by a hundred applicants. And especially is this true, if our young graduate happens to be in a condition of financial anemia, as is too often the case. Alonzo Clark—the greatest physician New York has ever produced—a man who stood as the acknowledged head of the profession in the field of pathology and practice, whose consultation practice became so enormous that at last he had to refuse as many calls as he answered, spent his early years in dire poverty, haunting the hospitals, clinics and morgues of New York like a spectre—frequently lacking the means to buy a dinner—but always at work—at work—at work. “Go thou and do likewise;” go hungry if you must; dress plainly if you must; endure neglect from society if you must; but study, observe, experiment, think, write—work hard and constantly, and success is sure to come. I know; I have been through the same hard school myself, and so have some of my colleagues now here present.

The position of woman in medicine is assured. She has come to stay. The past fifty years have been years of pioneer work; all honor to the noble women who have cleared away the obstacles and opened up a great highway for you. Their work was necessary; see to it that you appreciate it at its just value, and render unto them the honor that is their due.

Meantime a new woman is being slowly evolved. For twenty-one years I have watched the evolution of the medical woman myself. Fifty years more, or three generations from Elizabeth Blackwell, will be required to complete the work. The medical woman,—the woman with the scientific cast of mind,—the hard-working, patient, self-denying, plodding student is almost here. Her representative, her *avant courier*, is here—is in this very class, in the plural number—an earnest, a promise, a prophecy of the host yet to follow. I shall not see the fruition of the promise; but, as I look back on my career as a medical teacher, now drawing to its close, I glory chiefly in the fact that I have had something to do in the work of opening the doors of medical advancement to American women.

ORIGINAL ARTICLES.

CHILDREN'S DISEASES.

Presented to the Section on State Medicine at the Forty-ninth Annual Meeting of the American Medical Association, held at Denver, Colo., June 7-10, 1898.

BY CHAS. H. SHEPARD, M.D.

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Our purpose in this paper is to enforce the efficacy of heat in the treatment of the ills of infancy and childhood, as well as to illustrate the pleasing and peculiar adaptability of the Turkish bath, which is the most perfect form of using heat in all cases of disease. What we have to say is based on experience in raising a large family, as well as some considerable practice with patients during a period of thirty-five years.

While a vast amount of disease and suffering that occur in early life is produced by errors in diet, clothing and exercise, a large portion of it comes from want of cleanliness, added to by impure air, unwholesome dwellings, etc. Lack of knowledge is responsible for many pernicious practices that lead to debility, and too frequently an untimely end. Impure air, of

whatever nature, has the most deleterious influence upon infantile life, producing a startling mortality in all our large cities, and a want of cleanliness is equally well known to be many times more injurious. Never was the old adage: “Heat is Life and Cold is Death,” more true than in the treatment of children's diseases. The simplest and most desirable form of heat is that derived from the one indispensable source of all heat—sunshine. We well know that all vigor comes from the sun, both to the animal and vegetable world; that it vitalizes the nervous system, develops the red discs of the blood, and also that it is the most powerful foe to contagion. The International College of Physicians which lately met in Italy declared sunlight to be the most practical of all antiseptics. A sun bath is the only remedy needed in some cases. Like the action of the sun's rays—gentle, yet all-powerful in quickening life—so does heat, in its proper administration, renew and vivify every function of the body, while at the same time it is so simple and available that none need suffer for the want of it.

Whenever cleanliness with infants is neglected, disgusting, painful and obstinate cutaneous eruptions are likely to occur, or the foundation may be laid for derangement of function, or serious disease of some internal organ. At no period of life is injury more liable to be produced, for at such time the vital resistance is at a low ebb, therefore repeated ablutions of the surface are most important. Again, the skin and the mucous membrane of the digestive canal and of the respiratory organs in an infant, are the principal surfaces upon which morbid impressions are received, consequently they are those in which disease usually first shows itself and the exhalent function of the skin is extremely active, while calorification is feeble. We are also to recollect that very frequently the cerebral symptoms which occur during infancy and childhood are altogether independent of disease of the brain or spinal marrow, being due solely to functional disturbance of the nervous centers, the result of reflex irritation. At this period, when the functions of life are confined to nutrition and development, it is important that we obtain the most favorable conditions for children, not alone to promote their normal growth and activity, but also to prevent any predisposition to particular forms of morbid action, as well as to give strength to overcome whatever prevailing disorder to which they may at times be exposed, whether it may be sympathetic irritation or the ordinary crises through which they usually pass.

In the treatment of children, much more than with the adult, is the cheerful and what may be called the hypnotic influence to be exhibited. Many times the dread of a disease is worse than the disease itself. A cheerful and relying faith in the efficacy of the treatment to be administered is of the greatest value. When the ablest physicians confess to a feeling of helplessness, it is time to give Nature an opportunity to recover herself, and instead of initiating measures that make a draft upon the vital powers, the part of wisdom is to remove, in the gentlest manner possible, all obstructions to the harmonious working of the functions, and encourage every effort the system is making to throw off morbid conditions.

Most of us believe that the death of young children is not a necessary or inevitable result of any disease from which they are suffering, but rather that it is an accident that may often be foreseen by any one who will cultivate the habit of minute observation. Many

an infant life has been saved or sacrificed by the observance or the neglect of things which are too apt to be lost sight of as utterly beneath the dignity of science. When we stop to consider how much benefit is to be derived from the simple use of heat, whether it be the internal use of hot water or the external use of hot compresses, or the primitive forms of a hot bath, it may reasonably be supposed that the scientific application of heat in the form of hot air, familiarly known as the Turkish bath, would be productive of a more uniform and certain result, and this has proved to be the case, to the surprise and delight of many an anxious parent.

To illustrate the action of the Turkish bath in infantile diseases, the following cases are related:

A male child, about six weeks old, was so nearly starved by the ignorant management of his nurse, that a complete case of marasmus was developed. The most important part of the child's treatment, after inaugurating a new régime, was a daily Turkish bath, supplemented by a gentle oil rubbing, which was continued for the succeeding twelve months. He was taken into the hot room and placed on his back, on a bench covered with several thicknesses of blanket, there he would lie and play with his toes and sweat freely, then he would be taken to the shampooing room and gently rubbed with soap and warm water, then a delicate spray of warm water would wash him off, after which he would be wrapped in a sheet and blanket and invariably drop off to sleep. All these processes gave him delight, and his improvement dated almost from the commencement of this course. He is now over 21 years of age, and an active member of the National Guard.

Another case was that of a boy 3½ years old, who was taken late at night with the harsh ringing cough of croup, together with labored breathing. He was carried to the hot room of the Turkish bath. At first the heat did not seem to give relief; on the contrary, the symptoms were apparently aggravated. Hand rubbing of the arms and legs was then begun, which 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 vanished. He was kept in the hot room about an hour, until his breathing was perfectly normal and the perspiration most abundant, when he was washed off and put back to bed. He went directly to sleep, had no more coughing, nor was he heard from again until after daylight the next morning. That was the last of the croup.

Another case was that of a male child stricken with infantile paralysis, as a sequelæ from an attack of eruptive fever. Both the lower limbs seemed deprived of the power of motion. The entire treatment consisted of a daily Turkish bath, followed by oil rubbing, and the result was that in a few weeks his activity was regained and his restoration was complete. Today he is a stalwart man, over six feet in height.

The internal administration of hot water and the use of the Turkish bath in diarrhea and even dysentery, has proved most salutary, both with children and adults. The use of hot water in the hands of Dr. Elmer Lee, during the last cholera plague in Hamburg, was crowned with the best results. The first stage of cholera is at once arrested by a Turkish bath. Children liable to colds and catarrhal processes in general are rendered less susceptible by the bath, and it is also a valuable tonic to the vascular and nervous system, from the agreeable impression made on the peripheral nerves. In all fevers and inflammations the Turkish bath has proved a highly important therapeutic measure. Its antipyretic effect is enhanced by the rapidity with which morbid material is eliminated from the body, and thus the cause of the fever is removed. This also includes such cases as those of erysipelas, measles, scarlet fever, together with pneumonia and malaria.

The Turkish bath has produced the most happy results in all cases of rheumatism in children, whether from hereditary predisposition, which is well known to have a remarkable influence, or as a resultant of

septic poisoning from other disease, such as scarlatina. While rheumatism may be developed from a chill, yet it would not appear except from a lowered tone of the system, produced by exhaustion from some excess. Even excess of food may bring about such a result. The most reasonable theory in regard to the method in which chill acts in producing rheumatism is that the chill disturbs the nervous system, and nutrition is disturbed thereby, and that the lactic acid, or some other acid of an irritant character, is retained and acts as a poison, which produces the phenomena of acute rheumatism. While chronic rheumatism is rare in children, it is acknowledged by many of the best authorities that the means productive of the most good are hot baths.

Rheumatism in children is often followed by a large class of ailments, some of which result in veritable heart disease. All of these may be avoided or aborted by an early resort to the use of the hot air baths. Instead of being followed by an embarrassed and weakened heart, the purification of the blood renders the circulation perfect and the heart's action stronger.

Many of the drugs advocated for the treatment of rheumatism have been found useless, and some harmful and even dangerous. The fact that they are heart depressants of dangerous power negatives their use, especially with children. The use of anodynes can not be too strongly deprecated. Their action is simply to benumb or deaden nerve action, whereas the patient, at such times more than ever, needs the full integrity of the entire nervous system. Then it is that nature seems to loathe everything in the way of alimentation, plainly indicating that the digestive apparatus is in no condition for the work of appropriation. If the food is not relished or retained, it should be taken as a loud and natural protest against its being forced upon the patient. To force food then is like adding insult to injury. A copious use of hot water at such times gives wonderful relief in mitigating pain and aids materially in washing out poison from the system.

Heat, in the treatment of the diseases of infancy and childhood, is an agent so universally applicable and so readily at hand, from the tenement to the villa, that it deserves to be placed at the head of the physician's armamentarium. Among the readiest means of applying heat, where the Turkish bath is not available, is the hot compress, a simple device composed of four or more thicknesses of flannel wrung out of water as hot as can be borne. This may be placed next the body, covered by a dry one of the same material and thickness, but made a little larger—the size to depend upon the object to be attained and the age of the patient to be operated upon. One large enough to cover the entire front of the body, from the neck to the pubis, has been known to bring about a profound change in many a little sufferer, who could not tell what was the matter with him, and it has to all appearances saved the lives of many who were suffering from scarlet fever and other eruptive diseases. Cold water will dissolve most substances, but its power is greatly increased by using it at the temperature of the body, and it will dissolve most waste material that may collect in the intestinal tract and remove it by the various methods which the body possesses for getting rid of waste products. The waste substances, if not actually poisonous, are at least mechanically injurious to the body. They can either be got rid of, or allowed to get fixed in the

body, with resulting pains and headache. A sufficient supply of boiled water, drunk at the body's temperature, will remove many a source of danger. The internal use of hot water is invaluable to the infant suffering with colic, as well as to the adult suffering with sick headache. Another convenient and ever-ready form of applying heat to suffering children is by means of a hot sitz-bath, for which a common washtub may be utilized, providing that the water is as near 110 degrees as may be. Should the patient be too nervous to be introduced at that heat, it may be made several degrees cooler at first and gradually increased until the desired temperature is attained. To utilize as much of the heat as possible, a sheet should be first placed over the child and tub, followed by one or two blankets, reserving the head for the free access of air and an occasional sip of cold water. When the perspiration begins to show itself freely on the face, a successful result may be predicated. It is well to finish by washing off with cool or cold water, in order to tone up the skin and prevent what is called "taking cold" afterward. This device is capable of being utilized in an infinite variety of conditions, and when in intelligent hands has never been known to do harm, but on the contrary has brought about beneficial results in thousands of cases. With the addition of a foot-bath of the same temperature this same arrangement has produced wonderful results in children of much larger growth. W. H. Wooster, of Australia, relates the following:

A little girl about 4 years of age was bitten on the foot by a poisonous black snake. Symptoms of poisoning quickly followed, such as swelling, coldness and stiffness, the lips as thick as one's thumb, and the hollows on each side of the nose filled up level, and of a steel-blue and sea-green color. The arms, lower limbs and body were becoming blotched with irregular raised parts. The pulse became exceedingly feeble. I hesitated, as no physician was nearer than eight miles, but concluded to try the "hydropathic sweating pack," to produce perspiration. The child was placed in a tub of hot water, and blankets thrown over her, leaving the head out. This was followed by a hot wet sheet and wrapping in two blankets, closely tucked in. The heart action had almost ceased. In fifteen minutes an improvement was apparent. The dark rings around the eyes became less marked, the blue green tints less ghastly. She became conscious. In an hour she was taken out of the pack. The swelling, blotches, stiffness, had disappeared, and the patient was washed off with cold water, rubbed, and next morning she was at the breakfast table.

What is called a corn sweat has been utilized in some sections of the country. This consists of a number of ears of freshly boiled green corn, with the husks on, wrapped in cloths and placed around the body of the invalid and then the patient covered with blankets. The heat and steam from the hot corn soon brings on a profuse sweat and has relieved many cases of congestion. To give a lime sweat, take a piece of quicklime half the size of the fist and rub it over a bed-sheet well dampened, but not so wet that water will drip from it; wrap this sheet in a dry one and fold it several doubles; place two bundles prepared in this way, one on each side of the patient, in his bed; an abundant steam will come from the damp sheets and the lime, which will keep warm for over an hour; by that time the lime is reduced to a powder and can easily be removed from the sheets without injuring them. In using this method it is not necessary to give the patient warm drinks, nor to overload the bed with blankets. A balsam sweat can be given by placing a few branches of balsam in a pail of hot water and then placing in the water one or two hot flat irons—hot stones would answer the pur-

pose—to create a plentiful supply of hot steam. This is to be placed under a chair in which the patient is seated and covered with a sheet first, followed by two or more blankets to retain the heat and moisture. Twenty minutes of this bath, though sometimes it has been used much longer, has proved most effectual to secure a thorough sweat, and the empyreumatic oil from the balsams contributes to the pleasantness if not the utility of the bath.

Where there is a bathtub in the house a very good sweat can be produced by running into the tub about two inches of water as hot as can be comfortably borne. Let the patient sit in this and lave the hot water over his body, at the same time allowing hotter water to flow into the tub, continuing the process until a profuse perspiration is established, then pull out the plug to allow the hot water to run off and turn on the cold water to wash off the body and secure a good reaction. An alcohol sweat has been successfully used by many mothers. It consists of an alcohol lamp placed under a pan of warm water, with the child seated on a cane-bottomed chair, and then all but the head covered with blankets. This is an effectual manner of breaking up a cold. A sulphur bath consists of a box arrangement wherein the patient can sit with the head out. The attendant burns a sufficient amount of sulphur in the lower and rear part of this box. This produces a profuse sweat in a short time, and has been used with great success in cases of rheumatism. It is a sure cure for the itch. The makers of portable Turkish baths are advertising very freely in the papers, arrangements costing from five dollars up that are capable of doing very effective work and will be found useful in many places.

All the aforementioned are but rude and primitive efforts to accomplish what is so easily, promptly, and thoroughly brought about by that most complete of all baths—the Turkish bath. The great beauty and utility of the use of this bath in the treatment of children's diseases consists in the ability to quickly abort what would otherwise prove a serious disturbance. Many such difficulties begin with what is called a cold, which is otherwise a condition of repletion. The Turkish bath, by its eliminating power, breaks up this condition and quickly relieves the pressure. Resort to the bath in such cases constantly tends to the better growth and development of the child. We know that every period of sickness through which a child passes, interferes with its growth and development, and sometimes leaves deformities in its track. For this reason the Turkish bath is to be considered one of the best friends of childhood. The pleasure with which its processes are enjoyed is a most marked contrast to that of the ordinary treatment. The delightful feeling of being more thoroughly clean than is possible under any other process is most satisfactory and enduring. It is also invaluable in all infectious diseases, as heat destroys the germs, and renders the soil barren, thus producing unfavorable conditions for any disease to progress.

The readiness with which the Turkish bath can be accommodated to the necessities of any case, renders it most admirably adapted for such work. It promotes the natural action of all the functions of the body, bringing to every organ its equal and appropriate nutriment. It thus aids the development of all the functions which may be deficient in activity, and secures a harmonious working of the forces through which physical life is perfected and enjoyed. Thereby

we have a better opportunity to attain the full measure of social, intellectual and spiritual life. Those who desire for their children the greatest physical good—and what parent does not?—should provide for them the privilege of at least one Turkish bath every week. No one thing would tend more to promote their growth and development. All who would hasten on the good time, and honor themselves, can scarce find a better field of work than that of popularizing these baths, for unless all signs fail, they will yet prove one of the greatest blessings to mankind. In order that their complete benefits may be realized, there should be large public Turkish baths established by the people, that would be readily available to every child in the land, as well as to the parents. Every city or town securing for itself this grand privilege, would find itself many times remunerated in lessened taxes for the sustenance of its paupers and criminal classes, better health and a longer term of life for its children, as well as in the general refinement of its people.

81 Columbia Heights.

CONTROL OF DIPHTHERIA.

Presented to the Section on State Medicine at the Forty-ninth Annual Meeting of the American Medical Association, held at Denver, Colo., June 7-10, 1898.

BY W. K. JAKES, M.D.

CHICAGO.

The knowledge which careful investigation has given the medical world has placed within our hands the means of controlling diphtheria—the most fatal disease of childhood—as it has never been controlled before. Just in proportion as this knowledge is made available when needed, will be the success with which the disease may be held in check. In the past, diphtheria has been in the hands of the family physician, the health official taking little or no part in the treatment, except to warn the public by a placard and insist upon isolation. But our present knowledge of the disease demands a greater participation than heretofore by municipal as well as State officials.

Diphtheria is influenced by every factor that affects the physiologic resistance of the human system. History shows that in every large city, in periods varying from seven to ten years, the disease becomes epidemic, probably due to racial and climatic conditions which cause an increased predisposition, as well as favorable conditions for the virulence and spread of germs. During the summer, or the seasons of least susceptibility, the Klebs-Löffler bacilli are preserved in dark tenement and basement houses, and other favorable places where sunlight can not destroy them. During seasons of increased predisposition, they spread from one susceptible individual to another. The Klebs-Löffler bacilli, inoculated on the mucous membrane, grow with a rapidity proportionate to the susceptibility of the individual. The bacilli, in their growth, produce a ptomain, very destructive in its nature, which causes necrosis at the point of invasion, and a general cell-destruction, corresponding to the degree of virulence and cell-resistance.

The symptoms caused by the invasion of the Klebs-Löffler bacillus are simulated by several other germs, with which it is often associated. When this is the case, the symptoms of the Klebs-Löffler bacillus may be so obscured by those of the associate germs, that its presence can not be discovered in the early stages except by the microscope. Mucus taken from the site of the invasion contains the germs exciting the

inflammation, and they may be clearly identified through the microscope, after a few hours' cultivation, before the production of membrane or other clinical evidence of diphtheria.

Antitoxin is a specific in the early stages of the invasion of the Klebs-Löffler bacilli, and the mortality increases in direct ratio as the diagnosis and administration of the serum are delayed. Then the first necessity in the control of diphtheria is an early bacteriologic diagnosis; the next, the proper use of antitoxin. Here begins the responsibility of the family physician, and upon his conduct rests the subsequent results. He must first appreciate the danger that lurks in a simple sore throat, and realize that bacteriologic as well as clinical evidence is necessary for an accurate diagnosis. Laboratory work of any extended nature is seldom possible for the general practitioner, because of the necessary time and equipment; hence this work should be supplied by those whose interests are most involved, and who are best prepared to do it. These are the officials of the health department, who are the guardians of the public welfare, and whose duty it is to help suppress anything which threatens the health of the body politic. Any contagious disease which manifests itself in the form of an epidemic is directly within the jurisdiction of municipal health officers, not for individual treatment, unless it is clearly beyond the scope of the physician, but for the provision of such measures as will enable the physician to best control the disease.

A remedy is only a remedy when applied to the particular disease it is adapted to cure. Antitoxin is a by-product of the Klebs-Löffler bacilli, and is just what its name implies—a remedy against or opposed to the toxin produced by these bacilli. Having been made possible by the revelations of the microscope, it should be applied as scientifically as it was discovered. Following the first reluctance to use antitoxin at all, has come the tendency among some physicians to administer it indiscriminately in any and all cases of sore throat. This is not as serious in its consequences as the total omission of the remedy, for one is likely, by chance, to cure a case of real diphtheria; but it is unscientific and renders unreliable the record of its results. Given a remedy and its specific action, based upon a certain condition, and the means of discovering that condition, and the physician of today is master of a disease which for centuries has been an unconquered foe of the race.

It may be questioned as to whether or not municipal or State authorities have the right to demand certain treatment of a disease from physicians whom they have licensed to practice, after having been convinced of their ability to do so. But the majority of physicians now practicing received their medical training before the existence of much of the knowledge upon which our present experience is based. It is not pleasant to admit that some doctors who boast an experience of a quarter of a century, or even a decade, are prone to prefer this experience to "new-fangled" theories. Nothing makes a physician feel so helpless as a consultation with an old physician, who declines antitoxin with the remark that he has used iron and sulphur, and similar remedies, for thirty years, and never lost but one or two cases of diphtheria. There is no argument which will convince such a man that some of the cases may not have been diphtheria. He knows it when he sees it, though he