THE ACTION OF THE TURKISH BATH IN DISEASE.

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One year ago, I had the honor of presenting before this Association certain data regarding the treatment of rheumatism by the Turkish bath. Several gentlemen controverted the position taken in that paper, and now it will be my endeavor to give some facts substantiating what was then laid before you, under the title of

THE ACTION OF THE TURKISH BATH IN DISEASE.

The Turkish bath is simply a convenient manner of applying heat to the body, and is readily adapted to any diseased condition. It is not exhausting, as many suppose, nor is its salutary influence measured by its power to produce abundant sweating. One of the most remarkable properties of the bath is its ability to allay the sense of fatigue. There is an invigoration arising from the contact of the vitalized skin with the dry heat of the bath, which gives an increased power of drinking in oxygen, through channels previously closed, and withal there is little sensible loss of matter, what is parted with being only that for which the system has no further need.

One of the uses of ordinary perspiration, is to maintain the equilibrium of temperature, on which the safety of the individual depends. As the natural average temperature of the human body is 98° Fahrenheit, Nature has provided that this standard shall be maintained in every latitude, and under all atmospheric variations. When unusual heat is applied to the surface of the body, the system is called upon to protect itself by maintaining its equilibrium at 98°, and this is accomplished by throwing out water to be evaporated from the surface. As when water becomes vapor, a large amount of heat becomes latent, so the higher the temperature, the more abundant the flow of sweat, and the more rapid the evaporation, and the heat is carried off latent in the vapor. Thus man is enabled to endure habitual exposure to an artificial temperature of dry air as high as 400° Fah. Carpenter says: "Many instances are on record of heat from 250° to 280° being endured in dry air for a considerable length of time, even by persons unused to a particularly high temperature; and persons whose occupations are such as to require it, can sustain a much higher degree of heat, though perhaps not for any very long periods. The workmen of the late Sir F. Chantrey have been accustomed to enter a furnace in which his molds were dried, while the floor was red-hot, and a thermometer in the air stood at 360°."

Men engaged in various branches of manufacturing industry, such as ore smelting, iron foundries, rolling mills and glass works, are habitually exposed, for lengthened periods, to heat ranging from 200° to 350°, which they are able to sustain for years without any loss of vigor, or detriment to health. And this simply on account of the seven million little glands spread over the inner surface of the skin, which, by evaporation, send off the heat that would otherwise raise the temperature of the body. We know that no amount of heat can raise the temperature of water above 212°, so long as the steam is allowed to pass off. Just so a man can endure a temperature of even 600° for a time, with impunity, provided the skin acts freely and the atmosphere about him is dry, and drinks up rapidly the moisture that exhales. So far, indeed, from high temperature proving injurious, it is the adaptability of the skin to resist high artificial heat upon which the Turkish bath relies for its marvelous sanitary and curative powers.

Thus we see that there is no foundation for the popular prejudice about the hot air bath increasing the temperature to a dangerous degree. Such a prejudice is not only condemned by physiology and experience, but it is in direct antagonism to the very laws of our being. Now how comes it that, by a slight increase of heat, there should be a sudden power given to the skin to throw out moisture? and whence comes this moisture? From the blood. And to be able to furnish moisture, the blood must be brought to the skin; and this is the grand secret of the *modus operandi* of the Turkish bath. It is by equalizing the circulation, and thus removing congestion, whether of the lungs, the liver, the brain, or any internal organ, or tissue near the surface, or the skin itself. When heat is applied to the surface of the body, the blood that is feebly circulating within the trunk is brought to the surface and the extremities, and its water, loaded with effete and waste material from the system, is given up to protect the skin. If the heat is continued, all the energies of the system are aroused to bring into circulation the blood that has been stagnant and congesting the lungs or liver, or some other organ. Then all the absorbents are set to work, to take up any dropsical effusion, whether in the cellular tissue, or in the closed cavities, as the abdomen or chest, that it may be restored to the circulation and evaporated from the surface.

Then, again, by drinking pure water, the blood is replenished with wholesome material, while perspiration eliminates the water and poisonous matter from the system. Indeed, this is the most important purpose which perspiration serves. Man perspires, because perspiration, being the watery portion of the blood, carries out with it all extraneous and poisonous matter, thus remov-

ing all constitutional taint whether of scrofula, cancer, tuberculosis, or any blood disease.

The blood has to dispose of the worn out material which results from every motion of the body, or the mind. In equalizing the circulation we provide for the nutrition of the body; and the blood, while bringing fresh fibre, has in turn to remove old poison. In fact the blood, with its watery portion, is washing the whole internal man every instant of time, otherwise he returns upon himself his own pollution.

While, then, we are constantly creating the phenomena of life, we are at the same time generating the elements of death. Your own breath will kill; all that should come from you, if pent up within you, kills; it is poison, and here the Turkish bath comes to the aid of Nature, and purifies the blood more directly and thoroughly than any other means that science or ingenuity has ever before suggested. The proselytes of Mohamet believed that by the agency of the bath, barrenness was removed. With the ancient Mexicans it was used, not only by the sick, but by persons who had been stung by some poisonous reptile.

The skin, in this climate, and with our artificial life, is so much covered as to render it in a large degree inactive, and therefore a fruitful source of disease. Frequently it is in a state of partial paralysis, as is shown when entering the hot room of the bath; the face and hands feel the impression acutely and the rest of the body comparatively little. The least sensitive part of the body is that which is covered by clothing. Exposure to the light and air gives the skin more vitality, and therefore it is more active and sensitive. It is to be noted that among the intertropical peoples, where the skin was naturally kept in an active condition, the bath was used only in case of disease.

It is well known that but a comparatively small portion of the skin can become disorganized without causing death. In fact, we live through the skin. Every portion is pierced with fountains which flow with foul water so long as there are any impurities within, and with distilled water when they are expelled. Hence, the disagreeable odors that come to us as a warning. The impurities as well as the cleansing powers of man come from within. Disease and dirt are almost synonymous terms.

Thus do we have a large control over disease by means of the skin, and we can command the skin by means of heat. The skin becomes the prophylaxis of the other organs, and if there is any vitality left in the other organs, there is hope of life. The skin literally brings us in touch with the external world, and is the means of casting out the disintegrated tissues of the body, as well as the poisons produced by the operations through which life is generated during ev-

ery second of time. Therefore this is necessarily the first thing to be attended to, for if that organ is not kept in good working order, the whole body must suffer, while with it in proper condition health reigns supreme.

The practice of the bath refines the olfactory nerves, and renders them capable of noticing smells otherwise imperceptible. The healthy body is endowed with a sweet odor, described by those whose organs are sensitive enough to detect it, as resembling fresh sawed fir boards. There are odors to certain conditions of disease that are patent even to the superficial observer. Pathology, when carried to a greater perfection, will probably enable us to detect, by the nose, the existence and condition of many maladies. Herein lies a comparatively uncultivated field of diagnosis.

For the many troubles incident to childhood, the Turkish bath is a panacea. With me it has superseded all other treatment, and for carrying children through all eruptive fevers of that period, it has proved equal to every emergency. The bath has been administered to children from the time they were one month old, and on occasion daily for several months, and the result has been in every way satisfactory, notably in a case of croup. A small boy about $3\frac{1}{2}$ years old, was taken late at night with the harsh ringing cough of croup, and together with the labored breathing was in a very pitiable condition. He was taken to the hot room of the bath. At first the heat did not seem to give relief, on the contrary the symptoms apparently were aggravated. Rubbing of the arms and legs was then begun, and this was pleasant to the child. An expression of enjoyment, which was his first spoken word, encouraged perseverance. Very soon perspiration began, and then the unpleasant symptoms gradually lessened. He was kept in the hot room about an hour, until his breathing was perfectly natural and the perspiration most abundant, when he was washed off and put back to bed. He went directly to sleep; no more coughing; nor was he heard from again till after daylight the next morning. That was the last of the croup.

In the long list of diseases none seem more susceptible of relief by the hot air treatment than gout, rheumatism, and neuralgia. Gout is perhaps the least amenable, but a temperature of from 160° to 170° acts as a complete anaesthetic to the local pains of the paroxysm, and it removes also the primary cause of the gout by favoring the re-absorption of deposited urates, and their combination with oxygen, by which they cease to be injurious to the frame. Oxalic acid, a prominent product of this oxygenation, has been found in the sweat of gouty persons.

The action of the Turkish bath in rheumatism has been phenomenal, and commands the respect

and admiration of all who have investigated the subject. As this disease is indicative of an inert skin, and as the bath immediately awakens all the activities of that organ, the special poison of rheumatism is quickly eliminated and inflammation is consequently allayed. A frequent and persistent use of the bath has many times relieved what were considered intractable cases, and that which was formerly a matter of endurance for months has been reduced to weeks. The immediate relief from pain while in the hot rooms renders the treatment more than agreeable, and makes the patient desirous for its repetition, and thus the sufferer is gradually restored to his normal condition, while the freedom from continual dosing or blistering is often an object of profound gratitude. There is never any unpleasant sequela attending the Turkish bath treatment, and even when there is a tendency in the system toward the development of rheumatism, the frequent use of the bath will counteract and relieve it.

The recuperating force of the Turkish bath in neuralgia is shown by the following case. "Billy Edwards," a noted light weight, was brought to the Institution by his physician in January, 1875. He had suffered the excruciating torments of facial neuralgia, or true tic, over two months, and found no relief, though he had applied to several prominent physicians in New York City. He was given two and sometimes three baths a day, remaining under treatment ten days, when he left, entirely relieved of pain, and feeling quite well.

In the treatment of tuberculosis, the Turkish bath has proved a reliable and efficient agent. It has been shown by a series of experiments that the earlier stages of the malady are susceptible of much amelioration by the use of the hot air treatment, which comes from its power of altering the chemical and electrical conditions of the organic structures of the body, and abstracting its fluids. The importance of the functions of the skin in the pathology and treatment of phthisis is conceded by all. By eliminating poisons through its pores we restore its respiratory action, and so enable it to assist the lungs in their important functions. In the latter stages of this malady profuse sweating is one of the worst symptoms which we have to combat, but the direct action of the bath has been more strongly shown in removing night sweats than in any other symptom. At such times it is important to enlist every organ that can assist in the work. Hot air promotes the chemical changes that are constantly going on in the lungs, and stimulates the skin to its respiratory functions. The more perfectly this work is performed the greater the success in the treatment. As yet no agent has been found to do this work equally well.

Dr. Leared, one of the physicians of the London Consumptive Hospital, wrote as follows.

"Three patients affected with consumption have been for some time subjected to the Turkish bath treatment. They were all in an advanced stage of the disease, as the tuberculous deposit in the lungs was not only considerable, but had become softened or ulcerated. The general symptoms of all were greatly improved, but the most remarkable circumstance is, that in one case, the signs indicating softened tubercles have disappeared, the lung becoming comparatively dry and solid."

These patients were admitted to the hot chamber for an hour every second day, the temperature not exceeding 140°.

Sir John Fife, Senior Surgeon to the Newcastle Infirmary, says: "Great must be the value of a process which in a few minutes will secure a general diaphoresis, bring the circulation to the extremities, and equalize arterial action. It may be safe to conclude that it will be of service in every case of internal congestion, and its effects are most remarkable in obviating disorders and palliating the diseases of the liver and kidneys; for it not only distributes a more equal circulation, but allays spasm in the excretory ducts, and I am unable to point out any class of cutaneous diseases in which the Turkish bath may not prove an effectual treatment or an important auxiliary. In bronchial inflammation or laryngeal, the surface affected is instantaneously reached.

Prof. H. von Ziemssen, in his new Medical Encyclopædia, in the part devoted to kidney diseases, says: "Diaphoresis constitutes the most reliable means of reducing the dangerous dropsy. It is also the only treatment from which I feel justified in expecting a curative action on the process of disease going on in the kidneys. In this sense an efficient diaphoretic treatment fulfils not only the *indicatio symptomatice*, but actually also the *indicatio morbis*, in a better and surer manner than any other mode of treatment. In chronic parenchymatous nephritis, I have repeatedly found that as soon as I succeeded in producing a profuse sweat every day, a more abundant flow of urine set in, and the percentage of albumen became less. We must remember that in the chronic form of Bright's disease we have to deal with a much more extensive alteration, both of the vessels and tissues, and if we expect to effect a cure by diaphoresis we must set to work in a thoroughly methodical manner and carry out the treatment with obstinate pertinacity. The method most agreeable to the patient, and most effectual, is to heat the skin in dry hot air, as is done in the so-called Turkish bath."

Dr. Sheppard, in charge of Colney Hatch Insane Asylum, Eng., says, "There is an unmistakeable dread of the hot air bath as regards those who suffer from heart disease or a tendency thereto, arising from a fear of undue stimulation of the circulatory system, but it is remarkable

that the very contrary effect is produced. The bath tranquilizes and subdues."

On this point Sir John Fife adds, "In cases of heart disease the patients have undergone the process with unlooked for benefit; the extreme heat exerts less influence on the heart than the ordinary bath."

Dr. Erasmus Wilson says, "Scrofula is imperfect nutrition, cancer is imperfect nutrition, indigestion, rheumatism, gout, neuralgia, are imperfect nutrition. Give a power by which nutrition can be regulated, and you immediately control these various diseases. Now there is no power by which the proper direction of nutrition can be attained, excepting through the skin, and that I believe to be the explanation of the extraordinary results which seem to flow from the bath. The bath does no more than regulate nutrition."

In our own country, such physicians as Dr. W. A. Hammond, Dr. Austin Flint, Senior, Dr. Lewis A. Sayre, Dr. John T. Metcalf, Dr. W. H. Van Buren, Dr. George T. Elliott, Jr., Dr. F. N. Otis, and many others, have borne strong testimony to the great value of the Turkish bath in disease.

In this flood of evidence, which is not a tithe of what might be adduced, it is apparent that the Turkish bath has the effect of different medicines, in that it removes the symptoms for which they are administered; thus it is a cathartic, a diuretic, a tonic, a detersive, a narcotic, but the effect is produced only when there is cause. It will bring sleep to the patient suffering from insomnia, but will not, like opium, make the healthy man drowsy; and relieve constipation without bringing on diarrhoea to the healthy, as aloes would. It is thus a drug which administers itself according to the needs, and brings no evil consequences, working only to place the system in a natural and healthy condition.

With a full knowledge of the uses of different degrees of temperature, we have an entire command over those acute disorders which constitute nine-tenths of our maladies.

The practicing physician, with caloric as his servant, can frequently ward off and disperse an attack of disease.

To him who would be more than a mere physician, who would seek to prevent disease as well as to cure it, this subject opens a field of immense opportunity, both as regards himself, and the community in which he lives.

The signs of the times are more than ever encouraging for the future. The medical horizon is continually broadening. The constant discovery of new remedies shows dissatisfaction with the past. The more liberal of our profession are welcoming all helpers. Already preventive medicine is stepping forward in the march of progress, and among the agencies to aid in the material

welfare of our race, both in prevention and cure, the Turkish bath will take rank second to none.

We are beginning to understand the value of the sun's rays, which the Egyptians, centuries ago, symbolized by the human hand. The sun is the source of all our physical blessings, and heat its most important effect.

Certainly a beginning in the use of the Turkish bath as a remedial agent, has been made. It has passed the experimental stage, and in the not distant future, medical science will necessarily be compelled to adjust itself in harmony with the facts so readily at hand, and so easy of demonstration.

What has been uttered is prompted simply by a strong feeling that from a study of this subject mankind may derive an immense benefit, and that our profession should take the lead in the grand work.

The Turkish bath has now been before the American public for several years, and by no means has it been accepted as fully as its merits warrant, but as Lamartine said, "Time respects only that in which he has himself a part."

Dr. Thudichum, in an able monograph read before the Medical Society of London, concluded in these words, "I have now put before you what I think right, and what we should develop. A boon to mankind, your nation, and every individual in this room. Hot air, combined with cold effusions, with shampooing, with exposure of the body to light and air, await your approval as medical agents, and your application to those under your care. I hope that you will seize the opportunity, and secure for this society a share in the merit, similar to that of which Hippocrates was proud, of having introduced the bath in the treatment of disease."

NOTES ON THE TREATMENT OF SYPHILIS. ITS EVOLUTION AND PRESENT STATUS.

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The treatment of syphilis has completed a cycle, and to-day we stand upon the same ground that our medical fathers occupied nearly four hundred years ago. Familiar as they were with gonorrhoea, which even in the days of Moses was known as a "running issue out of the flesh;" familiar with the local contagious ulcers of the genitals, which had been accurately described by the most ancient medical writers of Arabia, Alexandria, Greece and Rome, they were, in 1494, amazed at the advent of a disease such as they