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ADDRESS

IN DISEASES OF CHILDREN.

*Delivered at the Thirty-Seventh Annual Meeting of
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CHAIRMAN OF THE SECTION OF DISEASES OF CHILDREN.

MR. PRESIDENT AND GENTLEMEN:—In obedience to a time-honored custom, and in accordance with a by-law of this Association, I appear before you as Chairman of the Section on Diseases of Children, to note the advances and discoveries of the past year, which, like those in all other branches of scientific investigation, move slowly but steadily forwards; each investigator adding his mite to what was known before. We are here to-day, in this growing and prosperous city, from the North, East, South and West, as guardians of the health and lives of the people. We are assembled together for the purpose of uniting in an honest, earnest endeavor to utilize the knowledge which the advances of the recent past have shed upon the problem of life. We live in an age of progress, characterized by the most effective effort that has ever been put forth to place a proper estimate upon the value of life, to increase its duration, and to elevate humanity to the highest standard of physical, mental and moral grandeur.

The Section on Diseases of Children embraces the largest and most important field connected with the workings of the Association, and should enlist the most earnest attention of every member of the profession. I trust, therefore, that it will not be in vain that I bespeak your indulgence while I enter a plea for the fuller recognition of this branch of our work, and beg your coöperation in the endeavor to secure a safer passage across the tempestuous sea from infancy to childhood, and from childhood to adolescence.

The last year has not been fruitful in advances sufficiently tangible to admit of specification, and yet, perhaps no single year from the foundation of medicine to the present has been so rich in fruitage; so far-reaching in its influence upon both the profession and the laity. No year's work has so indelibly impressed the mind of the profession on the importance of results accomplished—not in this nor that particular branch of medical science, but upon the better and more definite understanding of the great principles underlying the whole superstructure of scientific medicine.

I shall endeavor to bring prominently before the mind of the profession the vast importance of this department, not only to that portion of the human family to be directly benefited by future advances and discoveries, but likewise to point out and emphasize the fact that in the great mortality of children society, the State, the Nation; yea, the world, are all much more largely interested in lessening this fearful mortality, than those who perish in infancy, for they are perhaps the gainers. I need not stop to discuss the fact that the diseases of children have been most sadly, if, indeed, not most culpably neglected, from the earliest records of medicine to the present time, for this is patent to every open eyed physician. There is not a single branch of medicine; nor, indeed, of any of the collateral sciences, which has not, from time to time, been made the subject of more special thought, scientific research, observation and experiment, than have the diseases of children.

It is true that every advance or discovery in scientific medicine has reflected progress on pediatrics, which has been indirectly benefited by the outcome of these improvements. The pages of history are full of instruction in the matter before us. Take, for example, the operation of ovariectomy, which has added in the aggregate so vastly to the span of human existence. Take the last twenty years of its history, so full of incident and interest, and link it with the lives of those most prominently identified with it, and it seems as if destiny herself, in her onward sweep has borne them through evolutions of thought, of science, of human effort and achievement, with a restless and unpausing zeal that has constantly led them forward, from one brilliant success to another, until the advance of abdominal surgery, like the sun at noonday, casts its effulgence from pole to pole and from centre to circumference. The outcome of this important operation has so captivated the minds of the more enterprising and ambitious aspirants for fame and fortune, that pediatrics has, for the time being, been thrown completely in the background.

Our profession, crowned with the marvelous achievements of the past, now looks, with a wistful eye, for investigators worthy of the past and prophetic of the future, as laborers in the field of pediatrics—men who possess the largest combination of successful elements, who are ordained by nature to lead into unexplored regions and dominate new fields of thought which will enable them to solve the problem now pressing for solution, viz.: to lessen this fearful mortality of infantile life. The cradle and the couch can

learn nothing of themselves; therefore we, who have copiously gathered from the experience of the past, must contribute to the advance of the future. When we consider that from one-fourth to one-third of the human family die under five years of age, the victims of disease, it seems truly that their lives are but as the sands upon the shore; their voices are but the evening zephyr, that dallies with the leaf for a moment, and passes away forever.

" 'Tis the wink of an eye, the draught of a breath,
From the blossom of health to the paleness of death."

It may be that it was the original purpose of the divine Creator to remove from earth to heaven this large proportion of the human family before they reach the age of responsibility. It may be there is a divine graciousness, an appropriateness, a grandeur, in the circumstance of the death of so many of our race during childhood. However this may be, we who have chosen for our lifework the amelioration of human suffering, cannot accept this dogma, for it neither satisfies the longings of nature nor the demands of the world. We must dive deeper into the mysteries of scientific medicine and prepare to grapple with that dread destroyer that claims so many of earth's little ones. Children typify the kingdom of heaven. They are the embodiment of all that is Godlike in man and beautiful in creation—the mystic link of holiness which unites man with the angels. What language can depict the anguish of a mother, as she lingers over the couch of a stricken child, and earnestly entreates the doctor to rescue her treasure from the ravages of death? Bright hopes and fond anticipations surround the cradle at early morn, the shadows of death gather over it at noon, and in the evening its occupant is a withered flower; the rosy cheek has changed to marble whiteness, "the silver cord is loosed, the golden bowl is broken, and the spirit returns to the God who gave it."

Every meeting of this Association brings us nearer the ark of safety found in preventive medicine, which is now extending its influence over every part of the civilized world, and is based upon the theory which was enunciated by Leeuwenhoek in 1662. He discovered that the active principle in the process of fermentation depended upon a living organism; from which he concluded that the *contagium vivum* of all zymotic diseases must also reside in a vegetable parasite. Like discoveries in every other department of scientific investigation (notwithstanding every medical publicist since his time has had some opinion to express upon it), this theory was slow to secure that recognition to which its merits entitled it, being repeatedly forgotten and again revived until it was finally established that there are three distinct forms of parasitic life, viz.: vegetable, animal, and those that lie between the two. The vegetable form are of the nature of algæ or fungi, and are found in air, water, food and soil of all countries and climes. They are found on the highest mountains and in the lowest dells, riding upon the dust, the motes and the insects that float in the sunbeams.

From the day of Leeuwenhoek to the present, the great effort of scientists has been to establish the causative relation of these organisms to the diseases

in which they are found. This achievement was reserved for the present generation. The labors of Pasteur, Koch, Klein and other famous scientists, by the revelations of the microscope, have established the causative relation of micro-organisms to the infectious diseases of insects, plants, and animals, man included. Pasteur, pushing his investigations still further, has established beyond dispute the fact that the microbes found in the various tissues of the body, in certain infectious diseases of animals, can be carried through a series of culture, until they are completely dissociated from the individual tissue in which they were originally found, and the primary disease reproduced by inoculation. The microbes which have been produced by this system of cultivation have been proven, under the microscope, to be identical with those found in the tissues of the body both before and after culture; thus proving, beyond question, the causative relation of these organisms to the diseases in which they occur.

These experiments have been made over and over again, with uniform results, in chicken cholera, murrain, splenic fever, etc. The rapidly accumulating evidence in favor of the theory rests upon the experimental researches above referred to, and the great avidity with which the medical mind has seized upon these disclosures is, to me, one of the most hopeful signs of advancement. If the germ theory be correct, each of the specific diseases has for its origin a specific parasite, capable of producing the disease in individuals not already protected by a previous attack, vaccination, inoculation or idiosyncrasy. Whenever the conditions requisite to the development of the specific germ of any of the zymotic diseases are fulfilled, whether these conditions depend upon telluric, atmospheric, or some other influence, they must exist. Once in force, the action of the specific poison takes effect on those individuals whose resisting power, either from enfeebled development or disease, is least. In severe epidemics, these influences grow more powerful from day to day, until those whose resisting power is least succumb to the disease. The crowning glory of medicine in the nineteenth century is the effort to perfect the system of sanitary science and to improve the physical and intellectual powers of man. To this end the public health associations, the innumerable county, city and State Boards of Health, as well as the best scientific ability both in and out of the profession, in all parts of the world, are lending their most earnest and zealous efforts.

As a result of these efforts, we find the annual report recently issued by Dr. William Ogle, of the Statistical Department of England, shows a decided diminution, in the last ten years, in the mortality due to the various zymotic diseases. The report shows conclusively that the decline is due to the diminished mortality among children of tender age. It appears from the following extracts that the annual deaths from scarlet fever have fallen from 972 to 716 per million; those from diphtheria from 185 to 121; those from bowel affections from 1,076 to 935. This is really a very satisfactory showing, when we consider how slow the vast majority of mankind (professional and unprofessional) are to accept any new dogma.

The report contains much valuable information, but as our paper is only to show that the diseases of children which are attended with the greatest fatality are being brought under such sanitary conditions as tend to lessen the mortality, we will follow it no further.

If we accept the estimate of statisticians of the actual cash value of each male and female who live to attain adolescence at one thousand dollars, then add to this financial value the intellectual worth of hundreds of thousands of children who perish annually from infectious diseases—that are in the main preventable—we have but a faint conception of the vast loss the world sustains by this fearful mortality.

In view of all this, humanity is ready to bow at the footstool of science, and beg that the ratio between those who live and those who die at the tender age be diminished, and that they have thrown around them the protecting care of hygienic medicine. The progress of science in none of its departments has ever reached the highest degree of perfection by steady, monotonous and gradual advancement. For long it has appeared to be so, until some fortunate individual, endowed with rare genius, utilizing the knowledge gained from all sources, has evolved from the womb of time some hidden truth which in a brief period has effected more than years of patient toil, and marked his epoch as an era, sending his name across the empyrean of thought like a meteor flashing across the heavens, winning for science incalculable benefits, and for himself glory and renown.

ORIGINAL ARTICLES.

ON THE TREATMENT OF DIPHTHERIA.¹

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This paper is on the treatment of diphtheria. It is brief, for in this presence it would be inopportune to specify in minute detail all that would be required for the tyro. Nor shall your time be taxed by the recital of cases.

A summary of the treatment of diphtheria would hardly be intelligible without first defining in some particulars the nature of the disease. This will involve the question: Is diphtheria a local disease? If this disease consist essentially in the redness, swelling and soreness of the mucous membrane of some part of the throat, followed by the exudation and formation of a pseudo-membrane upon that part, then topical applications will constitute the rational and efficient mode of treatment.

The fascinations of science are liable to bias the mind and lead the judgment astray; as, for instance, the mycologist finds certain organisms—the bacterium termo and bacilli—in the pseudo-membrane in the throat; he observes further that these microbes multiply with great rapidity, and with the exudate

constitute the pathognomonic membrane of diphtheria. Moreover, he may trace these micro-organisms, as they penetrate into the tissues, enter the blood-vessels and lymphatics, and through these channels, he assumes the general system and distant organs become affected. If this be true, and the only mode of attack, then the doctrine that the constitutional symptoms are secondary, and arise from the migration of germs from their nidus in some part of the faucial membrane, must be accepted. Again, because the local symptoms are sometimes severe while the general symptoms are mild, it is held that diphtheria is a local disease.

Diphtheria a general disease.

1. It is characterized by a period of incubation.
2. The general symptoms appear before the local.
3. The introduction of the germs by inoculation upon a distant part of the surface is followed by the appearance of the false membrane upon the faucial mucous membrane.

4. The membrane may form, under favorable conditions, upon various parts of the body.

These assumed facts would seem to be valid reasons for the belief that the throat affection is a local manifestation of a general disease.

Diphtheria is not croup.

1. Diphtheria is infectious.
1. Croup is not.
2. Diphtheria is a general disease.
2. Croup is local.
3. Diphtheria is an epidemic asthenic disease.
3. Croup is a sthenic local inflammation.
4. Diphtheria may be followed by paralysis.
4. Croup not.
5. Diphtheria may be complicated by albuminuria.
5. Croup not.

6. The diphtheritic membrane involves the subjacent tissues.
6. In croup the exudate becomes a solidifying membrane upon the mucous surface.

In the management of diphtheria it is of the first importance to recognize the infectious nature of the disease. For the protection, therefore, of the healthy, isolate the sick. The room assigned to the affected should contain only the simplest articles of furniture. Carpets, curtains and upholstered furniture should be removed. The atmosphere of the apartment should be kept at a uniform temperature of about 72°, and good ventilation should be secured without exposing the patient to draughts of air.

After the termination of the case, the thorough disinfection of the room, bedding and furniture should never be neglected, and the same may be affirmed of the clothing and persons of the attendants, and of the convalescing patient, as well.

The indications of treatment may be formulated as follows:

1. Destroy the septic germs in the blood.
2. Eliminate effete material from the system.
3. Prevent the formation of, or remove the pseudo-membrane.
4. Control pain and restlessness.
5. Sustain the strength of the patient.
6. Prevent the sequelæ.
7. Perform tracheotomy (?) or intubation.

The asthenic nature of the disease should be borne

¹ Read in the Section on Diseases of Children, at the Thirty-Seventh Annual Meeting of the American Medical Association.