DIXON (Saml G.)

Address on Hygiene.

DELIVERED BY

PROF. SAMUEL G. DIXON, M. D.,

AT THE

Meeting of the State Medical Society,

WILLIAMSPORT, PA.

ERRATA.

Page 3, Line 20, omit "to be."
" 4, " 33, for "death" read "deaths."
" 9, " 19, for "tonsilitus" read "tonsilitis."
" 12, " 20, for "immortality" read "immorality.
" 13, " 6, omit "even."
" 13, last line for "action" read "attacks."
" 16, line 17, after "legislators" insert "would be" and omit "one."

ADDRESS ON HYGIENE.

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[*At the meeting of the State Medical Society, Williamsport, Pa.*]

It certainly gives me much pleasure to be with you on this occasion. I should, however, have enjoyed the visit more had I been present simply as a listener and not as a speaker.

A few days ago when I came to reflect upon the subject selected by our able president as the one upon which I was to address you, I was not a little perplexed. For me to presume to teach a learned body of medical doctors, such as have here congregated, regarding the most important branch of medical education, would be unpardonable. I can, therefore, only hope by chance to refresh your memories upon a few points in sanitary science. As a teacher of medical students, I have seen fit to divide the subject into *Personal, General* and *Public Hygiene.*

Including under *Personal Hygiene:*—Inheritance; hygiene of various periods of life; prevention of mental, moral and emotional diseases; prevention of sexual diseases; hygiene of clothing; hygiene of occupation, etc.

Under *General Hygiene:*—Hygiene of foods: Practical dietetics; food adulterations, food decompositions; accessory foods, etc, stimulants and narcotics, (intemperance).

Hygiene of water: Water supply; potable water; balneology.

Hygiene of dwellings: Air; lighting; heating and ventilation; plumbing; drainage and sewerage.

Location and soil: Ground air; ground water; soil pollution.

Climatology; medical meterology; animal parasites, (examination of meats, etc.); vegetable parasites, (bacteria).

Public Hygiene:—Infectious diseases; school hygiene; quarantine – means of combating disease; disinfection; hygiene of hospitals, prisons, etc.; vital statistics; legislation of public measures; vaccination, etc.; disposal of the dead.

This scheme may appear too comprehensive for a student of medicine under our present short graded courses of three years, yet, as it is not in the least too general, I would be pleased to see

it introduced into the curriculum of every medical teaching institution of our Keystone State, and at the same time to have its standard well protected by a learned State Board of Medical Examiners. However much I may advocate this standard in our medical schools, I can assure you that my address to you will be exceedingly short. I will not presume to air my own erudition in a comprehensive lecture on sanitary medicine, as I feel sure it would be at the expense of others who are here, I have no doubt, to teach us that which has not heretofore been known to the medical profession. To avoid inflicting tediousness upon you, my fellow members of the State Medical Society of Pennsylvania, and for brevity's sake, I will merely attempt to refresh your memories upon a sub-division of my comprehensive scheme of preventive medicine, which will be *Air*. In considering the importance of this element to sanitary science, we must recognize that man's surroundings are and ever will be impregnated with minute life which will, when brought in relationship with a favorable nidus, at least direct either functional or comparatively harmless pathological conditions into maladies which nature may neither exist under or overcome. Again it would appear, so far as we can determine from artificial experimentation, that this micro-organic life can *per sé* when introduced into healthy tissues disturb the normal affinities of the animal economy. This being admitted, we must accept the situation and prepare ourselves for war with this minute life by first building up healthy, vigorous tissues, for, the instant we permit them to drift from a normal condition, they at once offer a nidus where pathogenic organisms may feed, grow, reproduce and form toxic substances which will so disturb the higher animal organic life as to cause dissolution. To grow tissues sufficiently vigorous to destroy these germs of disease as they enter the body under ordinary circumstances, we will be compelled to call to our assistance each and every hygienic measure known to man. We must enforce proper mental and moral training, suitable clothing, occupation, diet, bathing, sanitary dwellings, urban parks, proper food, vaccination, and above any other one element, *pure air*. However, as I have already stated that I do not intend taking advantage of the privilege granted me by this society, I must and will confine myself to the

factor that above all others takes a high position in governing health and disease, and at the same time the one most frequently lost sight of by both layman and physician. The high place I give air as a sanitary factor may be severely criticised, for I do not know of any means by which we can measure the influence of isolated factors in favor of and antagonistic to the health of animal life. I will, however, for my purpose on this occasion, venture to place air on a high plane, as our whole vital process is dependent upon this element. To appreciate the importance of this, the chief factor of organic existence in relation to both health and disease, we must ever keep before us, in at least a superficial way, the physiological processes dependent upon this mechanical mixture. Animal life demands air through the organs of respiration and transpiration, from the very moment it obtains an independent existence, until the last act of life is performed. Parkes very truly states that starvation is a matter of days without solids, hours without liquids, but of minutes without air. We must ever bear in mind, that the air a strong man takes into his lungs supplies oxygen to 443,520 ounces of blood every twenty-four hours, providing the mechanical mixture is to be made up of 20.96 per cent. of oxygen, 79 per cent. nitrogen and .04 per cent. carbon dioxide. To obtain a full supply of oxygen for the tissues through the red blood corpuscles, *all* the physiological functions of respiration must be in health, for this reason we cannot entirely overcome inherited inconsistencies. If there is any reduction in the required amount of this important constituent of the atmosphere, just to that degree of loss do the animal functions of the body become impaired and the moment there is an entire cessation of the supply of oxygen, life immediately goes out. It would seem that the nervous system first feels its loss, then the heart, the brain and the digestive system, etc., all become sluggish in their respective functions, the results of which are reflected upon every cell and fluid in the animal body. Physiological combustion is interfered with, and consequently the required chemical changes necessary for health do not take place. The blood is loaded with debris, and is thereby rendered unable to take up the waste of the tissues, but leaves it as foreign matter to undergo chemical changes and form poisons.

Consumption of the lungs is always to be found in great excess, both in man and the lower animals, who live in such environments as compel the breathing of devitalized air, producing sluggishness of physiological action. It is under this condition that the digestive secretions are impaired, and the general physiological combustion reduced so that the body becomes a habitat for germs called pathological micro-organisms, and they, with their respective methods of digestive processes, effect a breaking up of the already weakened affinity of the molecules forming the cells and tissues, and in some way or other, these organic chemical substances are toxic to animal life. The powerful effect of repeated infinitesimal quantities of these poisons, which are often albumoses, is beyond our present knowledge, yet, we have good reason to believe that they cause many chronic changes that insidiously creep upon us, while large doses of them cause death almost immediately. For instance, the subcutaneous injection of blood taken from an animal with uræmia produces uræmia in the recipient, or in the prevention of their elimination through the excretory organs will also produce the same result. Gautier, and many others, have thoroughly demonstrated that animal tissues in process of putrefaction and decomposition, invariably elaborate certain alkaloids of very powerful toxetic properties. To-day we know that these toxic albumens are also formed during the life of the animal tissues, and are called leucomaines; any excess of the production of such substances in the animal economy, even in most minute quantities would certainly be very dangerous to health, were it not for the eliminating organs. This is demonstrated by an instance just cited in which the kidneys were ligated, and the animal thus affected soon died with symptoms indicating a malady that has received the misnomer of uræmia. The production of normal waste is in reality a feature of life. Dr. A. M. Brown very properly said, "Life is a contingent phenomenon consisting of partial births and death." "In the midst of life we are in death," for scientifically speaking, it must be admitted that the living body always bears with it the components of the dead one. Life only goes on as long as the organic and inorganic work together, and to carry on its functions consistently with health the normal quantity of oxygen must be furnished the blood in order

to form *normal* waste. The dissimilation that results from over-loading the system with debris because of blood being deficient in its carrying powers, often results in production of leucomaines. Impure air often contains these toxic alkaloids that I have said are produced outside of the living tissues, and can be taken into the body through respiration.

The decaying organic matter in the air of a Russian hut in the spring time, after it has been occupied all winter, will, with many people, bring on nervousness, indigestion and diarrhœa, and sometimes typhus fever, either directly or through the agency of minute life. I am convinced from my investigations that no one living in a normal atmosphere, performing that sort of physical exercise calculated to pump a normal quantity of air into the lungs, would likely become a victim to typhus fever. Let it be a reproductive poison or not, it is, I have no doubt, caused by impure air, which not only supplies toxics formed outside the body, but also permits them to form in the tissues. If our people had a bountiful supply of pure air furnished to the lungs, we would all, even we bacteriologists, attach less importance to the disease-effecting and disease-producing micro-organisms. On the principle of resistance, man must protect himself against the deadly work of micro-organisms. We cannot directly exterminate them outside the animal body, or as yet see our way clear to overcome their pathogenic characters. If they once gain entrance and establish themselves in their human abodes, it is a most difficult task to successfully battle against their action upon the tissues without overcoming the animal economy. For this reason, therefore, we must, as I have said, supply the body with its required quantity of oxygen to keep up the highest degree of vitality in every member. Otherwise the secreting and excreting organs will cease to do their full quota of work and the tissues will not continue to undergo that constant regeneration that is necesssary for health; otherwise the blood can neither carry nourishment to the respective organs nor in turn convey the debris to the eliminating viscera. The importance of pure air for the health of man must be apparent to us all from the fact that the very environment in which the animal kingdom has been evolved is most constant in its supply of this mechanical mixture of

oxygen, nitrogen, and carbon dioxide, as they are the constituents of the very element that has permitted the present development of man and the lower animals. Without it we are *a priori* infected by the formation of leucomaines which would otherwise be prevented by normal physiological combustion. I believe we often find an example of the want of a normal elimination of debris in children living in cities. A child, particularly one with insufficient chest expansion, that has been taking considerable physical exercise in a badly ventilated room, will frequently suffer toward evening with what we call growing pains, and at times with a slight rise in temperature, while the *same child*, when submitted to like exercise in country air, where it can obtain sufficient oxygen, will not be subject to the same painful affection. In such cases it is quite probable that the trouble is brought about by the inability of the blood to furnish enough oxygen to the tissues for it to carry away the debris, and if this condition is carried on continuously for some weeks, we will have a continued fever due, in all probability, to the formation of leucomaines, or to catarrh of the digestive tract. The physiological process of life not only demands the formation of natural tissues, but also of *normal waste* and the moment the eliminating organs are called upon to battle with foreign matter, their scope of power is limited and the tissues irritated, as for instance, when the kidneys are loaded with uric acid crystals, the results of which we are perfectly familiar with. This condition can be overcome if we have both healthy lungs and nervous system, the latter to transmit normal impulses to the respiratory muscles and thus furnish the blood with pure air to bring about natural physiological combustion. You may limit your patient's diet to non-nitrogenous food stuff, you may wash him out with the free administration of water and you may drug him with any or all of the remedies known to the medical profession that have any relation to a gouty diathesis, and find your treatment of little or no avail, unless you have the patient exercise in fresh air. Perfect oxydation of the food is the prevention and cure for gout. The changes effected by the artifice of man in the normal uniformity of the composition of the atmosphere is too significant a fact for us to lose sight of when considering a means for the preservation of health and the

cure of disease. Pure air breaks up organic matter and renders it both harmless and also useful to each and every form of life that has been evolved in its midst. Without its chemical action upon inanimate matter, heat and energy would not be produced and the world would be without animate things. It creates and supports life; therefore, the moment we overload it with impurities, that moment we interfere with its power to maintain health. Yet owing to man's present want of appreciation of the necessity of maintaining the purity of this mechanical mixture for health, I have never found in his habitations an approach to purity in this great life-supporting element. It is mostly deficient in oxygen, which is replaced by carbon dioxide and carbon monoxide, toxic, non-toxic organic, inorganic matter and frequently by pathogenic micro-organisms.

The carbon dioxide is, of course, the least harmful; it being within itself only a negative poison. We do not now believe that the 123 persons who died out of the 146 confined for one night in the Black Hole of Calcutta, nor that the 70 passengers who died out of the 150 that were fastened in the cabin of the steamer Londonderry, with the hatches battoned down, during a rough night in the year 1848, were killed by asphyxiation from carbon dioxide, but that they perished from the animal alkaloids formed out of the organic debris exhaled by the lungs and skin into an atmosphere deficient in that great purifier—oxygen. Organic matter is also taken into our buildings by soil air, our boots, and in large towns and cities by the very air we are compelled to circulate through our dwellings as the nearest substitute obtainable for nature's atmosphere. The air of Philadelphia this month is so laden with filthy organic matter raised from the dirty alleys, (I say alleys, because they are not worthy the title of streets , that when the sun's rays strike it as suspended in the atmosphere of a room slightly agitated, you instinctively hold your breath. Not only is this air loaded with filth that undergoes a chemical change and forms compound poison when retained in rooms deprived of sunlight, and deficient in oxygen, but we have also sub-soil air that circulates through earth foul with the sewage that leaks through the open walls of our conduits. The soil through which this air passes is so polluted

with sewage that when brought to the surface you can smell it, with moderate wind some 1000 feet away; this is the condition of the air that circulates through our cellar walls in Philadelphia, the average stone of which they are built containing nearly fifty per cent. of air, which is constantly interchanging with the surrounding atmosphere. Again, a large proportion of the floors of the hot air chambers of our heating furnaces are built of porous earth. What is the effect of this condition of affairs? Why, the air in the hot air chamber is lighter than the filthy sub-soil and out door air, therefore, the heavier outside column forces the poisonous sub-soil air up through the floor of your hot air chamber, filling the space with polluted air; this in turn becomes lighter and is forced through the hot air flues into the living rooms to feed the occupants, and we wonder why we are not typical specimens of the genus Homo. During the early part of this century, Philadelphians were not satisfied with the cess pool and sewage filth they could take into their bodies through the air. The cess pools and sewers were built with what is called dry walls; they are walls constructed simply of bricks, with open interspaces. The object was to permit the percolation of the effluent through into the surrounding sub-soil. The idea being that mother earth was a great and inexhaustible purifier; this, however, was too complimentary; her power was limited, and the sub-soil soon became surcharged with filth, and through this polluted ground they deliberately laid wooden conduits for water carriers, which in certain strata of earth soon decayed and became very porous, in fact so much so that disease-effecting and disease-producing micro-organisms would pass through their walls into the stream of water, on its way to the drinking tap in the houses of our ancestors. If this condition of affairs existed at present, we might be even more apprehensive than we are of the threatening cholera epidemic.

Another substitute for the oxygen that our house air frequently contains, is, as I have already mentioned, carbon monoxide. This gas is a direct and deadly poison, one per cent. of which in a confined atmosphere, will unite with the hæmoglobin and deprive the red blood corpuscles of their power to carry oxygen to the tissues, in consequence of which, the nerve centres fail to respond

to stimulation and death ensues. The usual sources of this gas, which I believe to be one of the great pre-disposing causes of early decay of our faculties, is the production from combustion of the substances used for producing heat in buildings for the various purposes of man. It is non-odorous and will pass out through cast iron, when sulphurous acid gas, which, when present, acts as a tell tale, will not escape. Hot air furnaces and stoves for the burning of coal are fertile sources of this poison. Yet our city fathers in Philadelphia were not satisfied with the small volumes of this insidious poison produced and permitted to escape into the air of our buildings from this source; they therefore introduced water gas into our mains. This gas must contain at *least* thirty-five per cent. of carbon-monoxide, and at the same time has a solvent power on a residuary substance that has been deposited in our old pipes, from coal gas, which prevented leakage; consequently during the last year our houses have been deluged with this health destroyer There is no doubt in my mind, but, that much of the so-called diphtheria in Philadelphia last winter, was a tonsilitus caused by water gas poisoning. Our people, however, because they are furnished with a better illumination by this gas, which is richly charged with carbonaceous material, go on electing to office those who are, through ignorance, poisoning our bodies, and at the same time burdening us with as heavy a tax as the English laid upon our colonial ancestors, by charging for this poisonous gas about three times the cost of its production. Deficiency in oxygen and the excess of carbon dioxide and the additions of carbon mon-oxide and organic matter in the air of buildings occupied by man and the domestic animals, undoubtedly play a most important part in the ætiology of all pathological processes, yet, their injury comes so slowly and continuously that man does not fully realize the presence of the enemy until too late. The people's medical advisers do, however, realize this condition, and also the importance of pure air to maintain health and to overcome pathological processes; therefore it behooves our profession to teach the people, particularly the law makers of our land, the necessity of having this element, with which nature has so bountifully supplied the organic kingdom, kept pure. Each physician should insist upon his patients refusing to endorse any

candidate for public office, unless he gives a pledge that he will exert himself to have laws made and enforced to bring about a higher degree of health. It is as important to compel our people to have properly ventilated and lighted houses, as it is to have sanitary plumbing, which latter our laws require. As physicians, we forget the scope of our power, and neglect our moral and professional duties. It is incumbent upon us to instruct our patients how to preserve health, and thereby improve the moral, religious and political standard of this, the greatest nation of modern times.

Ill health is the parent of much that is bad in civilized life, and it lies in our power more than it does in those devoting their lives to the professions of law and theology, to advance the moral condition of our people. There is not a man, woman or child in this great State, that is without a physician. He is thrown into the most intimate relationships with his patient, and by teaching the proper laws of hygiene, he can greatly reduce murder, suicide, drunkenness and family feuds. If this be so, why are we not doing our duty? The answer must be that sanitary medicine is not attractive; in fact, many of its details are naturally repulsive and not profitable to him, and therefore the physician shuns it in his private capacity, and this is wherein he fails, for it is not as a reformer, a legislator, or a scientist, but as a family physician that his great power for good in this direction lies. It is in this role that the doctor of the present day is at fault; he does exert himself to legislate, to exhort his fellow physicians, but as the familiar family doctor he fails to take advantage of his power to exert a moral influence over his fellow man. The great physician must bridge over the wide gap between science in the abstract and medicine as it should be practiced in every day life. Without a moral influence over his patients, he cannot reflect the full power of his scientific knowledge.

In no other profession is the adviser brought into such intimate relationship with his fellow creatures when they are susceptible to advice, unless it be the spiritual adviser, whose duties too often come when the life in question is about to be closed. At the word of the physician families separate for years, men give up their trades and vocations. Their domiciles are moved to higher elevations, or to the seashore. Therefore, if we have it in our

power to bring about such radical changes as these in the habits of our patients, why is it that our homes, factories, mills, vehicles, hospitals, places of amusement, etc., etc., are so poorly supplied with pure air? Again, why is it that our cities in this great State are permitted to be built up so closely? Where are our urban parks, gardens and play grounds, which are necessary to keep up the average standard vitality of this great nation? I say nation, because it is made up of individual men and women, its power being simply the sum total of the force of the individuals, that go to make it up, and the more thickly the inhabitants are settled the lower is the degree of health. It has been said that all things being equal the health of a population is in inverse ratio to its density. The only way to overcome this rapidly increasing evil of huddling together is by opening to the people, public gardens and open spaces and wide boulevards. A wide avenue is now proposed in Philadelphia, which would not only give the city, as it were, an additional lung, but it would make a short and attractive walk and drive to the greatest city park in the civilized world. I have heard it spoken of as an ornamental luxury, but I believe it is a crying sanitary necessity, which if once demonstrated to our lay people by its physical opening would in a short time be followed by a request to the authorities for others of a similar nature. Outside of a better sewage system and a mechanical filtration of Schuylkill water, I know of no other more crying need in that great city of our State, than air spaces and vegetation.

The way in which our towns are being closely built up is disgraceful to our city fathers and reflects somewhat upon the medical profession. Too many poorly ventilated public school houses are, at present, being erected on contracted spaces, without any gardens or play grounds, where the brains of the present generation are overworked and the body starved and poisoned for want of pure air and physical exercise. To pass one of our public school houses in Philadelphia at noon and see the pale-faced children playing on the damp brick pavements beteeen two high walls, shutting out the rays of the glorious sun, makes one blush with shame for the ignorance of our people. While to enter many of our school houses during session, soon benumbs one's brain. During

the last winter young girls in our normal school fainted for the want of oxygen. The remedy for this deplorable condition of things is largely in the power of the medical profession. If each doctor in this community would teach his patients the importance of pure air, there would be such a universal demand that those holding public office would be compelled to grant us better ventilation in public and private buildings, give us wider streets, more small gardens, less water gas, better sewage, cleaner streets, and less smoke and lower buildings, which latter would permit the sun's rays to strike the foundations of the buildings on at least one side of the streets. The recent structures in the large cities in this country are monuments of ignorance of our people, that our descendants will censure us for in time not far off. Our streets will soon be but caverns such as the half civilized man lived in centuries ago, mere fissures between great walls of stone and bricks, damp, sunless and dirty, a *sine qua non* for disease germs. Less steam from the factories, locomotives and engines should be demanded. These improvements would lead to a decrease in the mortality of youth, in crime, drunkenness and immor ality, and to a marked raising of our standard of mental power.

To-day it is a crying shame to our intelligent classes to analyze the air in our medical teaching institutions. Only a few years ago Dr. Kerlin made a series of important examinations of the hygienic condition of the air in the lecture rooms of Medical Hall of the University of Pennsylvania, with the result of showing 17 per cent. of our index of impurities, or in other words, the carbon dioxide raised from four parts in 10,000 to seventeen parts in 10,000. While six parts in 10,000 represents the maximum of impurities in ordinarily well ventilated rooms, seven in 10,000 is detectable by the sense of smell.

In studying the ætiology of disease, we must not permit ourselves to be persuaded that bacteriology has given us *le mot d'enigme*. Micro-organisms undoubtedly have the power, when introduced into the circulation of healthy animals, of producing certain diseases. Yet I feel convinced that in tuberculosis, and many other germ diseases, that they, in a large majority of instances, only change an already unhealthy condition into one

definitely and fatally morbid. Normal tissues supplied with pure air, have great power to resist germs taken into the body through either the digestive or respiratory tracts. This conclusion is reached from the fact, that I have found guinea pigs and rabbits yielded much more readily to inoculations by tubercle bacilli when even confined in cages, kept in the cellar under a city labratory, than they did when kept in my animal house situate in the country and so arranged as to have a large volume of pure air circulating through it both day and night. To avoid tuberculosis, we must recognize the predisposed habit of the individual and have him live in pure air, and not breathe a deoxidized atmosphere, or air loaded with fibrous matter or spiculated dust, or air impregnated with the products of combustion of coal, or the escape of water gas, or a high percentage of humidity, or air that has been robbed of the sun's rays. This last is not the least important, it not only prevents dampness, but destroys poisons, such for instance, as the woorara snake poison and bacteria. If such environments are not avoided, a lower and lower vitality will creep on insidiously, inch by inch, until a pathological condition becomes recognizable both to the victim and his medical adviser. At this stage, if not before, a nidus has been formed which is quite susceptible to the action of pathogenic minute life, and should the patient not be removed from the environment that predisposed him to the attack of the germs, his resisting powers will be still further reduced. It may, however, be discovered early enough to not only prevent a greater degree of susceptibility, but by proper hygienic conditions, the tissues in many cases will return to that degree of health not suited to the lives of micro-organisms.

I do not mean to undertake to weigh the exact power of germs to break up the affinity of normal tissues, when brought into contact with them in what we may call the natural way, to differentiate it from an artificial method. I do intend, however, to say that we can maintain by the aid of pure air and proper physical exercise the integrity of animal function to a degree that renders the tissues much less liable to the attack of micro-organisms. We must girdle ourselves with an armor of general good health if we wish to resist the action of minute life. The preven-

tion of premature death, disabled physical and mental faculties, forms a far more comprehensive question for the physician than does curative medicine, at the same time we must recognize that preventive and curative medicine are inseparable. While we are gathered together in convention, we all advocate hygienic measures, admitting them to be paramount to the more fruitless task of the so-called curative side of medicine, yet, I fear we are in preventive medicine too much like many of our Sunday christians, who believe in the theory, yet, forget its practical workings by the time the business houses of Monday morning open for trade. The physician of to-day who has been taught and believes in preventive medicine, too often empirically accepts disease as an existing condition and treats it accordingly until alleviated or cured. This stage reached, he considers his work done until called in again, upon his patient becoming ill, probably with the accumulation of the evils of impure air and other unhygienic conditions. This may be pecuniarily profitable to the medical man, and might warrant the ignorant to attribute our laches regarding prevention to be entirely toward that selfish end. This, however, would be very unjust. We must account for the customary neglect of hygiene by the fact that both preventive and curative medicine were hidden in darkness for thousands of years, and, therefore, the conservative, cautious and wise physician, with a full realization of his ignorance, only interfered with nature when stimulated to act by the appeals of an acute sufferer, thence the habit. To-day this should not be so, we do not regard disease as a visitation of the Almighty God, inscrutable in character. We sufficiently understand many of the predisposing and exciting causes to guide our fellow man through life free from the heretofore unknown poisons, to a much more satisfactory degree than some of our forefathers, who believed themselves capable of curbing the wrath of God by the administration of their empirical remedies. This good fortune of ours, however, comes to us from the fact that in all ages of medicine our profession has been besprinkled with ambitious minds, who have labored to discover the cause of ill health and methods to prevent disease, and now the time has arrived for us to come to a full realization of what has been demonstrated regarding man's power to prevent disease and

adopt as our motto *venienti occurite morbo.* Hasten to meet the coming disease. Those factors essential for prevention oftentimes prove essential for cure—which fact is not recognized by but few of our practitioners. For instance, we frequently know of a physician who is called in to see a patient, who correctly diagnoses the case as one of typhoid fever, and then simply applies his knowledge of the healing art; oftentimes with as little success as if he had been administering to a person with symptoms of lead poisoning, who was at the same time continuing the use of water impregnated with the poison. He seldom interests himself to investigate and remove the source of poison, but frequently orders the patient on a milk diet, the very vehicle that first carried the poison. I conceive it, however, to be our duty to at once investigate the water, food and air supplies, and thereby cut off all external source of further poisoning.

The healing art and preventive science are a part and parcel of each other. The cure of disease must be imbued with a preventive element. Scurvy certainly demonstrates this assertion to be true, as in the treatment of this pathological condition we see the cure emerges directly and exclusively from the preventive treatment, and I have no doubt that as our knowledge increases, this principle of physiological treatment, as opposed to complicated and disturbing drugs, will be more clearly recognized.

If some move is not accomplished ere long, to establish better hygienic conditions, and our people taught to appreciate that education of the body is almost of equal value to culture of the mind, the bodies of our people will be starved, and the normal brain become morbid. The now great American nation will be forced to take a second place regarding health, ability and morality, while she will rank high in immorality.

It is a sad mistake, to centralize our attention upon the cultivation of the brain as if it were a separate organism, entirely independent of the physical body, and it depends upon our profession to form a public opinion favorable to the supply of pure air and physical exercise, particularly to the poorer classes, and this I exhort you to, as nothing else will maintain the high standard in our future generations that has been handed down to us by our forefathers.

Fellow physicians, upon reform in sanitary matters depends the future of this promising nation. Our Government has its Secretary of State, of the Navy, of War, of Agriculture, of the Treasury, while the richest treasure of all to mankind, health, is absolutely ignored. Why do we not have a Secretary of Health? This is a disgrace to us as a people, and indirectly a reflection upon our profession, for we undoubtedly have it in our power to better this state of affairs, if we would insist on our patients and their families paying more attention to sanitary matters.

Knowing, as a physician does, how important health is to human success and happiness, our efforts cannot be too great to maintain it. The present year is one of more than usual importance with the dire disease, cholera, close to our shores Yet, with the individual exertion of each physician in this State to maintain cleanliness and to stimulate those trusted with quarantine, we should not only prevent the entrance and spread of this disease, but faced by such an enemy, the legislators reminded one of the vast importance of a good code of sanitary laws, and vote liberal appropriations for the execution of the same.

The following words of the late Dr. Richardson should be ever kept in mind :

"Cleanliness covers the whole field of sanitary labor. Cleanliness, that is purity of air; cleanliness, that is purity of water; cleanliness, in and around the house; cleanliness of persons; cleanliness of dress; cleanliness of food and feeding; cleanliness in work; cleanliness in habits of the individual man and woman; cleanliness of life and conversation; purity of life, temperance, all these are in man's power."

> "How small of all that human hearts endure,
> That part which laws of kings can cause or cure,
> Still to ourselves in every place consigned,
> Our own felicity, we make or find."