

ANGELL (E.C.)

Hot Air Bathing,

ITS PHILOSOPHY AND ADVANTAGES IN HEALTH
AND DISEASE.

Illustrated With Numerous Cases,

BY

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HOT AIR BATHING.

It is said "there is nothing new under the sun," and though the Turkish bath is comparatively new to us, it is nevertheless an old institution. It is less than twenty years since its introduction into England, where it existed two thousand years ago as the work of the Romans, and its establishment in this country is of still more recent date. It consists in the application of heated air to the surface of the body for a sufficient period and at a sufficient temperature to induce free perspiration. When free perspiration has been induced the bather is conducted to the shampooing-room, where the dead skin, flaky and bran-like, which has accumulated upon the body, is removed, sometimes almost in one continuous layer. In the well organized bath this removal is accompanied by skilful *massage* or manipulation of the muscles, joints and deep-seated tissues, securing freedom of motion, flexibility and general elasticity, and the removal of obstructions from the glandular and other structures, imparting new vigor to every function. Following this by means of the cactus fiber or horse-hair brush, the body is thoroughly soaped for the purpose of removing the exuviae that may have been thrown off.

The free application of water usually succeeds this by means of a spray of graduated temperature in the modernized bath. Commencing just low enough not to chill

it is gradually reduced until the natural temperature of water has been reached. The changes are agreeable, and no shock is necessary from first to last. After the application of heat and the general manipulation which follows, cold water becomes in the highest degree grateful to many who would otherwise have been strangers to its application, and the tonic advantages which can come from no other source. Those who desire may take a plunge bath after the spray, though the plunge or swimming bath is rather a Roman than a Turkish feature of bathing. The surface is then dried by means of towels, and the bather is conducted to the cooling room.

In my own establishment the bather passes from the office to the dressing-rooms, on either side of which are curtained recesses of unusually generous size, well lighted and well ventilated, and provided with comfortable couches. An easy flight of stairs ascends to a small hall, from which is entered the first hot-room—the usual temperature of which in Winter is 150 degrees Fahrenheit. Fifteen minutes in this room is generally quite sufficient for the practiced bather, when he is ready for the next—the usual temperature of which ranges from 175 to 200 degrees Fahrenheit—in which ten minutes will usually cover the surface with perspiration. In the next room are placed the pipes, made from the same material as fire brick, from which the heat is thrown off through the whole seven apartments, including the three heating-rooms and the four shampooing-rooms, the heat for the latter passing through glass, which gives the purest radiation. The temperature of the third room is rarely lower than 212 degrees in Summer, and is usually about 250 degrees in Winter, sometimes reaching 300 degrees. Five minutes or less in this room is generally gratefully efficacious, yet some of our more practiced bathers remain here a half hour or more. The bather

then passes to one of the shampooing rooms already mentioned, and from there, without again passing through the hot-rooms, to a corridor leading directly to the swimming bath, the dressing rooms or to the cooling parlors on the same floor. On the floor above are apartments for ladies, constructed upon the same general plan, heated by the same means, from the same furnace, supplied with similar pipes, and ventilated by the same system.

The heat is generated in a brick furnace placed under the sidewalk. From the middle of the ceiling of the third room a constant current of cold air is distributed throughout the several apartments, and as the heavy air gravitates to the floor, it is taken out through openings near the floor to transverse channels under the shampooing couches which are made continuous, and conveyed to a general ventilating shaft, two feet by six, 100 feet high, and heated so as to act like an exhaust pump in removing foul air. Into this each individual room also has its opening, and each apartment thereby constantly parts with its impure air and receives constantly a supply of fresh air. No checks or dampers are provided, and, as heat is the mode of motion and the supply continuous, the atmosphere is constantly renewed and purified, supplying cold air to breathe and rendering the ventilation practically automatic—a desideratum which has never hitherto been accomplished in ancient or modern bathing.

As a means of illustrating the philosophy of hot-air bathing, the bather may be likened to the soiled sponge, which, upon being washed, imparts more or less of color and of odor, until water runs through it unchanged. The first introduction to dry heat, by reason of the generally obstructed condition of the exterior surface, and the capillaries of the skin, produces little moisture upon the body, and this is usually acrid and bitter, stinging to the eyes, and often unnatural in color and in odor. In

subsequent baths, however, absorption, excretion, nutrition and secretion are accelerated, and perspiration becomes copious, colorless, less offensive, and when the bath is prolonged and water is plentifully drunk, is ultimately rendered as pure as the aqueous element after distillation. It not only removes the causes of disease, but, in a great measure, the deplorable consequences of heroic mistaken medication. And while it is the best friend to the man in health as well as the invalid it is at the same time the most efficient ally of the conscientious, scientific physician, and the enemy of the compounder and vender of quack nostrums. Under the stimulus of heat, in the dry, well ventilated bath, the skin gives off more than its usual amount of carbonic acid gas, as well as an excess of effete products, receiving instead a liberal supply of oxygen, by means of which, in addition to the general purification, the blood is aerated through the skin as well as the lungs.

An active skin participates largely in the function of respiration, a fact forcibly illustrated in the time of Leo X., who had a child gilded to represent the "golden age." Death followed in a few hours from suffocation. Subsequent experiments by Forcault and other physiologists in varnishing the skins of the lower animals was attended with similar results. If such is the result of entire occlusion of the skin, the question may be gravely asked, "How long will a man live with his skin half occluded?" And the fact that there are so many obstructed skins may be the reason why we have so many people who do not more than half breathe, and are consequently not more than half alive.

It is by reason of the respiratory function of the skin, as well as its power to eliminate waste, that its obstruction not only imposes preternatural labor upon the lungs, but by the failure of this great emunctory to do its work

of elimination an excess of waste is precipitated upon the mucous surfaces, which not only lays the foundation of a train of minor ills, but is often the beginning of that depopulating malady, Consumption. The advantages of hot air to prevent and to cure this scourge have proved to be such that the baths in this country and Great Britain are the common resort of the more intelligent classes, who suffer from the disabilities incident to weak lungs. Nor are the advantages of hot air by any means restricted to the relief of this tendency.

I have repeatedly seen the poison of rheumatism washed out in a single bath. Neuralgia, gout and malaria will follow as inevitably, and, in many cases, almost as speedily. In fact, there is scarcely any abnormal condition of the blood, internal congestion, or fever which cannot be abridged, completely dissipated, or greatly palliated by the life-giving and vitalizing influences of hot air. These results, however, are not to be attained without carefully graduated and highly rarified temperatures. Nor is this all. The hot chambers or sweating rooms must be divested of all foul air and of all vapors, sensible or insensible, or the bather cannot remain long enough to be, in any sense, benefited. In sweating rooms even with a moderate amount of vapor, with the usual absence of ventilation, the bather must be narrowly watched, for if he is left five minutes too long he is liable to congestion of the brain, and, as a consequence, to complete prostration or syncope—while in dry, well ventilated rooms of double the temperature he may, as a rule, remain almost indefinitely without discomfort or inconvenience.

Dry heat favors rapid evaporation and encourages perspiration, while perspiration washes impurities from the blood, regulates its temperature and keeps it cool. Air is the natural element for respiration while vapor,

employed in a form of bathing sometimes confounded with the Turkish Bath, is equally unnatural, and is correspondingly difficult for all, while to many it imparts a sense of suffocation which renders its employment wholly impracticable. This sense of suffocation arises from two causes: *First*, ventilation and vapor are incompatible, as ventilation dispels vapor. *Second*, condensed vapor deposited upon the surface of the body acts for the time being like a coat of varnish, preventing evaporation, elimination and perspiration. The blood, therefore, is not purified as in dry heat. It is raised in temperature as in fevers and circulated with preternatural rapidity while it retains all its impurities. The paroxysms of asthma are augmented instead of appeased in vapor, while hot dry air affords the most speedy relief that can be employed. Those who have followed up bathing in vapor for any considerable period have generally dry rough skins, and unless they employ dry heat with considerable frequency and persistence their skins will remain inert and sluggish. It is easier to establish an active skin in those unaccustomed to bathing than in those habitually accustomed to bathing in vapor. Dry heat has electric advantages, while vapor abstracts electricity from the body nearly or quite as rapidly as immersion in water; and a feeling of lassitude and languor results unknown to those who bathe habitually in dry air. It has been demonstrated that in damp, malarious regions a magnet which, in a dry atmosphere, will sustain a weight of fifty pounds, will not sustain more than five. We all know how much more susceptible is the human magnet. To derive the highest advantage from dry heat is a matter of education which cannot be compassed in a single bath. It is often the work of several weeks, as the skin requires a considerable amount of training before it responds readily to dry heat.

This, however, is seemingly not the case in vapor, as a dead man will have as much condensed vapor upon his surface as a living one. It was not intended that man should live in water or in vapor, but in air; in the properly constructed hot-air bath this condition is fulfilled. In either of the former drowning may occur in one as certainly as in the other. Damp days enervate, depress and debilitate; dry days electrify, energize and tone. Such is the difference in the two systems of bathing; one is a dense fog, while the other is a clear sunshine; one produces congestion, the other removes it. Vapor is enervating and depressing; dry heat is highly electric, as well as tonic, and imparts an exhilaration which, unlike other stimulation, is not followed by a corresponding depression.

The remedial effects of the bath may perhaps be best illustrated by some account of a few of the many striking cases that have occurred in my more than ten years' experience, during which I have directed the administration of tens of thousands of hot air baths, a considerable percentage of them having been taken by physicians.

The first bath administered in my establishment was given to one of my architects, who for nine successive days and nights had severely suffered from acute muscular rheumatism. One hour in temperature ranging from 175° to 200° Fahrenheit, and subsequent shampooing and spraying left him free from rheumatism, and though several years have elapsed, he has had no recurrence of this affection.

A gentleman doing business at Harlem and living at Mott Haven, who had been more or less subject to miasmatic or intermittent fever, was one of my first regular bathers, and for a considerable period became a daily visitor. After this, for a period of several months, he was completely exempt from the disease, and notwith-

standing his business and residence in the midst of malaria, recourse to hot air at the slightest indication of chills or fever has given him complete immunity from his old enemy, without medical aid from any other source. Many others have found that by the frequent employment of hot-air bathing, it is possible to live in a miasmatic district, and yet remain completely exempt from the noxious consequences usually attending such residence.

A gentleman of 50 years, well known in Wall-St., came to me in March, 1868. He had suffered from rheumatism for a considerable period, taken many remedies, lost his appetite and some thirty pounds in weight, and was so weak that it was a serious labor for him, assisted by a cane, to get to the baths. For the first time in many years he was unable to attend to business. He remarked that he had always considered himself iron-clad, but rheumatism had been too much for him. At the end of one week, bathing daily, he was so much improved that he had thrown aside his cane and returned to business. At the end of sixty days, bathing daily, he had gained thirty pounds in weight, and to use his own language, was "as strong as a bull." With the exception of occasional trips to Saratoga the following July and August, and a three months' absence in Europe the next year, he bathed almost daily, taking, in the period between March, 1868, and December, 1869, four hundred and twenty Turkish baths. In his first baths his skin was quite sluggish, especially at those points which were the most immediately rheumatic, and it was not uncommon for him to remain a full hour in the heat, drinking water quite freely. As his skin became more active his baths became abridged in duration, ten minutes being sufficient to cover his entire surface with large drops of perspiration. Six minutes of vigorous shampoo-

ing, with no soaping, was followed by the cold spray and the drying of the surface with towels in a bath of cold air, and he was ready to dress. The walk from his hotel, his bath, and his return to breakfast were usually accomplished within one hour. It was this gentleman who remarked on one occasion that if a man has a \$5,000 horse he will have him thoroughly groomed every day, and he saw no reason why a man should not be as well cared for as a horse.

In the Fall of the same year a large and apparently vigorous woman applied to me for employment in the capacity of shampooer in the ladies' bath. She had been for a considerable period with Dr. Charles F. Taylor, engaged in the administration of Swedish movements. She learned the baths very readily, and became at once very popular. At the end of two weeks, however, she informed me that she thought she would have to abandon the employment. She felt well in the bath, but when she came out of it she suffered from a sense of chilliness, and in several instances she had been compelled to pass the remainder of the day in bed. I found that she had been exposed to the influence of malaria in Texas, and advised her that she had only to persevere in the employment to wash the poison completely from her system. She decided to remain and at the end of six weeks was completely restored to health. She had been deaf from childhood in one ear, but during the six weeks of her employment in the baths the obstruction became removed, and much to her surprise and delight, she found she could hear with one ear as well as with the other. Soon after she made a visit to the country. There was more or less snow, and as a consequence of wet feet the newly useful ear became obstructed with an abscess. She returned to the baths one evening in great suffering. She was comfortable only in hot air, and spent the entire remain-

der of the night in the bath, and the next day up to one o'clock, being in the bath almost constantly for the period of fifteen hours, which gave her complete relief.

An interesting case of obesity was that of a boy of 19 years, weight 180 pounds, and so fat that he had hardly any neck. His eyes were so obscured that one could scarcely see that he had any. His skin about the abdomen, chest and arms, was full of cracks from being too small. He was in the habit of drinking large quantities of water. I gave him a fruit breakfast without drink ; beefsteak with a small amount of coarse bread and more fruit for dinner, also without drink, and restricted him to two meals daily. With this diet and one bath per day he was reduced 20 pounds in 20 days. He then stopped the baths but continued the diet and managed to keep himself where the baths left him. Employed as a means of reducing obesity the effects of the bath are most rapid when water is drunk only moderately ; as a means of increasing rotundity of person the bather should indulge freely in water, which in the hot air bath becomes a most grateful beverage even to those who have long been strangers to its employment.

The value of the Turkish bath as a means of arresting inebriation is strikingly shown by a case which came under my observation, where ten successive days of dissipation had induced unmistakable signs of the near approach of *delirium tremens*. After his periodic debauches the patient had usually passed a month at the New York Hospital, where he had been permitted certain daily rations of whisky as a means of "tapering off." He was conducted to the bath, where he had not been for more than half an hour when he complained of nausea. I ordered a warm water spray to be applied over the region of the stomach, which was followed immediately by profuse vomiting. He was kept in the bath for nearly two hours, when he was conducted to a room that had

been assigned him. He was from the first prohibited the use of tobacco as well as whisky and all kindred spirits, and as he became tremulous for want of stimulation he was put into the bath. He had two or more baths per day for five days, spending most of the intervals between the baths in sleep. At the expiration of this period he assured me that he could do without whisky or tobacco, and he was permitted to return to business. He remained strictly temperate for several months, using neither strong drink nor tobacco, but having recourse to hot air whenever he felt the want of stimulation. When he afterwards indulged in whisky his friends hurried him off to the bath, and through its agency he was speedily restored to usefulness. I have repeatedly applied heat in cases of this character, replacing stimulants with hot air, and I am thoroughly convinced that an inebriate asylum without the Turkish bath is greatly shorn of what is possible in the way of usefulness.

The promptness of hot air as a means of purifying the blood is well shown by a simple case of poisoning, the victim being a gentleman who had overslept, and that he might not fail to meet a business engagement had hurried off without breakfast. He fasted up to one o'clock, when he dined on corned beef. It might have found its way too late to the brine, or there might have been something wrong about the pickle, but at any rate he passed an afternoon of great discomfort and a night of great misery; suffering much pain, accompanied by vomiting and purging, and with all a most intolerable itching. When at last daylight came he found himself covered from head to foot with purple blotches which were considerably elevated. Recourse to a hot-water bath palliated the itching in some degree, but the blotches remained. He was put into the Turkish bath, where he remained for two hours, and drank six tumblers of

water, most of which showed itself soon after upon the surface of the body. When he left the bath no trace of the eruption remained, nor did it return, and after a profound sleep, which was uninterrupted for a period of three hours, he awoke saying he had never felt better during his whole life.

In further illustration of the use of the bath in acute difficulties, the case of a reporter in a United States court room in Philadelphia may be cited. He had received the advice of a physician of that city who pronounced his disease diphtheria, and advised him to repair to his rooms and adopt an active course of treatment. He informed his physician that he should start at once for a Turkish bath, at which the medical gentleman seemed greatly horrified, assuring him that it would certainly kill him. (At that time, 1864, there was no Turkish bath in Philadelphia.) The next day he stood before me, weak and without voice, and wrote on the margin of a newspaper, "diphtheria." He was at once put into the bath, and after half an hour had so far recovered his voice as to communicate to me all the facts necessary for the treatment of the case. He was kept in the bath for one hour and a half, when he was removed, more from fatigue than from any particular discomfort. Before he left the bath his neck was completely enveloped in a wet towel with a dry one over it, and he then slept for several hours. The compress on the neck, as it became dry or hot, was renewed until he fell asleep for the night. He was put into the bath again next morning, his throat being enveloped, when out of the bath, with the compress. His only food was chopped ice, and much of his time was passed in sleep. He came to me on Wednesday, having eaten nothing the day before. The treatment described was continued four days, two baths being taken per day. On Sunday, after a protracted bath, he threw off from the

throat large patches of the membranous exudation, resembling macaroni, having, however, more the color of leather. He immediately remarked that he would like something to eat, though food had not hitherto been mentioned, and he was provided with oatmeal gruel soon after, which he seemed to relish heartily. He ate nothing after this until the next morning at breakfast, using two meals a day, principally composed of cooked fruits, for the remainder of his stay. He returned to his employment one week from the day on which he came, and had none of the sequelæ which so often succeed this disease.

A case of urticaria, induced by a dyspeptic condition of seven years' duration, coupled with a rheumatic diathesis, may be mentioned. The dyspepsia was constant and the rheumatism was frequent, while the urticaria made its appearance annually, attended with much annoyance and discomfort. The patient had visited Europe by the advice of his physicians, and in Paris placed himself under the care of Dr. Bazin and afterwards under that of Dr. Hardy, both widely renowned for the successful treatment of affections of the skin. The advantages were only palliative, and he returned without real benefit. He was sent to me by Dr. E. D. Morgan, jr., and was so much improved by his first bath that he was counseled to persevere in their employment. In less than four months he had taken upwards of sixty baths, and was completely cured of his dyspepsia, his rheumatism and his urticaria, and though several years have elapsed, he has had no recurrence of his annoying disabilities, an exemption which he and his physician attribute to the habitual use of hot air bathing.

In chronic eczema cases that have defied years of medication have, in many instances, readily yielded to hot air

bathing. One gentleman, whose hands were rendered quite unsightly and intensely painful by this affection, after having employed a half-dozen prominent medical men of this city, and as many in Europe, including Tilbury Fox and Erasmus Wilson, and after having purchased and read all the books he could find on skin diseases, was finally sent to me by Dr. F. R. Sturges, and before he had taken a half-dozen baths, his hands were thoroughly well. Numerous other cases have been as effectively treated ; few, however, have been relieved as speedily.

In the Summer of 1871, during my absence in Europe, a lady was sent to my establishment by the joint advice of Drs. Budd and Briddon in an advanced stage of Bright's disease of the kidneys. She was informed that the bath might palliate her sufferings, but she must not expect permanent relief. She was no less astonished than her physicians at her wonderful improvement, and within twelve months was declared by them thoroughly restored to health.

In another case, sent by Dr. Mott, the patient was subject to the influences of morphine, which had brought her to such a state that the merest trifles would throw her into hysteria closely bordering upon insanity. She bathed daily and for the first two weeks required the constant supervision of the attendant, after which her improvement was quite rapid and she was soon completely cured of the morphine habit and within a year recovered apparently from its many evil consequences. Her husband has often declared that she owes her life to the bath.

A native of South America, doing business in New York—a sufferer from neuralgia of great severity—had employed many physicians and many remedies, had visited Europe in the vain hope of relief, and had for several months been counseled and strongly urged

by his physician to try hot-air bathing. Such was his dread of the process from the stories he had heard of being parboiled or roasted alive, that it was not until Dr. Ceccarini drove him to my door in his own carriage, that he could summon the resolution to try the experiment. The hypodermic use of morphine for the relief of his sufferings had left him completely tattooed, so that his presence in the bath always awakened the liveliest apprehension in those who saw him, and were ignorant of his history. The first bath was a source of great relief, and he persevered in bathing and continued to improve until he was not only cured of his neuralgia, but also of his slavery to morphine, which for a time seemed likely to become even more serious than the malady it had been employed to relieve.

Among the many cases sent me by Dr. W. H. Van Buren was one of peculiar interest, the patient being an unmarried lady of wealth who had been a great sufferer from neuralgia. In order to dispel the pain she had recourse to morphine to an extent that so entirely deprived her of the power of locomotion that she could neither rise nor walk. By the employment of two baths per day, and a large amount of *massage* or manipulation she was able at the end of six weeks not only to stand, but to walk.

A gentleman aged 40 years, was sent to me from Norwich, Conn., whose sufferings from neuralgia of the brain had been of so severe a character as to unfit him for business for the full period of five years. During his worst paroxysms, which usually lasted for several days, he was compelled to do without food. He was strictly temperate except as to tea drinking, which, after repeated trials of numerous remedies, had become his sole reliance for relief from his distressing disability. I cut off the tea and gave him two baths per day for one week, when he left me completely restored to health. After an interval of two

months he had a slight recurrence and paid me a second visit, shorter than the first, which has for a period of two years been permanently efficacious.

In the treatment of sciatic affections, some of which defied the best medical skill for many months, we have met with success truly marvelous. Prof. Rivard, sent to me by Dr. Damainville and other medical friends, attempted to ride to the bath in a carriage with his family that they might be with him in case of accident. The motion of the carriage gave him so much pain that he had to abandon it, and came with great difficulty supported on either side by friends eager to aid him. After the first bath he walked away without assistance, and before he had made us a dozen visits he was entirely restored. Another gentleman who had been under medical treatment for sciatica for twelve months without relief was completely relieved in less than twenty baths, bathing daily. Another case, more severe than either, was completely cured in five days by four baths per day. Prof. McReady, of Bellevue Hospital Medical College, sought the bath as a relief from what he termed a "sciatic" affection of his right arm. After a half hour in the hot chambers and subsequent shampooing he plunged into the swimming bath, forgetting his lameness, and expressed great satisfaction and surprise that it did not return. In the treatment of acute difficulties ordinary medication is as much slower and less effective than the hot air bath, as the post horse is slower and less effective than the electric telegraph; while in the treatment of chronic conditions the usual methods are as much less powerful and as much less rapid as the stage coach is less powerful and less rapid than the locomotive.

Early in 1872 Mark Twain came to my establishment at 10 o'clock on Sunday morning, and entered the bath, remarking, "I have contracted a most intolerable cold in a sleeping car, in order to meet my lecture engage-

ments, and I wish to remain with you until I am cured." After one hour in the hot room he took a shower and returned for another hour. Subsequently he took a vigorous "thrashing," after the Swedish system of Ling, which, he remarked, was not unlike a system of massage he received from a Kanaka woman at the Sandwich Islands. After another hour in the hot room, followed as before by the shower, and then by still another hour in the heat, he took an electric bath. At 4 P. M. he left to attend a dinner party. He was cautioned against dining out, whereupon he observed, "It is not for dinner, but to keep an engagement." He returned a few hours later, and remained in the heat until 9 P. M., when he went to his room for the night. Early the next morning he was again in the hot rooms, where he remained most of the time until 3 P. M., when he took a light breakfast, which was his only meal for the day. Some three hours later he returned to the hot room, where he stayed till 9 P. M. Upon leaving at that hour he exclaimed, "My cold is gone! I will make a sure thing of it, however, by giving these rooms another turn in the morning." He accordingly re-entered the heat early on Tuesday, and remained until 11 o'clock, taking the 12 o'clock train for Hartford, completely cured of his cold, which was, in fact, an acute bronchitis of considerable severity. It was nearly twelve months before he paid us another visit, having another cold which he had taken only the night before, and which was easily dispelled by a bath of ordinary duration.

In many instances of acute disabilities, patients have remained in the establishment for several days—even an entire week or more, and spending nearly the whole time in the bath, day and night, and always with the most salutary results.

In 1861 Turkish baths were introduced into the Insane

Asylum at Cork, the largest insane asylum except one in Ireland. The percentage of cures was more than doubled, and the death rate was diminished more than one-half. Dr. Robertson, the physician of the Sussex Lunatic Asylum, Hayward's Heath, England, speaks of the bath as follows: "It is a remedial agent, grateful to the feelings of the insane, and which they do not, like other means of washing, associate with punishment. Were the baths at Hayward's Heath large enough for the purpose I should entirely replace the ordinary hot water baths used twice a week for cleanliness, with Turkish baths." Of its application to diseases of the mind he speaks as follows: "Insanity is a disease, depending on, and associated with, various functional disorders, and especially with preverted nutrition of the organ of the mind. The treatment of the pathological conditions consists not in the mechanical administration of specifics, but in the rational application of the principles of medicine to each individual case. To illustrate, a patient is suffering from mania, with great restlessness and incoherence of thought, with increased action of the heart, congestion of the head, and suppression of the catamenia and of the secretion of the skin which is rough and dry. The indications of treatment here are, to restore the balance of the circulation, and thus to regulate the secretions and the supply of blood to the brain, and so to restore the healthy action of the uterus, the skin and the brain. Experience teaches us that such results will only follow the slow and steady use of remedies influencing the action of the heart and the nervous system. Of such remedies few are more powerful in their action than the bath, and I find that its continued use in such cases will, through its soothing action on the nervous system and the relief it affords to internal congestion by determining the blood to the surface, modify if not cure the mental disease. In irregularity of the

uterine function, which in young girls is sometimes complicated with mania, I have found in several instances a cure follow the restoration, through the agency of these baths, of the healthy uterine action. Setting the mental symptoms aside, I would here say if these baths had only this one remedial power of restoring suppressed menstruation, their value in reducing the ills resulting from our high civilization would still be great.

*Dr. Thomas H. Kellogg, Resident Physician of the New York City Asylum for the Insane, in his annual report for 1873, refers to the Turkish bath as follows: "During the year past there have been prescribed and administered to our patients 2,280 Turkish baths. The effects of this treatment in the various stages and forms of insanity have been carefully noted, and they have been so highly favorable as to forcibly suggest the conclusion that the Turkish bath is a remedial agent of great efficacy and wide applicability in mental diseases. The direct result of this treatment is to stimulate the functions of the skin, to strengthen and equalize the circulation, and to hasten secondary assimilation as well as the retrograde metamorphosis of tissues. The first effect is often a slight loss of flesh, followed by an increased appetite and subsequent gain in weight. The patients seldom object to the bath, and many come to regard it as an actual luxury." In conclusion, Dr. Kellogg affirms that the Turkish bath "should be made one of the curative resources of every hospital for the insane."

In relieving sleeplessness, which is often the prelude of insanity, the bath also has a most wonderful effect. In fact, I think that Dr. Hammond's theory that sleep is induced by calling the blood from the brain finds corroborative evidence in the Turkish Bath. By means of heat the blood is taken to the surface and to the extremities, and refreshing sleep succeeds. Dr. Austin Flint,

indeed, goes so far as to say : "As a remedy for wakefulness hot air is better than bromides, chlorals or opiates." And Dr. Lewis A. Sayre, after repeated and prolonged trial of the bath, both personally and in the cases of his patients, sums up its virtues by declaring that "when the medical profession arrive at a thorough knowledge of the benefits of hot air bathing, they will prescribe baths more, medicines less, and be of more service to their patients."

When my baths closed, temporarily, in 1869, I was taking one bath daily and sometimes two, not having missed taking one each day for the full period of eighteen months. It was during this period that I made some important changes in the application of air as well as of water. It had been the custom (as it is now in most of the baths) to wet the head on entering. But, contrary to the generally received opinion, the head should not be wet in the bath—it should be let alone ; it is a poor head which is not better able to take care of itself than any other part of the body. Perspiration will generally be found first upon the brow ; and the head, if left to itself, will speedily be moistened by the same means. The application of water to the head drives away the blood for the instant—reaction returns a larger volume ; thus the use of water preternaturally determines the blood to the brain. When water is used, therefore, on the head, headaches will be the rule ; and when it is not used headaches will be the exception.

The fact that any part of the body becomes warmer than before after a temporary cold application of any kind, is illustrated in the experience of every snowballing school boy, who finds his hands burning hot after indulgence in this pastime. As a means of relieving the brain we apply a spray of cold water to the feet, which has the effect of determining the blood to the lower ex-

tremities, thus warming the feet and cooling the head. The use of the foot-bath, however, is decidedly prejudicial, and is as unwise as it is unphysiological. From Hippocrates to the modern hygienist the opinion is as universal as true that the feet should be kept warm and the head cool. Hence the folly of placing the head in a temperature ranging from 150 degrees to 200 degrees, and the feet in a temperature of 100 degrees, which is the highest average at which water can be borne. When foot-baths are employed, the splashing and spattering of the water imparts a prejudicial moisture to the atmosphere of the bath, rendering even moderately high temperatures comparatively intolerable.

Since we have adopted the system of keeping the head dry we rarely have any complaint of headache or rush of blood to the head. This bugbear of rush of blood to the brain comes no doubt from mistaking the effects of vapor for those of dry air, and would seem to be pretty thoroughly exploded by Dr. W. A. Hammond, who followed up hot-air bathing daily at my establishment for a considerable period for cerebral congestion in his own case. He has since sent us a number of other cases of congestion of the brain which have been equally benefited. In a recent work on diseases of the nervous system he says: "In the treatment of cerebral congestion Turkish baths cannot be too highly commended."

It was formerly the custom (and is now except at my establishment) to roll the bathers in sheets and blankets when they arrive at the cooling room. The reaction which follows inevitably opens the skin, and the benefits of the bath are in a great degree frustrated. We follow the application of water which closes the skin with a bath in cold air, a system invented and highly commended by Dr. Franklin, and which only needs to be employed to demonstrate its utility. This way out of the bath renders

colds impossible, saves much time to the bather, and leaves him buoyant with exhilaration. Experience and observation have fully established the fact that baths exclusively in air with the use of water to satisfy thirst, and perhaps upon the feet to warm them, and at the same time to cool the head, are in many conditions more salutary than the water drenching which many esteem so highly. In fact, in anemic conditions as well as in severe cases of dyspepsia and neuralgia, water should be used only to supply thirst, and to warm the feet and cool the head as a preliminary to the bath in cold air.

It is, perhaps, hardly proper to dismiss this topic without brief reference to the process of anointing, as revived at the Lexington avenue Baths, and employed as a supplement to hot air bathing. From my earliest acquaintance with the history of bathing, as practised by the Romans under the direction of the Emperors, I have been impressed with the importance of the employment of lubrication as a means of securing more searching and more thorough manipulation, while I was no less impressed with the fact that the lost art of inunction with fragrant balsams and fine perfumes would add greatly to the luxurious effectiveness of modern bathing. Notwithstanding much research and study, it was not until the commencement of 1874 that I discovered a proper agent for this purpose, and the first complete Roman bath, after the flight of many centuries, was administered at my establishment. This agent possesses no noxious qualities, and is as uniformly grateful as it is salutary, while it is so readily absorbed by the skin that nothing remains to soil the finest wearing fabric. It is without odor, or may be perfumed to suit the fancy, and it has the advantage over other lubricating agents that it does not deteriorate with age or exposure. From its supposed identity with the unguent employed by the Romans I have given it the

name of Romaleon, and while I withhold from the profession no secrets that I esteem calculated to benefit our race, I have taken measures to protect myself and the public against base imitations and ignorant pretenders, and I cordially invite the profession to examine the new unguent and test its many benefits.

For the athlete who would fit himself for endurance in walking or rowing it has unparalleled advantages, while to the anemic and wasted it is a source of restoration and strength, which cannot fail to astonish the most skeptical. By the employment of this supplementary process which constitutes the complete Roman bath the most sensitive person, who takes cold easily and is chilled on the slightest exposure, may soon become so invigorated as to experience only pleasure and profit from the coldest weather. Dr. H. G. Piffard, who was one of the first to test the efficacy of the process, and who has employed inunction to a considerable extent in affections of the skin, says that "lubrication is not more important to the machine than inunction is to the man." Dr. Lewis A. Sayre, who has repeatedly employed it for himself as well as his patients, says: "As a protection against colds, it is better than an overcoat." Dr. Stephen Smith, after testing its benefits, writes as follows: "If it was necessary to add anything to your perfected system of hot air bathing, which would seem to have reached the acme of all that is beneficial and luxurious, it has been accomplished in the restoration of the invaluable process of anointing, for the revival of which you deserve and will receive the grateful thanks of the profession."

On the part of the medical profession, aside from those who have followed up bathing in hot air for a considerable period, there often exists much misapprehension. Some look upon it as a depleting process, and others have been led to expect too much from a single bath.

There are many conditions in which the immediate effect of a single bath will be to produce a certain amount of discomfort, resulting from a sluggish skin. The blood may be raised in temperature, the circulation preternaturally excited, and the bather to a certain extent discomforted, when he had been led to suppose that a single bath would restore him to health, though he may have suffered for years from an accumulation of chronic disabilities. In such a case a bath the day following would generally satisfy the most skeptical that he was on the high road to health. A small trader in Wisconsin, having an acquaintance who had been relieved of a rheumatism in a single bath, came the whole distance expecting a similar result, although his case had exhausted the resources of the profession, as well as the suggestions of all his friends, every one of whom had a remedy. He could neither dress nor undress without assistance. He experienced great relief when once in hot air, and after his first bath, for the first time in many months, was enabled to put on his clothing without assistance. He was, nevertheless, disgusted, and complained that he had been victimized by his friend who had caused him to make so long a journey to accomplish so little.

In relation to the depleting effects of hot air the example of the shampooers employed in the bath should be a sufficient refutation. Most of the men I employ generally gain from five to ten pounds in weight during the first month of their engagement, and continue to increase afterwards, but more slowly. One man upon entering my employment was placed upon a restricted diet, and subjected to long baths at high temperature, and considerably reduced in weight, as a means of constitutional renovation. When he commenced work in the bath, and the restriction was removed in the matter of diet, he

gained thirty-six pounds in three weeks—becoming a regular Hercules physically, and proportionately muddily mentally. Those who bathe habitually in dry air are better sustained on a moderate amount of food, from the fact that they are better nourished. Nutrition is rendered more complete by the removal of effete products, and the appetite, though greatly improved, is more easily satisfied, for the reason that food is better utilized.

The question is often asked, How often should Turkish baths be taken for cleansing purposes? Erasmus Wilson of London, the well known anatomist and dermatologist, has answered this as follows: "Though you may wash the whole surface daily the amount of dead skin which will accumulate upon the body in the course of a single week would, if dried, make a ball the size of your fist." Certainly no one who has ever taken Turkish baths can doubt their cleansing power. A San Francisco lawyer who had bathed daily for years, remarked after his first Turkish bath: "I leave the bath with the unpleasant reflection that I have been dirty thirty-five years." Edwin Forrest, who used to bathe daily at my establishment, declared emphatically, "A man who has not taken a Turkish bath has never risen to the moral dignity of being personally clean."

It cannot have escaped general attention that engineers, firemen, forgers, glass-blowers, smelters, sugar-refiners, and artisans in general employed in active duties in high temperatures, wherever good ventilation is maintained, as a rule possess the most complete physical health. It is simply due to the fact that they have active skins, and effete morbid products, instead of being permitted to remain in the system and poison the blood, are rapidly eliminated; and notwithstanding the fact that these men, as a rule, outrage all that is rational in dietetics, exposed as they are to great alternations of temperature, they are nevertheless less subject to disease than

those who live more rationally, and who are more tenderly housed. Health is the result of complete integrity of the entire physical economy. If the skin is obstructed, the heart, lungs, liver, kidneys, and stomach are overworked, and the weakest organ becomes the greatest sufferer, only to be relieved by reopening the skin and balancing the circulation.

On the part of business men, we often hear the remark, "I like hot-air bathing and I know it is good for me, but it takes too much time." This is perhaps about as consistent as the remark of the old lady, who said "I only comb the heads of my children once a week, and then it almost kills them." Those who bathe once a month, or once in two or three months, always find the bath a new experience, requiring considerable time to be in any sense effective. But to him who bathes once a week or oftener, a satisfactory hot-air bath, including time for disrobing, sweating, shampooing, cooling and dressing, can be safely accomplished in thirty minutes, and the complete Roman bath, the long lost luxury of the Cæsars, can be taken in less than one hour, while the man of leisure and the invalid may spend three hours or more, if they choose. Since the enlargement and reconstruction of my establishment in 1870, there has been no day or night in which we were not prepared to give baths to gentlemen, and no day or evening in which we have not been equally prepared to give baths to ladies, and for the latter the process if possible, is one of greater necessity, from the fact that they live more generally housed, and are to a greater extent deprived of the benefits of fresh air and exercise. Many ladies find in the several processes of the properly constructed and properly administered bath, all the exhilaration that comes from champagne, with none of the subsequent prostration that follows the employment of other modes of stimulation.

When the fact comes to be generally appreciated, that health and beauty are one and inseparable, ladies will employ hot-air more and cosmetics less, and beauty will become as much more universal and enduring as health becomes more complete and continuous.

The remedial advantages of bathing in hot air (to glance historically for a moment at our subject) have been known somewhat in all ages and all countries. And the mode of its application has been in some sort an index of civilization and refinement, which has marked the progress of physical, mental and moral advancement. Rome carried the system to a state of higher perfection than it had hitherto attained, and is said to have been five hundred years without a physician. The Turks subsequently adopted it as a part of their religion, in which they seemed to recognize the fact expressed in the old adage—which of late has been modernized and improved by Adirondack Murray—"In the order of human development cleanliness must come before godliness." David Urquhart, British Minister to Turkey, became acquainted with its medicinal virtues, being thrice restored to health by this means when all other remedial measures had failed. In the year 1850 he published a work of travels in the East, entitled, "The Pillars of Hercules." This awakened new interest in the subject of hot air bathing, and six years later the Roman bath was restored to Great Britain. Since this period the baths of Great Britain have passed through several stages of improvement, and the Arabic word *Hamman*, signifying the bath, has been bestowed upon the Jermyn street Baths in London, which are claimed by many to be the finest in existence. They are constructed somewhat in the cathedral style of architecture, and lighted from the top of a large, high, circular dome. The ventilation is quite indifferent, yet this is less noticeable from the generous amount of space employed in the structure.

A search for books upon the subject of bathing, in our own language, however zealously pushed, will be rewarded with only moderate results. Cameron's "Baths of the Romans," a royal octavo volume, dedicated to the Earl of Bute and published in London over one hundred years ago, is expensive, and as rare as it is valuable. It is written in English and French, and contains, in addition to text description of the structure and processes of the baths of the emperors of Rome, diagrams showing exterior and interior arrangements and decorations, as well as ground plans and elevations. A copy of this excellent and instructive work may be found at the Astor Library, or at the Lexington Avenue Baths.

Nearly twenty-five years ago the late Dr. John Bell of Philadelphia published the best small work that has appeared in the English language upon baths in general. This, however, is out of print; and such is true of Mr. Urquhart's *Manual of the Turkish Bath*, edited by Sir John Fife, and published some ten years later than the work of Dr. Bell. This *Manual* is a volume of rare suggestiveness, and, in part, consists of conversations between Mr. Urquhart and Members of the London Medical Society, including the names of Druitt, Leared, Thudichum, Erasmus Wilson, and others equally well known.

Some time after the appearance of Mr. Urquhart's manual Erasmus Wilson published a small volume, which is singularly attractive and almost extravagantly eulogistic of hot air bathing. This was succeeded in a few years by a work by Mr. Dunlop, also published in London, entitled "*The Philosophy of Hot Air Bathing.*"

The most recent publication of all, however, is a small book that has just reached us, from the pen of Dr. Milton, of London, an author not unknown to fame by his contributions to the literature of affections of the

skin, in many forms of which he recommends hot air to the exclusion of all other remedies, while he remarks, that in his judgment, "the Turkish bath is infinitely the most potent remedy for a cold ever devised."

For men of inactive or sedentary habits, and for women who remain housed, taking little exercise, it is safe to say that hot air bathing is scarcely less important than food. From the fall in Eden man was doomed to earn his bread in the sweat of his brow; and though from that time forth he has sought to evade this condition, he has succeeded only and always at the expense of physical integrity. A certain amount of laborious exercise is indispensable to the highest physical development; and however high a state of physical excellence may be attained, it is only to be sustained and perpetuated by unceasing toil. Few men, comparatively, arrive at eminence in the liberal professions, without greatly impaired health, and a high state of mental discipline usually discovers a proportionally low state of the physical forces. The gymnasium naturally presents itself; but here again is our old enemy, toil. The Turkish bath comes to the rescue, and perspiration flows freely without exhaustion; while at the hands of the shampooer all the benefits of vigorous exercise are afforded, without the expense of fatigue.

We live in unnatural relations. Our high civilization, our social customs, have rendered us too artificial in our habits. We poison ourselves with tobacco; we drink too much and too many beverages; we eat too much, too fast, and too often, and partake of too many kinds of food, to say nothing of poisonous seasonings and destructive chemicals. We wear too much clothing; we breathe too much bad air; we take too little exercise. As a consequence of these violations of the laws of hygiene we are laden with effete, morbid products. The Turkish bath comes to our relief, and in the most innocent, most speedy, and

most grateful manner washes these effete, morbid products from the vital domain, and by this significant purification is preëminently suggestive of a higher, purer life, physically, mentally and morally. It does not always cure disease; it is not a specific or a panacea. It gives, however, complete integrity of function to every organ of the body and renders the vital economy equal to the emergency of its own work.

It has given new significance to health, and restored it to many who had heretofore looked upon its possession as impossible. It has fully demonstrated that "an ounce of prevention is worth a ton of cure." Those who are wise enough to profit by the experience of others, will heed the lesson and put themselves in the best physical condition by frequent recourse to hot air bathing, remembering that it is not a necessity for the invalid alone, but equally a necessity to the man who would guard himself against disease, and would attain a vigorous old age unencumbered by accumulated infirmities.

I am so often interrogated as to why I became associated with Turkish bathing, that I trust a brief answer to the question may not be inappropriate or unprofitable. An excited and feverish life of nearly ten years in that marvelous metropolis of the Pacific—that more than wonderful El Dorado of the West, with its striking verification of the fact that truth is stranger than fiction—together with close attention to the health of others, and little to my own, while it had attached me strongly to that place and people, had crippled me in health and rendered me little better than a confirmed invalid. I shall never forget the unswerving friendship or the untiring zeal of my co-workers in health in their efforts to reëstablish my physical strength. In fact, they were unremitting in their attentions and counsels until they had exhausted all the resources of the pharmacopœia, when they strongly

commended me to the alluring attractions of hygiene. This, though a common error, is one of great gravity. The proper course is to employ the resources of hygiene first, when as a rule, the usual course of medication will become as unnecessary as it is generally unprofitable.

My condition was so critical, and delay seemingly so hazardous, that I sold my residence at a sacrifice and abandoned a practice which it had been the labor of years to establish, and in midwinter embarked on a voyage of health. I arrived in New York in January, with much apprehension as to my ability to withstand the rigors of a Northern Winter. There is a general impression in California that those who have lived for several years in its mild climate arrive at a condition of the blood by which they are unfitted ever after for a more rigorous climate. I am satisfied that there are few greater delusions. In fact, I found cold air so exceedingly grateful that I became convinced that its absence had been in some sort the occasion of my disabilities. And here I will remark that the hot air bath is an agent so potent in its action upon the blood that its condition is thereby readily adapted to any clime or country, season or situation.

Soon after I reached New York the first Turkish bath established on this continent was started by my friend, Dr. Charles H. Shepard, on Brooklyn Heights, and I was among the first to test its benefits. In fact my first bath was taken before the paint had fairly dried. Such were the advantages and such the benefits I derived from these ingeniously, but, compared with what they have since become, rather rudely constructed baths, that I resolved to devote myself to hot air bathing as the means by which I could be of most service to my fellows; and from that day to this I have given my best energies to the scientific construction and management of hot air baths, in which I have received the coöperation and encourage-

ment of the most intelligent and progressive of the profession and press to a degree unparalleled, and to both I shall never cease to extend my grateful acknowledgments. In 1871 I visited Europe, traveling through England, Ireland, France, Germany, Hungary, Turkey and Italy, and I can say, without hesitation, that I have given to the City of New York a bathing establishment more perfect in all the essential features of scientific bathing than has hitherto been established in any age or country. Prof. John Tyndall, during his recent lecturing tour in this country, visited my baths on one of the coldest days in winter, and found a temperature of 250 degrees. While in the hot room he remarked, "This is the highest temperature in which I have ever bathed ; yet by reason of the complete dryness and the excellence of your ventilation it is in no sense oppressive, but in the highest degree grateful."

The employment of hot air, however, is yet in its infancy, and its benefits are far—very far—from proper appreciation. When we consider how large a share of the fluids and solids that enter the body should find their exit through the skin as morbid waste and disintegrated tissue, and how, by obstruction of the skin, these are thrown back to poison the whole man physically, mentally and morally, we have here at once the key to much of the misery that afflicts our race. Suppose, for instance, the conduits that drain any of our large cities and remove the waste from its dwellings were obstructed. How long could its citizens stay even in the most palatial residences? They would soon have to vacate, or they would be confronted with typhus and typhoid, with cholera and cerebro-spinal meningitis. Every one who has an obstructed skin is in similar peril, and his skin must be unlocked or he must retire from the house he lives in. Perspiration is the safety-valve of the heart and the sewer of the excretions, and hot air properly employed is a direct means of prolonging life and a protection against unnatural death ; and in the same proportion that we build baths and employ them, we shall dispense with hospitals and invalids and in the same proportion we shall prolong useful lives.

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