfect cure, and he accordingly determined to give it a trial. The medicines employed in this case were the balsam copaiva, extract of cicuta, Hoffman's anodyne, spirits of camphor, and laudanum, so combined as to enable him to gradually increase the strength of the medicated fluid through which he was directed to inhale frequently during the day, gradually increasing the quantity added to the inhaler from day to day. With the exception of an occasional pill of blue mass, rhubarb, and ipecacuanha, to regulate the bowels and hepatic secretion, and the daily application, morning and night, of a strong liniment to the throat and breast, medical inhalation was exclusively relied upon. Our brightest hopes were not disap-

pointed; for in the course of a few weeks there was a well-marked diminution of all the symptoms, and before the spring arrived the cough and expectoration had ceased, and he considered himself perfectly cured. It is proper to remark that this gentleman was not confined one day to the house, though directed to dress warmly and avoid all unnecessary exposure by day or night; and that in respect to diet, he was merely requested to refrain from high-seasoned food, and wine, or other stimulating drink.

In proof of the estimation in which this gentleman holds medical inhalation, it may be remarked that he has procured inhalers for several acquaintances similarly afflicted, and in each case, he informs me, its use has proved decidedly beneficial.

Case 3.—Mr. J. has been suffering many years from repeated attacks of asthma. As he was anxious to try the effect of the inhaler, I prepared him a mixture composed of the extract of cicuta, balsam copaibæ, Hoffmann's anodyne, laudanum, and peach water. He was directed to inhale four or five times during the day, from five to ten minutes at each inhalation; and, for the first three or four days, half a teaspoonful of the inhaling mixture was added morning and evening to the inhaler; at the expiration of that time the quantity to be added, as well as the duration of each inhalation, was to be gradually increased.

The effect produced was quite equal to our expectations, for in a short time he was seized with an attack, which he was enabled to arrest in its commencement, and speedily remove all the usual symptoms. He has since informed me that he has continued the use of the inhaler, though irregularly,

and that his attacks are neither so frequent nor so severe as formerly, and that, when one does occur, the free use of the inhaler affords him speedy relief.

Case 4.—This is adduced as evincing, in the most decided manner, the local and constitutional action of remedies applied by inhalation in a case of consumption. The fact of the individual being a physician of extensive experience, renders it more valuable.

Doctor — has been for several years laboring under all the symptoms of consumption, for which the usual remedies have been employed; the disease has, however, within the last few months, advanced more rapidly.

The cough is now very frequent, with copious expectoration; a tolerable night's rest can only be procured by taking large doses of opium, and the almost daily use of aperients is required to open the bowels; his appetite much impaired, and general strength rapidly failing.

Conversing with the doctor upon medical inhalation, I recommended his trying the effect of cyanuret of potash, extract of cicuta, or opium, a small quantity of tincture of cicuta or opium and peach water, used by inhalation several times a day, and just before going to bed inhaling from fifteen to twenty minutes each time. The plan was adopted, and the last time I had the pleasure of seeing the doctor, he spoke in the highest terms of the effects produced by inhalation. He is no longer obliged to take opiates internally, and sleeps well the greater part of the night; his cough has decreased, the bowels are quite regular, and his appetite and strength have very much improved. The inhalation in this

instance was through a fluid of the temperature of the atmosphere.

Case 5.—A gentleman of robust frame, and excellent general health, troubled for three successive winters with an inflammation of the fauces and larynx, attended with a hacking, irritating cough, and the expectoration of mucus at times streaked with blood. He was under treatment nearly all the last winter, without, however, having the disease entirely removed.

He complains now, June, 1841, of uneasiness in the back part of the mouth, a tickling sensation in the larynx, and at times a hacking cough; the tonsils are considerably enlarged, and on the roof of the mouth and arch of the palate, are a large number of small ulcers. The same parts, and as far down the throat as can be seen, are considerably inflamed, which has existed to a greater or less degree for the last six months.

I directed him to take occasionally a pill composed of blue mass, rhubarb, and ipecacuanha, and to rub his throat well morning and evening with the following mixture:—

* R.—Tannin	℥i;
Camphor	℥ii;
Mur. sodæ	℥ii;
Tinct. capsici	℥iss;
Tinct. arnicæ	℥iss;
Aq. ammonia	℥iss;
Aq. puræ	℥ii;
Sp. vin. rect. sufficient to fill a quart bottle.	

* Of the various liniments which I have been accustomed to prescribe for diseases of the throat and lungs, as well to act as counter-irritants, as to strengthen the parts, and render

Instead of pure tannin, I sometimes make use of oak-bark, or bruised nut-galls.

He was directed to allow a small piece of saltpetre to dissolve in his mouth, and gradually trickle down his throat, four or five times a day, and to inhale three or four times a day, from ten to fifteen minutes each time, through cold water, to which a teaspoonful of the following should be added at first once, and gradually increased to three times a day.

R.—Camphor	℥i;
Bals. copaibæ	℥ss;
Spts. camphor	℥i;
Tr. opii	℥vj;
Aq. amyg. Persic. q. s. ad ℥iv.—M.	

In four days, a decided improvement was visible; ulcers disappeared, surface of the mouth and fauces much less inflamed, and a great decrease of the uneasiness in the larynx. In three weeks, all sense of uneasiness had disappeared, inflammation entirely removed, and the tonsils reduced in size nearly one half.

As in this case a perfect cure was accomplished by the means stated, does it not conclusively prove that the local application of proper remedies by inhalation possesses a power which does not appertain to the internal administration of medicine, and that it will often cure when the other cannot.

Case 6.—Last winter, 1840, at the request of a

them less susceptible to the action of cold or sudden changes in the weather, no one has produced such general good effects as the above stimulating and astringent compound. I am disposed to believe that it acts generally, as well as locally, and that, in cases of a predisposition to tubercular affections, its use will be found of great service.

friend of a gentleman passing the winter in the island of Cuba for his health, I sent an inhaler and a mixture, with directions for use, suitable for, as far as I could learn, a chronic inflammation of some part of the air passages, or, as he termed it, bronchitis.

Some months afterwards, I had the pleasure of receiving a very flattering letter from the gentleman, requesting another bottle of the mixture; and the following extract from his letter clearly shows his opinion of the effects produced. "I HAVE BEEN USING YOUR INHALER FOR ABOUT TWO WEEKS, AND FIND MORE BENEFIT FROM IT THAN FROM ALL OTHER REMEDIES I HAVE EVER TRIED, AND AS I WISH TO KEEP UP THE USE OF THE INHALER, AND SHALL NOT RETURN HERE TILL NEXT FALL, MY BOTTLE WILL NOT HOLD OUT. MY COUGH HAS BECOME NOW MUCH DIMINISHED, AS ALSO THE EXPECTORATION, AND BY A PERSEVERING AND FAITHFUL APPLICATION OF THE REMEDY, I HOPE IT WILL ENTIRELY CURE ME."

It appears that this gentleman's disease was considered by his physicians to have been dyspepsia, complicated with chronic bronchitis, which last, it was thought, if not cured, would ultimately terminate fatally.

Case 7.—Mrs. H. had been for a long time laboring under the well-known symptoms of confirmed tubercular consumption when I first saw her. To such an extent had the ravages of the disease progressed, so completely prostrated was her general strength, and so much impaired were the powers of digestion, that it was altogether impossible to anticipate any permanent benefit from inhalation.

It was, however, perfectly apparent to herself, her friends, and equally to myself, that, as a soothing palliative, the employment of various medicines by inhalation afforded the most decided relief, calming the violence of the symptoms, producing a sense of comfort, and unquestionably prolonging her existence.

Even when certain that a cure cannot be effected, is it not the duty of our profession to alleviate and soothe the final stage? Inhalation, properly performed, does possess that power, and should be resorted to more generally.

Case 8.—Aphonia. Mrs. R., after having taken cold, found her voice gradually failing, until finally it became perfectly extinct. After having exhausted the different remedies, both external and internal, prescribed for such cases, without the least benefit, and after the loss of her voice had continued several weeks, I decided upon trying medical inhalation, in addition to such other means as might appear requisite. The following was therefore ordered:—

R.—Ext. conii	℥i;
Bals. copaibæ	℥v;
Ol. terebinth.	℥ii;
Tr. conii	℥iv;
Aq. font.	℥ii.—M.

Of this, one teaspoonful to be added to the inhaler four times a day, having previously poured into it four tablespoonfuls of water, the inhalation to be continued from 20 to 30 minutes each time.

For five days, this course was regularly continued, without other benefit than an alleviation of the uneasiness previously experienced in the throat. I now added more balsam copaiba and turpentine to

the mixture, and ordered inhalation to be continued as before.

In the course of a few days, it became evident that a good effect was being produced, as, occasionally, the voice would for a few moments be somewhat distinct. I now ordered the following:—

R.—Sp. ether. sulph. comp. \bar{z} i;
 Tr. capsici \bar{z} vj;
 Tr. conii \bar{z} ss.—M.

One teaspoonful to be added to the former mixture whenever used.

The effect produced was all that could be desired, and a continuance of this course for one week fully proved the power of inhalation, for her voice gradually recovered its tone and fulness, and after a few days became perfectly restored, when the inhalation was ordered three times a day to keep up the impression and prevent the possibility of a relapse. Since the above attack, there appears to be a predisposition to a return of the complaint, for, several times each succeeding winter, after taking cold, there have ensued a weakness and greater or less loss of voice, which, however, have always been arrested, by an immediate resort to the use of the above medicines by inhalation.

Case 9.—Complete Aphonia. Mrs. B., from having taken cold, found her voice in the course of 24 hours, entirely gone, when I was consulted in her case.

I ordered a strong ammoniacal liniment to be frequently applied to the throat, and several doses of a strong purgative and expectorant mixture, in the belief they would prove sufficient. After having ineffectually tried this course for 36 hours, I decided

upon trying inhalation, and prescribed the following mixture:—

R.—Ext. opii	℥ss;
Ext. conii	℥ij;
Bals. copaibæ	℥v;
Ol. terebinth.	℥ij;
Tr. capsici	℥vi;
Aq. font.	℥iij.—M.

Two teaspoonfuls to be added to the inhaler every two hours, having previously poured into it four tablespoonfuls of water. Inhalation to be continued from 20 to 30 minutes each time.

The result was perfectly satisfactory, the voice in 24 hours having become much more distinct, and at the end of another day, had regained its natural strength and volume.

Many other cases of a similar character with the preceding have been treated and cured, since the second edition was published, with equal success.

Inasmuch as the greater number had been for a longer or shorter time under the treatment of the best physicians of the North and West, without any good result, or at least without effecting a cure, which eventually was produced by the employment of inhalation, conjoined with appropriate general and hygienic treatment, can any unprejudiced mind deny that the treatment of diseases of the throat and lungs, by the local application of different remedies, by inhalation, is worthy of all confidence; and that the large body of sufferers has an unquestionable right to demand from physicians that the subject be duly investigated, and tried, instead of being unnoticed, or its worth denied, by those who will not test it by practical experience?

The fact that, in the last stage of consumption, neither this, nor any other mode of treatment can cure the disease, or arrest the inevitable result, offers no reason for its entire neglect.

Asthma is a disease acknowledged, in many cases, if not all, to be difficult of management, and the cause of much suffering.

The employment of medical inhalation for the treatment of asthma, both as a curative and preventive agent, will be found of general utility. While, in many cases, it will effect a cure, in others it will prove materially to mitigate the severity of the paroxysm, lessen the period of duration, and prolong ultimately the intervals.

The mitigating power of this means of cure, or mode of treatment, is often manifested in a short time, the attack being cut short, thus affording time for the employment of adjuvants to prevent a repetition.

Asthma being known to differ in its character, for many cases, the mechanical action of inhalation, by distending and imparting vigor to the lungs, will prove sufficient; while in others, the peculiar effects of certain remedies, of an antispasmodic character, will exert a soothing and curative influence.

The principal medicines for inhalation in asthma are the extract and tincture of stramonium, or an infusion of the leaves. Assafetida, gum ammoniac, lobelia, cyanuret of potash, the various narcotic extracts, or tinctures, small quantities of chloroform, ether, or Hoffman's anodyne.

Without referring to the details of other cases, I may state that I have employed medical inhalation

in a considerable number of cases of chronic laryngitis, tracheitis, bronchitis, asthma, chronic coughs, and consumption, frequently, after a long and ineffectual trial of other treatment, with a degree of success that fully authorizes my speaking very confidently of the undoubted curative power of this mode of treatment.

By many medical friends, medical inhalation has been fairly tried, and their opinions are strongly in favor of its value in the treatment of various diseases of the air passages.

It is with regret I am obliged to state that, in many instances in which medical inhalation has been ordered, it was manifestly impossible for any good to result; the character of the article ordered, its unnecessary strength, and the want of proper directions for use, authorizing such an opinion, proved by the result. There was a want of adaptation of the medicine to the existing disease.

The diseases for the treatment of which medical inhalation may justly be recommended, are those affecting the mucous membrane of the respiratory organs, or the substance of the lungs, whether of an acute or chronic character; and I shall endeavor to point out a few general rules for its practical application, which may prove useful to those who have not had their attention previously directed to the subject. As has been before remarked, there seems sufficient ground for believing that a regular exercise of the lungs, by a gradual and daily increased expansion of those organs, will prove serviceable as a preventive of disease, whether arising from an hereditary predisposition, or to be appre-

hended from a natural debility, or want of healthy action of the pulmonic system.

To effect so desirable an object, inhalation may be carried on through water, at the temperature of the atmosphere, either by itself or with some salt added to it, the aqua camphoræ, or an infusion of any of the vegetable tonics, allowed to become cold before being used.

Tanners having been stated by Dr. J. Murray not to be liable to consumption, it appears probable that the constant inhalation of a strong decoction of oak-bark, nutgalls, or tannin, would be especially adapted for those predisposed to that disease.

IT MAY BE PROPER TO REMARK THAT, IN ALL CASES, I ORDER INHALATION TO BE COMMENCED BY SLOW DEGREES, THEREBY ACCUSTOMING THE PATIENT TO ITS USE, AND THE LUNGS TO THE PROGRESSIVE INCREASED ACTION REQUIRED OF THEM.

For the first week, I recommend the inhaler to be used from five to ten minutes, and repeated three or four times a day; after that period it may be slowly increased, until it can be easily continued for twenty or thirty minutes, the same number of times a day. Under all circumstances, I lay it down as a positive rule, that the inhaler should not be continued so long as to occasion fatigue or other unpleasant sensation. When using the more active articles, I am equally explicit in ordering a small quantity to be added to the inhaler, each time it is used, for several days, and then gradually increasing both the quantity of medicine added, and the length of time and frequency of using the inhaler.

After having used the inhaler in this manner, for

several weeks, I am accustomed in many cases to direct the patient gradually to expand the lungs by one continuous inhalation, as far as can be borne without inconvenience, retaining them in that state a short time, and then allowing the air to pass slowly through a small separation of the lips.

To persons unaccustomed to these trials, it is astonishing to witness the increased degree of expansion acquired by the lungs, without any inconvenience, in the course of a few months.

In acute diseases of any part of the respiratory organs, where it is desirable to produce a resolution of the inflammation as quickly as possible, medical inhalation will prove a valuable auxiliary to other remedies. Inhalation in these cases should be carried on as frequently and for as long a time as can conveniently be borne, and warm water by itself, or infusions of any of the mucilaginous articles, will be found appropriate. In cases attended with great irritability or disposition to cough, one or more teaspoonfuls of the following may be added with advantage: One drachm of the extract of opium or cicuta rubbed down in two ounces of water.

At times, a small quantity of laudanum or tincture of cicuta added to the warm water, or infusion, will be found useful for the same purpose. One or two teaspoonfuls of laudanum and half a teaspoonful of Hoffman's anodyne will prove soothing and useful.

Each time the inhaler is used in acute diseases, it is proper to renew the warm fluid; and during the period of inhalation a small quantity of hot water should be added occasionally to preserve a proper temperature, or the inhaler may be placed in a bowl

or pitcher containing boiling water. In chronic diseases of the air passages, I have always observed more benefit to follow inhalation through fluids at the temperature of the atmosphere, though I have sometimes ordered it to be done through warm fluids upon going to bed, and resuming the cold ones in the morning, with, as appeared to me, considerable benefit.

The following medicines are those I am most accustomed to employ in chronic diseases of the fauces, larynx, trachea, or bronchi ; and from the inhalation of which, selecting and combining such as appeared best calculated for each case, I have been enabled to derive great benefit from medical inhalation.

Balsam, or oil of copaiva, creasote, spirits of turpentine, cyanuret of potash, the extracts, as also the tinctures of opium, cicuta, stramonium, hyoscyamus, and belladonna ; camphor water, or its saturated tincture, assafetida dissolved in water, sulphuric ether, or Hoffman's anodyne. White turpentine rubbed down with alcohol, which is preferable to the oil or spirits.

I generally order a two or four ounce mixture of such of the above as may appear desirable, and in such proportions as will allow the quantity to be added for inhalation to be properly regulated, beginning with from twenty to forty drops once or twice a day, and gradually increasing as the patient becomes accustomed to its use.

Before having read the observations of Sir Charles Scudamore, I had used iodine by adding a few drops of the tincture to the inhaler, but from the unpleasant sensations occasioned by its inhalation, I did not continue it long. I have, however, lately tried it,

in the manner directed by Sir Charles, upon a gentleman troubled with a chronic affection of the trachea, attended with, at times, a slight hacking cough, and the expectoration of small round globules of a rather hard consistence, and as appears to me, with decided advantage, though it has not been continued sufficiently long to warrant the formation of a decided opinion as to its permanent effect.*

The regular employment of the iodine inhalation, two or three times a day, for four weeks, since the above was written, enables me to state that there is now no doubt of the effect produced; the uneasiness in the trachea, and the expectoration, having very materially diminished, and the patient expressing himself highly pleased with the prospect of a perfect cure. The results of this case I consider important; for, besides the additional proof it affords of the undeniable palliative and curative power of the local application of remedies to diseases of the air passages, it clearly shows that the inhalation of iodine, and hydriodate of potash, through a fluid of the temperature of the atmosphere will produce precisely similar effects as if used through a warm one, with the decided advantage of not incurring any risk from the difference of temperature between that used and the air upon going out.

* Since the above was written, I have used for inhalation the iodine and iodide of potash mixture so strongly recommended by Sir C. Scudamore. There is no doubt that, occasionally, it will prove highly useful and curative, but as a general rule, in the largest number of cases, the balsamic terebinthinate and other remedies will have a happier effect. In the selection of the most appropriate remedy or combination for inhalation, the judgment of each must govern, and an occasional change in the medicine used will often be useful.

It is conceded that warm inhalation develops a greater degree of strength of the medicine used; but this is at once counterbalanced by the addition of a larger quantity of the article inhaled, or making the combination stronger. One of the main objects being to show that the same properties that are known to be possessed by many remedial agents, when used internally, will be developed and manifested by the effects produced when used by inhalation; that such does possess palliative and curative powers in many diseases which cannot be obtained from the same medicines when used internally; and that the members of our profession should resort to it more generally, and as a matter of course use their judgment as to the advantages of either cold or warm inhalation, in the case under treatment.

The following directions for the use of the inhaler will enable any one to employ it.

Pour four tablespoonfuls of water into the inhaler, and then add thirty drops, or half a teaspoonful of the remedy that may be selected. Then screwing on the tube, let ordinary respiration be carried on by inspiring through the tube, and expiring through the nostrils. This may be continued the first five or six times for a few minutes at each inhalation, gradually increasing the time of inhalation, until it is used for fifteen or twenty minutes, or even longer, five or six times a day.

After having become accustomed to its employment, great advantage will result from a more or less frequent full or deep inspiration, to the extent the lungs will bear expansion, and then allowing the breath to pass out slowly, through a small or valvular opening of the lips.

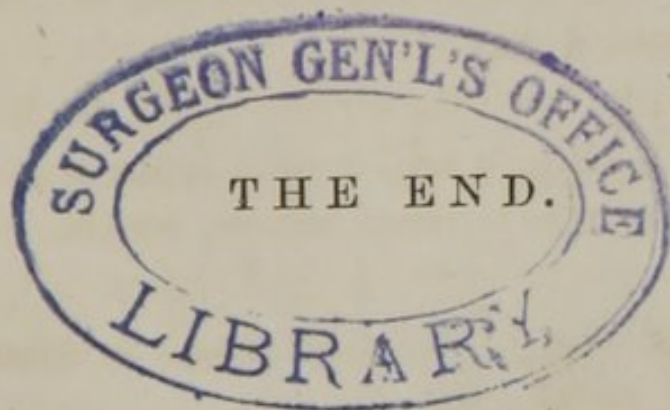
The medicine selected for use may be added two or three times a day, for three or four days, after which, once a day will be sufficient.

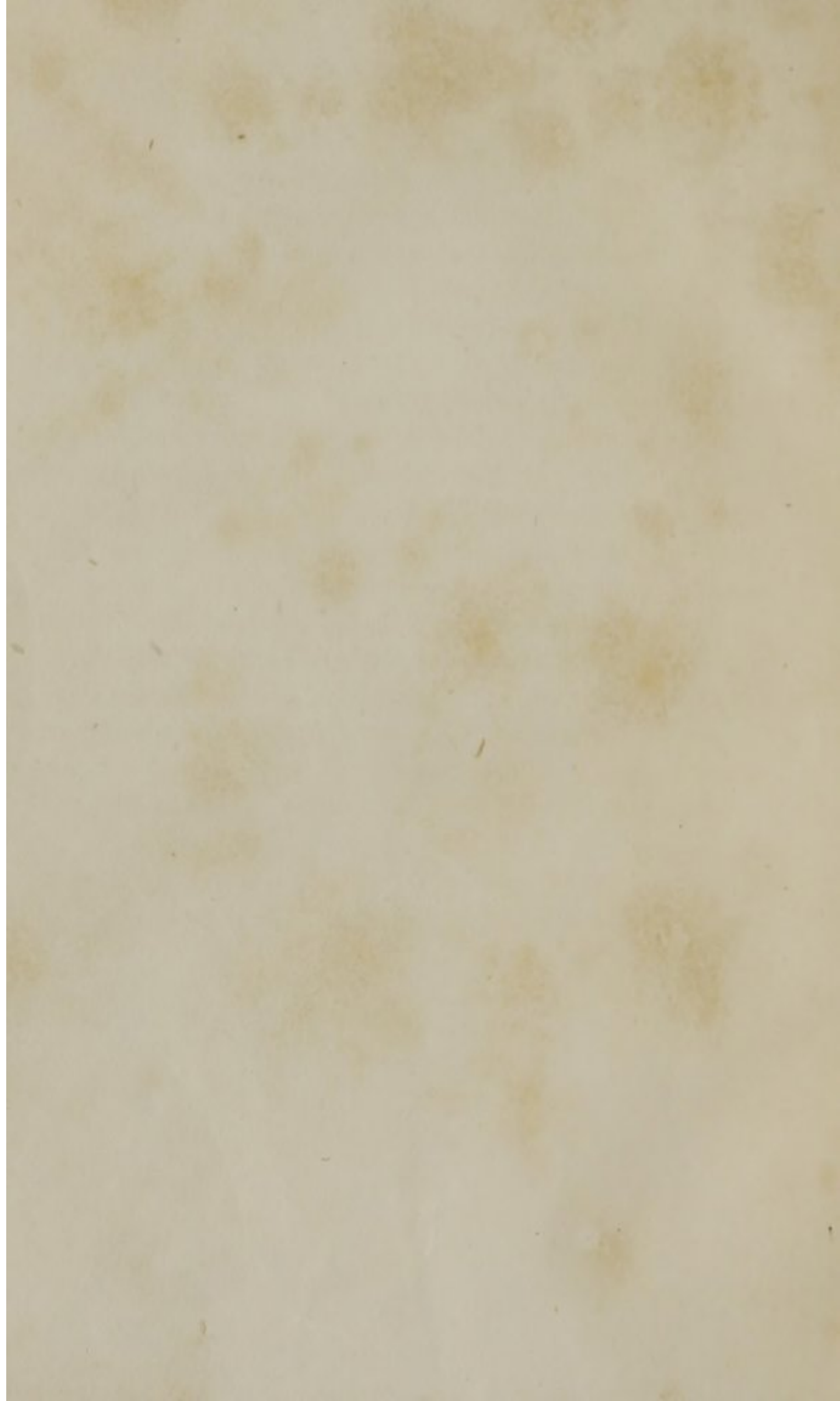
If cold water is used for inhalation, there is no necessity for changing it, the daily addition of the medicine will alone be required.

When the amount of fluid in the inhaler becomes too great, so as to interfere with its perfect action, it will be necessary to pour off some of the contents to make room for the additions.

Should it be considered advisable to use warm or boiling water in the inhaler, the fluid contained therein should be poured off, and the boiling water and the medicine added each time the process of inhalation is repeated.

Attention to the above suggestions will enable all suffering from, or fearful of an affection of the throat and lungs, to avail themselves of a valuable remedial and curative agent, more appropriately with the advice of a medical adviser, or without such, by a cautious and moderate use of one or more of the different remedies noticed, and with the certainty that no injurious consequences can result. Such cannot be said of the numerous remedies for internal use.





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