

**The hydroconion and its success in the treatment of diseases of the respiratory organs, catarrh, inflammations and ulcerations of the throat, loss of the voice, hoarseness, whooping cough, croup, diphtheria, asthma, bronchitis, hemorrhage from the lungs, and consumption / by John Hart, M.D. ; read before the Suffolk District Medical Society, Sept. 30th 1865.**

### **Contributors**

Hart, John, M. D.  
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### **Publication/Creation**

Boston : H. Vossnack, 1865.

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**HART** (John)

THE  
**HYDROCONION**

AND ITS

SUCCESS IN THE TREATMENT OF

*Diseases of the Respiratory Organs.*

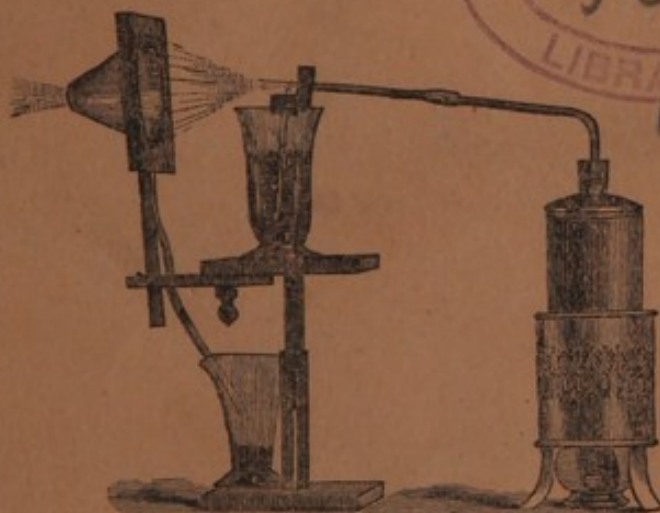
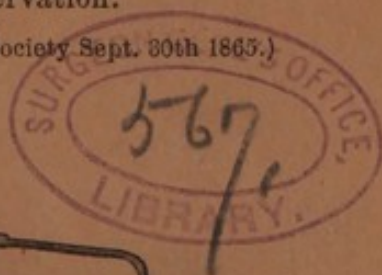
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HEMORRHAGE FROM THE LUNGS AND  
CONSUMPTION.

— BY —

**John Hart, M. D.**

Fellow of the Massachusetts Medical Society and Member of the Boston  
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Dr. HART'S Steam-Hydroconion.

**BOSTON.**

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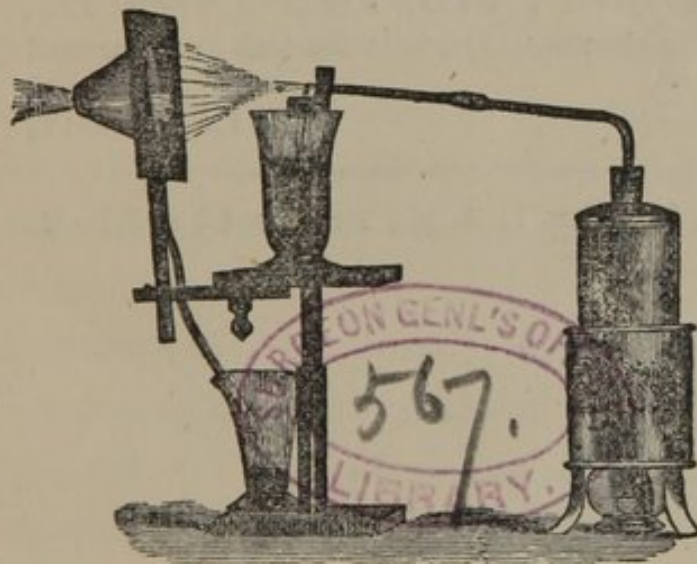
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**JOHN HART, M. D.,**  
GIVES SPECIAL ATTENTION  
TO THE TREATMENT OF DISEASES  
of the  
**AIR-PASSAGES AND LUNGS,**

And may be consulted at his

*Office: No. 104 Tyler St.*  
(next to Harrison Av., between Oak and Harvard St.),

**BOSTON, MASS.**

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Office hours, from 9 to 11 A. M., 2 to 4 and 6 to 7 P. M.

## INTRODUCTION.

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The object of this condensed review, is to call attention to the new and very successful method of treating diseases of the air-passages and Lungs, by the inhalation of medicated liquids, atomized by the Hydroconion. Diseases of the respiratory system are of frequent occurrence every where and particularly so in our New England States. The number of persons, who are entirely free from catarrh or other affections of the air-passages, is very small, and the deaths from consumption are increasing every year. Therefore a few remarks upon a method of treatment, which has been so eminently successful, must be welcome to the public.

Although consumption is generally considered incurable, cases of the incipient and even of the advanced stage, have been arrested, and the most distressing symptoms, such as cough and dyspnœa etc., have always been relieved. The theory, that the new formation called tubercle, is the cause of consumption, will soon be abandoned as being erroneous. Tubercles may exist in the lungs of consumptive patients, but they are the consequence and not the cause. If there were a general belief, that catarrhs and other affections of the air-passages, if neglected, would lead to consumption, they would be



treated with much better care than heretofore. I can only call attention to these facts here, hoping that soon I shall be able to publish a treatise on consumption, where its cause and treatment will be fully discussed.

The following pages will prove, that the use of the Hydroconion has been very successful in the treatment of the diseases of the respiratory system. Diseases, which had resisted various other treatments, yielded to this. Catarrh, inflammations and ulcerations (specific and non-specific), of the soft palate, tonsils, pharynx and larynx, loss of voice, hoarseness of public speakers and singers, whooping cough, croup, diphtheria, asthma, emphysema, bronchitis, hemorrhage from the lungs and consumption, have all been treated by it, with the most remarkable success.

A large number of cases, treated by the most eminent practitioners in Europe and some of those treated by myself, will be referred to, to convince the public, that the introduction and general use of the Hydroconion will become a benefit to the community.

J. HART, M. D.

104 TYLER ST., BOSTON.

Oct. 1865.

## INHALATION.

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The study and treatment of the diseases of the respiratory system engaged the minds of the most distinguished physicians since the first periods of medical science. Besides treating patients with internal remedies, efforts were also made at various times, to apply remedial agents directly to the diseased parts. Thus, the treatment by the inhalation of the vapors of resinous and aromatic substances can be traced to ancient times. Aretaeus, Galen, Plinius, Aëtius, Dioskorides and subsequently the Arabians praise the success of inhaling various vapors and the sea-air. Various gases were hereafter recommended for inhalation; but the benefits, which Priestley, Scheele, Thomas Beddoes and others anticipated from them, were not realized. The treatment by inhalation now rested for some time, until it was based upon the peculiar action of some newly discovered chemical agents. Chlor, Iodine, Tar, Turpentine, Muriate of Ammonia, Fumes of Sulphur, Air impregnated with Salt, and the various Narcotics were used for inhalations with more or less success. But the last efforts, which have been made within a few years, to convey medicinal agents to the air-passages, have been crowned with more success than all the previous ones. Not only the discoveries made in chemistry, but also those made in the natural sciences, have been applied to therapeutic purposes.

To this circumstance we are indebted for a two-fold and very important addition to our therapeutics. The idea, to use condensed air as a therapeutic agent, originated from it, and also the still more important invention of Sales-Giron: Pulverisation des medicaments liquids, i. e. the method of atomizing medicated solutions or converting them into particles so minute, that they appear in the air like fog, mist, fine dust or spray, which can easily be inhaled with the atmosphere.

With this invention a new era in the treatment by inhalation commenced, and the results obtained from it were in late years, very favorable and numerous, particularly in Germany.



## APPARATUS FOR ATOMIZING LIQUIDS.

Various apparatus have been invented for this purpose. Dr. Auphan atomized mineral waters for inhalation in 1849. A stream of water was thrown with great force against a wall, by which it was divided into minute particles, which were inhaled by the patients.

Sales-Girons was the first, who constructed an apparatus for this purpose. It consists of a strong glass bottle, into the neck of which an air-pump is fastened. By the pressure of the air the liquid in the bottle is forced through a capillary opening and is thrown with such violence through an aperture in a glass cylinder and against a convex lens, directly opposite this aperture, that it is divided into fine particles, which are inhaled by the patient, sitting before the glass cylinder. This apparatus is very expensive and gets out of order very easily.

Mathieu constructed an apparatus, which he called *Nephogène*, by which the liquid, coming in contact with condensed air, is forced through a capillary opening and is changed into a fine spray. Besides being very complicated and expensive, this apparatus has other disadvantages. A large amount of condensed air escapes with the fluid and the spray is thrown with great force into the mouth of the patient. This force out-balances that of inspiration and the greatest part of the spray is lost upon the soft palate and posterior wall of the pharynx, instead of penetrating deeper into the air-passages.

*Pulverisateurs* were also constructed by Dr. Lambron, Velpéau, Lewin, Waldenburg, Schnitzler and Fournié, but they all shared the disadvantage of being made of metal.

Dr. Lewin of Berlin therefore had one constructed upon the same principles as that of Sales-Girons, but where the liquids come only in contact with glass.

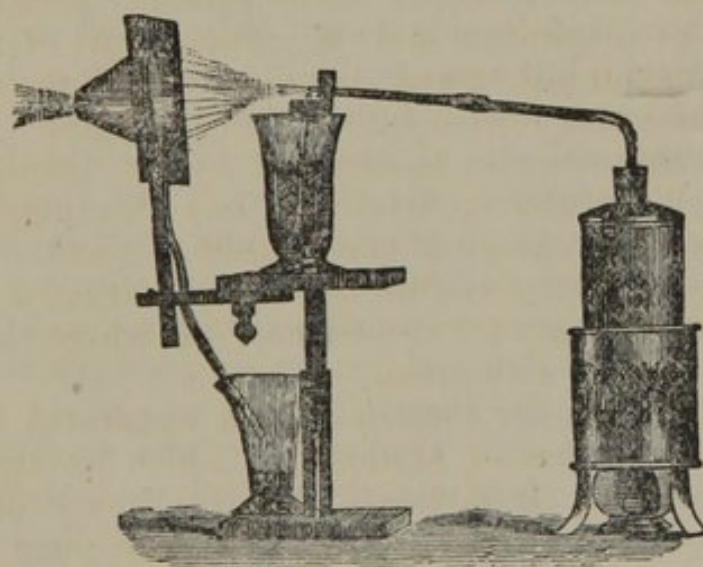
In 1862, Dr. Bergson constructed an apparatus upon the same principles as that of Mathieu, to which he applied the name *Hydroconion*. It is less expensive; but it shares the disadvantages of throwing the spray with great force and producing a low temperature; but the latter may be of advantage in certain cases.

Upon the same principle a neat little pocket-hydroconion has been constructed, which can be folded up and carried in the vest-pocket. But this is still more inconvenient, as it has to be kept in operation by continual blowing into one end. This is very fatiguing and the patient inhales with the medicine also the expired air of the one who blows into the instrument.



Bergson's Hydroconion received material improvements from Dr. Siegle, who applied steam-power instead of that of air. It has the advantage of keeping the spray at a temperature of 16 — 18 R., but there are means of raising or lowering it several degrees. The liquid is divided into more minute particles and penetrates deeper into the air-passages; the atomizing process is more even and quiet, than that of other pulverisateurs. But it has the disadvantage of being made of glass and very liable to break or explode. To prevent explosion, a Thermo-Barometer is attached, for ascertaining the pressure. But it is inconvenient for the patient, because he is obliged to watch it constantly, when he is inhaling, and change the position of the lamp, so as to regulate the pressure. Dr. Lewin tried to prevent explosion by having the boiler and capillary tube leading from it made of metal. But even this is liable to explode, if the narrow tube should happen to get obstructed.

I have succeeded to avoid the inconvenience, and also to prevent explosion by constructing an apparatus, which consists of a small copper boiler, into the neck of which, a cork is inserted. A glass tube passes through the centre of the cork, and is connected by a rubber tube with a smaller one, which has a capillary opening at its free extremity.



Dr. HART's Steam-Hydroconion.

If the pressure of the steam should be too great, the rubber will be raised and the steam have a chance to escape, and if the glass tube should become obstructed, the obstruction can easily be seen and removed. Another glass tube passes into the medicated liquid, and the steam and liquid coming in contact, a beautiful spray, consisting of the most minute particles, is formed. To prevent the spray from being scattered over



the patients face, I attached a glass disk with an aperture corresponding in size to that of the open mouth. Only as much of the spray, as will enter the mouth, thus escapes through the aperture and the rest is collected upon the glass and conveyed to the waste bottle by a rubber tube.

I have made still other improvements by which I can produce a finer or coarser spray, change its temperature and throw it with more or less power; move the disk nearer to or farther from the formation of the spray, and raise or lower the whole apparatus, to suit the height of the patient etc. I make daily use of this apparatus and am perfectly satisfied with its operation.

### EXPERIMENTS, WHICH PROVE THE PENE- TRATION OF THE SPRAY INTO THE AIR-PASSAGES AND LUNGS.

Though these apparatus are capable of dividing medicated liquids into the smallest atoms, they would be of no benefit, if the minute particles did not penetrate into the air-passages. Since these apparatus came into use, experiments have been made in France and Germany which establish the fact beyond doubt, that atomized liquids do not only penetrate to the larynx, and bronchi, but even to the lung vesicles. Demarquay experimented upon nearly eighty squirrels. The spray of a solution of sesquichloride of iron was directed to the pharynx by Tirman — Mathieu's pulverisateur. The animals' mouths were kept open by dilating forceps; and they inhaled during five minutes, but were allowed some rest after every minute. Some of the animals were immediately killed, and iron in various quantities was detected in the air-passages and even in the parenchyma of the lungs. A dog was made to inhale a solution of tannic acid. Tracheotomy was performed before the inhalation took place and the wound was carefully closed during the inhalation. A strip of paper, which had been moistened with a solution of chloride of iron and dried again, was afterwards introduced into the trachea and upon its removal, it was found to be covered with black spots. A nurse in the hospital Beaujon, who was obliged to breathe through a canula, inhaled a solution of tannic acid, whilst the tracheal opening was carefully closed. She could not inhale very freely on account of a partial closure of the larynx; yet the presence of tannic acid in the trachea was proved by the same test-paper.



Demarquay repeated his experiments before many witnesses, before the hospital students, distinguished chemists and celebrated French authors and also before the following professors: Poggiale, Réveil, Gobley and Trausseau.

Briau made a squirrel inhale for twenty minutes a solution of cyanide of potassium from Sales-Girons' apparatus. The animal was killed and the presence of cyanide of potassium was detected by a solution of chloride of iron.

I will only call attention to two more and very important cases, where patients inhaled a solution of sesquichloride of iron shortly before death. One was a case of consumption with severe hemorrhage and was under the care of Dr. Lewin. The hemorrhage was arrested by the inhalation of a solution of sesquichloride of iron. The patient died and at the autopsy, the lower part of the upper lobe of the right lung was found to be changed into a large cavity with thin walls, which adhered firmly to the walls of the thorax. It contained shreds and fluid of a blackish color and some dark red coagula. The fluid and coagula were immediately analyzed by Dr. Schultz, the assistant chemist, and were found to contain iron.

The other was a case of Bright's disease with albuminuria and dropsy, under the care of Prof. Zdekauer of Petersburg. The patient had a fearful attack of hemorrhage from the lungs, which was arrested by inhaling a solution of sesquichloride of iron. After two days, the patient died, and Dr. Holm examined the infiltrated lung-tissue and detected a much larger quantity of iron, than naturally would be present.

Some authors doubt the penetration of atomized liquids into the air-passages, but it appears strange, that they treat patients by the inhalation of such liquids and claim to have obtained the best results from it.

### ADVANTAGES OF THE HYDROCONION.

It having been proved beyond doubt, that the spray of medicated liquids will penetrate into the air-passages and even to the lung-vesicles, the advantages of the Hydroconion-treatment must be apparent to every one. The application of remedies directly to diseased parts has always been considered superior to internal treatment, and remedies, introduced into the stomach, do not produce the same effects upon distant organs, as if directly applied to them, and a great number of the remedies, which can be applied directly to the mucous membrane of the respiratory organs, by means of the Hydroconion, would not produce any effect upon that membrane, if taken internally.



By this method, we are enabled, if the inhalations are properly conducted, to apply directly to the mucous membrane of the respiratory system, from the soft palate and tonsils to the lung-vesicles, any remedy, which is soluble in water. The remedies do not undergo any chemical change, but are only divided into the minutest particles, and their effects upon the respiratory mucous membrane are the same, as if applied to any portion of the mucous membrane, visible to the eye. The spray is readily inhaled with the atmosphere, and its particles being very minute, particularly if atomized by the Steam-Hydroconion, it does not irritate the mucous membrane and is capable of penetrating into its smallest crevices.

### SUCCESS OF THE HYDROCONION-TREATMENT.

This treatment has been eminently successful in the various diseases of the mouth, pharynx, larynx, bronchial tubes and lungs. A large number of cases have been reported in the German and French medical papers by men who enjoy the highest reputation as medical practitioners in Europe. They published the results of their experience not for the sake of attracting public attention, nor for the sake of deriving pecuniary profits, but only for the advancement of medical science. I can only enumerate their cases here, and give the results of their treatment. The names of some of these men are very familiar to the medical profession, and their reputation will be a guarantee for the truthfulness of their reports. Members of the regular profession, who have a special interest in perusing these reports at length, will be furnished with a list of the various periodicals.

Sales-Girons recommends this treatment for acute and chronic inflammations of the tonsils, pharynx, larynx, trachea and bronchi, for asthma and consumption, angina and croup. He claims to have been very successful, but has not published any cases.

Trousseau criticises Sales-Girons for endeavoring to produce a change in the use of mineral waters, but finally he exclaims: "The treatment by inhalation can not displace the mineral waters, it can only take an equal rank with them. I am not opposed to pulverization; I use it often, and am indebted to it for good results. It is of great value in the diseases of the pharynx, larynx, trachea and large bronchi, granular angina, and the hoarseness of public speakers and singers. Two cases of œdema of the glottis were cured by the inhalation of tannin; they were both very dangerous and in one tracheotomy seemed to be unavoidable".



Other remarks, which he made in favor of pulverization, are found in his "Clinique Medicale de l'Hotel Dieu de Paris". In the same work, he reports a case of œdema of the glottis, which was successfully treated by the inhalation of a solution of tannic acid.

Demarquay values pulverization very highly. He treated diseases of the eyes, the soft palate, the pharynx, (syphilitic ulcerations and granular pharyngitis) and the larynx, (chronic and specific inflammations).

Syphilitic affections of the soft palate, pharynx, and larynx improved remarkably by the inhalation of a solution of corrosive sublimate. In connection with internal treatment, he considers pulverization as a local application in syphilitic affections superior to any other. Extensive Plaques muqueuses of the palate, pharynx and larynx, disappeared rapidly. One case, in which also considerable hoarseness existed, and which had not yielded to previous constitutional treatment, was essentially improved by applications with the pulverisateur.

A patient, who suffered from consumption of the larynx, accompanied by difficult deglutition, improved rapidly by inhaling a pulverized solution of tannic acid.

Twelve cases of granular pharyngitis were successfully treated with a solution of tannic acid and Eaux-Bonnes. A few days were sometimes only necessary, to establish a decided improvement. A lawyer, who had suffered during three years from dryness of the throat, cough and bloody sputa, was entirely relieved in twenty five days.

Barthex reports four cases of croup, which were treated by inhalations of tannic acid. Eight to twenty inhalations, of fifteen to twenty minutes duration, were made in twenty four hours. These cases are of great interest, and I regret, that I can not give their full history here. The effect of the treatment was very favorable; the respirations became more quiet, the dyspnœa diminished, and the paroxysms of suffocation disappeared. Notwithstanding that the local symptoms also improved, and the pseudo-membranes disappeared, two of the cases terminated fatally on account of the severity of the constitutional symptoms, owing to the poisonous infection. At the autopsies, it was found that the pseudo-membranes had entirely disappeared from the tonsils, pharynx, and larynx; neither was there a trace of them to be detected in the trachea nor bronchi. The other two cases recovered; one was discharged from the hospital after ten, and the other after seventeen days.



Professor Zdekauer of Petersburg deserves the credit of being the first, who paid attention to the inhalation of atomized liquids, after its introduction in France. He reports several cases of hemorrhage of the lungs, which he treated with the greatest success by the inhalation of chloride of iron. Five of his cases are published in the "Wiener Wochenschrift" of 1861.

The first is a severe case of hæmoptysis, which had been treated by the usual remedies for fourteen days, but without success. The fifteenth day, the patient inhaled a solution of chloride of iron for about five minutes. The hemorrhage ceased, and did not return again. In six weeks, the patient was perfectly well.

The second case had been treated unsuccessfully for three weeks by the usual treatment. Inhalations of a solution of chloride of iron, were then made, and after the fourth inhalation the hemorrhage ceased. In the third case, after the unsuccessful use of styptics, the hemorrhage ceased after the second, and in the fourth, after the third inhalation.

Dr. Lingen of Petersburg treated a dangerous case of hemorrhage in a tubercular patient with inhalation of sesquichloride of iron, with perfect success. The auscultatory symptoms also improved.

Dr. Wistinghausen reports the successful treatment of a case of asthma, a case of hoarseness, and a case of hoarseness with cough.

The reports above are very favorable, but if we direct our attention to those of eminent German practitioners, we find them still more numerous and favorable.

Dr. Fieber was the first in Germany, who made physiological and therapeutic experiments with inhalations of atomized liquids.

His first case was that of a patient who had frequently suffered from disease of the throat, which left him with a troublesome cough and profuse expectoration. In twenty days he was relieved.

His other cases were consumption, accompanied by hemorrhage and severe cough, catarrh of the larynx and trachea with loss of voice, whooping cough, bronchial catarrh with dyspnoea and emphysema, granular pharyngitis and three cases of hemorrhage from the lungs; the treatment was successful in all of them.

Dr. Fieber also reports fifteen cases of croup, which were treated by inhalations of tannic acid, and of which ten recovered. The inhalations took place every two to three hours dur-



ing the day and night and lasted from five to ten minutes. In reporting these cases, he makes the following remark: "Barthex relates, that *the pseudo-membranes roll up at the borders, and gradually peel off under the influence of tannic acid.* 'This I never observed, but the membranes seemed to dissolve in a certain measure under the influence of the acid. A small loss of substance gradually appeared in the false membrane, and the mucous membrane became partly visible. The spots where the false membrane disappeared, increased and came in contact with adjacent ones, so that finally the entire mucous membrane appeared again. The disappearance of the false membrane was very gradual, and but seldom small pieces of it, could be detected in the expectoration.

Dr. Schnitzler treated inflammation of the pharynx and larynx, chronic inflammation of the larynx, consumption accompanied by bloody streaked sputa and inflammation of the larynx, bronchitis, loss of voice, syphilitic ulcerations of the pharynx and larynx, and also croup. In most of the cases, a perfect cure was established, and the others were relieved. He did not meet with a case, which was not benefited by the inhalations.

Dr. Waldenburg treated 131 cases. They consisted of nasal catarrh, catarrhal, granular and syphilitic inflammations of the pharynx and larynx, laryngial and bronchial catarrh, asthma, hæmoptysis and consumption. The treatment was very successful; even the cases of consumption either improved or the distressing symptoms were relieved.

Dr. Leiblinger reports fifteen cases. He calls particular attention to the fact, that most of the patients had previously been treated unsuccessfully by other physicians or by himself with various other remedies. He was particularly successful in the treatment of emphysema. Three cases improved decidedly after twenty inhalations; the difficulty of breathing disappeared, the secretion of the bronchi diminished and the cough became shorter and less frequent. The urine had the odor of the ætherial oil, which had been inhaled, which was a proof of its absorption and elimination. He also treated various cases of diseases of the eye by the pulverisateur with good success.

Dr. Wedeman treated twenty two cases, consisting of affections of the larynx, consumption, enlargement of the bronchi, emphysema, bronchitis and whooping cough. Most of the cases improved or were entirely relieved, among which were also several cases of consumption. His treatment differed somewhat from that of other German observers, particularly in the choice and strength of remedies.



Dr. Siegle, the inventor of the Steam-Hydroconion, reports six cases, which materially improved by the inhalations. A case of croup recovered; a case of aphonia was relieved; a case of dyspnœa in a consumptive patient improved rapidly etc.

There are also favorable reports from other German physicians but I shall omit them, with the exception of some of those reported by Dr. Lewin of Berlin.

Dr. Lewin is Director of the Royal Charité and Lecturer at the University of Berlin. He has a large experience in diseases of the air-passages, and patients from the highest classes of society are sent to him from all parts of Germany and Russia. He fitted up an inhalatorium and placed it under the care of skilful physicians. He examines the patients himself and sends them with a description of the disease and directions for inhalations to the inhalatorium. From time to time, reports, as to the progress of each case are made to him, and the patients are frequently reexamined. If a case is of a severe nature or the diagnosis doubtful, he consults with the physicians of the inhalatorium. Thus we see, that each patient is carefully and skilfully treated.

Five cases of hæmoptysis were successfully treated, and in the last, a case of consumption; the inhalations had a most favorable influence upon the latter disease.

Mr. Gr. . . . , aet. 24, of a slender and phthisical constitution, had for several years marked symptoms of phthisis. For a month past, he had bloody expectorations, being at first slight, but becoming afterwards more severe, until in the middle of March 1863, they became very dangerous, and he had several attacks of profuse hemorrhage. His physician (Herr Stabsarzt Dr. Pesch) made every effort, to arrest the hemorrhage, but in vain, bright red blood, in increasing quantity, gushed from the patient's mouth at every attack of cough. The 16<sup>th</sup> of March, in the evening, Drs. Pesch and Lewin, hurried to visit the patient, whom the former did not expect to find alive. Entering the patient's room, they found him still alive, but apparently in his last dying moments; entirely exhausted, pale, anæmic; and not only the friends, but also the physicians, feared that the time for any attempt of treatment had past. A wash-basin, partly filled with bright red and foaming blood, which had within the last quarter of an hour been expectorated, stood near the patient.

Notwithstanding the sad and unfavorable prospects, Dr. Lewin made an attempt at inhalation. A solution of sesquichloride of iron, was injected rather than inhaled, at first from Mathieu's and soon after from Bergson's apparatus.



After 8 or 10 minutes, the patient revived, the attacks of cough and bloody sputa diminished, and the expectorated blood was partly coagulated and nearly as black as ink. On account of the great debility of the patient, the inhalations or rather injections were of short duration, but were made at first every quarter, and afterwards every half hour, and finally every two hours. The patient spent a more quiet night than hitherto, his sleep was refreshing, and the expectorated blood amounted merely to half a table-spoonful. From the 19th to the 24th of March, the sputa were clear and but seldom of a reddish color. Afterwards the bloody sputa disappeared entirely. During this whole period, the patient inhaled a weak solution of sesquichloride of iron.

The result of this treatment was remarkably successful. The patient improved rapidly and after a few weeks he was able to leave his room. But still more remarkable was the improvement of the other phthisical symptoms. The cough was reduced to a minimum, the patient's strength increased rapidly, and the physical signs indicated an arrest of the tuberculosis. Before the hemorrhage took place, his physician, Dr. Pesch, had detected the presence of a cavity in the left subclavicular region, by repeated examinations. The other symptoms, such as constant and severe cough, profuse and purulent sputa, increasing emaciation, cachexia, night sweats, etc. also had indicated an advanced stage of consumption.

Four weeks after the hemorrhage, there only remained a slight dullness and diminished respiration in the subclavicular region, and thus the symptoms of the former cavity had disappeared.

In the summer of 1863, the patient made a journey to Soden, where Dr. Thilenius, who knew the patient, and had previously treated him, expressed his surprise and acknowledged the favorable results obtained by the inhalations. The patient afterwards returned and was almost entirely well. A year and a half after the severe hæmoptysis had taken place, the patient was perfectly well. He had neither cough nor bloody expectoration, nor did he complain of any symptom whatsoever. His general appearance was strong and healthy. Several physicians examined him, and only found a slight depression in the subclavicular region, but no abnormal symptoms on percussion or auscultation, where the former cavity had existed.

Dr. Lewin's cases are very numerous and I can only give a few of them here.



*Ulcerative inflammation of the pharynx and larynx with hoarseness pain and cough.*

Mr. A., a teacher, had already intended to resign his situation. In twenty two days, he was entirely relieved, so that he could resume his vocation.

*Inflammation of the larynx and vocal chords.*

Mr. K., an opera singer, had lost three of his highest and two of his lowest tones. He was under treatment from the eight of April till the twenty fourth of May. His voice had regained its full power and also its former range.

*Catarrh of the larynx and trachea with hoarseness, tickling sensation and cough.*

Miss M., an actress, had suffered from this disease for two years and it was aggravated by every slight cold she took. After seven weeks, she was dismissed cured and she reported afterwards, that she made a journey to Leipzig in the most unfavorable weather, and also frequently exposed herself there without the slightest symptoms of her former trouble.

*Bronchitis and Inflammation of the Larynx and Trachea.*

The disease was accompanied by intense cough, hoarseness, stitches in the left side, a feeling of soreness in the trachea and increasing general weakness. The expiration was prolonged on the right side and diminished on the left, and large mucous rales could here and there be heard; symptoms from which consumption might reasonably be suspected. The patient was under treatment during three weeks, and the success was perfect. The cough disappeared entirely, and with it also the hoarseness.

*Inflammation of Pharynx and Larynx with Loss of Voice.*

The patient attributed her disease to a severe cold, which she contracted by excitement and overheating herself during an extensive conflagration. After ten days treatment, the voice returned and the cough disappeared.

N. B. The author here remarks, that he had treated more than forty cases of loss of voice, and calls attention, not only to the rapid cure but also to the continued progress in the improvement under the inhaling treatment, an advantage, which he never had gained by cauterization alone.



### *Syphilitic Disease of the Larynx.*

The primary ulcers had only been treated by cauterization, and the disease of the throat had commenced shortly after the infection, and had existed for about three years. The treatment was commenced with the internal use of bichloride of mercury, but inhalations were substituted for it on account of the debility of the patient. After the use of inhalations for fourteen days, the disease disappeared.

### *Inflammation of the Pharynx, Larynx and Trachea, with Symptoms of Incipient Phthisis.*

After fourteen days there was a favorable change. The irritation and hacking cough had diminished, and the patient could read aloud for several hours. Two months' treatment established a perfect cure.

### *Asthma and Emphysema.*

The disease had existed for a long time, and was thought to have been inherited. The paroxysms appeared every night after twelve, and lasted from three to four hours. One to two paroxysms of a quarter to half an hour's duration occurred also during the daytime. The patient commenced to inhale, and after the first inhalation, the night attack had considerably diminished in duration. The strength of the medicine was increased, and the treatment continued for three weeks. The patient had then passed several nights without an attack, and resumed his business.

Four cases of consumption are also reported by Dr. Lewin, of which one was entirely cured, two were materially improved and one, which was complicated with consumption of the larynx and severe hemorrhage, terminated fatally. Notwithstanding the severity of the last case, the hemorrhage was arrested and the cough greatly relieved.

### *Diphtheria.*

Dr. Lewin reports eighteen cases of diphtheria, which he treated by inhalations, in connection with other local applications and the administration of internal remedies. Notwithstanding, that this disease is generally so fatal, this treatment was so successful, that fifteen patients recovered. The treatment consisted in cauterization with a solution of chromic acid or nitrate of silver, inhalations of chlorate of potash or alum, internal administration of chlorate of potash, liquor ferri sesquichloride, decoction of cinchona and stimulants.



I have treated a considerable number of patients myself with diseases of the air-passages by the use of the Hydroconion; and the result has been successful in every case. I had also occasion to compare the results of this, with that of other treatments.

A patient, suffering from granular pharyngitis, accompanied by cough and expectoration, was treated by me more than a year ago, by the administration of internal remedies and local applications; after four weeks he was relieved. A short time ago, he applied again for the same disease, but of a more aggravated form. The cough was very troublesome, particularly in the morning, and the expectoration profuse. I treated him with inhalations from the Steam-Hydroconion and after a week, the cough and expectoration had entirely disappeared.

A gentleman, who had chronic inflammation of the tonsils, soft palate and posterior wall of the pharynx, had been under the care of several physicians, who had treated him unsuccessfully by the application of caustics and other remedies. He inhaled from the Steam-Hydroconion, and in fourteen days the mucous membrane had regained its natural color.

Another patient of a phthisical constitution, having been troubled with severe cough and expectoration for several years, inhaled various solutions for nearly a month. The cough and expectoration entirely disappeared and his general condition also remarkably improved.

Many more cases might be referred to, to prove the use of the Hydroconion, but I think the foregoing ought to suffice to convince any mind of its benefits.

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1. The first part of the paper is devoted to a general  
discussion of the problem of the origin of life.  
It is shown that the problem is one of the most  
important in the history of science.

2. The second part of the paper is devoted to a  
discussion of the problem of the origin of the  
universe. It is shown that the problem is one of  
the most important in the history of science.

3. The third part of the paper is devoted to a  
discussion of the problem of the origin of the  
solar system. It is shown that the problem is one  
of the most important in the history of science.

4. The fourth part of the paper is devoted to a  
discussion of the problem of the origin of the  
earth. It is shown that the problem is one of the  
most important in the history of science.

5. The fifth part of the paper is devoted to a  
discussion of the problem of the origin of the  
human race. It is shown that the problem is one  
of the most important in the history of science.









$$273 - 22 \frac{96}{100} = 250 \frac{4}{100}$$

$$21 \frac{33}{100} - 23 \frac{37}{100} = -2 \frac{4}{100}$$

$$29 \frac{11}{100} - 11 \frac{11}{100} = 18 \frac{0}{100}$$

$$12 \frac{11}{100} - 12 \frac{0}{100} = 0 \frac{11}{100}$$

$$13 \frac{2}{100} - 13 \frac{2}{100} = 0 \frac{0}{100}$$

$$13 \frac{5}{100} - 13 \frac{5}{100} = 0 \frac{0}{100}$$