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## THE PRESIDENT'S ADDRESS

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### OUR ASSOCIATION, HYGIENE, BUSINESS AND GOVERNMENT.

Our association, says the constitution, has for its objects "The development and advancement of public hygiene; the correlation of principles and practice; and the promotion of public hygiene as a distinct profession." In these words a great work is declared, and it seems that probably the foremost duty we have to perform to accomplish these ends is to bring into the public mind a full appreciation of the obvious fact that prevention and not cure is the final aim of medical science.

Science has again and again shown that a very great obstacle to progress is our all too frequent inability to see the obvious.

The fact that right now our practical business men are eager to pay millions for cure, and can with difficulty be induced to spend in comparison an insignificant sum for prevention, is evidence of the correctness of this contention.

The fact is remindful too, of the sometime emphatically uttered principle—"not a cent for tribute, but millions for defense;" but, we are to observe, that in our attitude toward disease and other ills this principal is reversed, for we persistently give millions and millions of tribute to the excelsior stuffed good of cure, when a little spent for defense in the line of prevention would bring great benefits.

### OUR PROGRESS.

The progress made by our association has been good; but of course must be better. Only recently we adopted a new constitution, improving the

old one in not a few respects and possibly not in others. At our last meeting, steps were taken which show our motto is onward. Under laws passed in the Havana sessions, the confusion in our treasury has been removed; a full and perfect list of members and subscribers to the journal has been completed; over one hundred new members have been added to our association; over four hundred new subscribers for our journal have been secured, advertisements have been increased by 50 per cent. and at better prices, and the report of laboratory methods from our laboratory section, published at an expenditure of \$700, is an asset worth fully \$1600, with 400 volumes sold. The details of what is here mentioned, and the details also of other good things done, will appear in the reports of the secretary and treasurer. We certainly wrought well, when the Committee of Seven, in obedience to the resolution of the association, appointed a salaried secretary, a salaried treasurer, and a paid, experienced editor for our journal.

And how fortunate we have been in the matter of the selection of the incumbents of these positions appears more and more evident every day. Now our present needs are those which in the nature of things will *always* be with us in some degree, and to secure them our endeavors must be unceasing. We must have more members to bring in more money, more workers, more brains. Striving for these will certainly secure them in deserved measure in due time.

Our name is the American Public Health Association. Certainly a goodly name. Our objects have been stated in the words of our constitution. Our character and standing are established. We have passed adolescence. Like all other associations, we have seized upon many opportunities and neglected or missed some. We have undoubtedly done those things we ought not have done and we have left undone those things we ought to have done, and there is still much health in us.

That health will manifest itself eventually by our more completely fulfilling our prominent function as an effective leader in the public health movement.

We have heretofore lacked executive force; we need a permanent executive office to insure continuous action between meetings. As has been well said—"the working organization of the association at present is too loosely made up and too cheaply run to be effective." And then too says the same critic—"A potent defect in the existing scheme of organization lies in the fact that as a more or less efficient machine, the association exists for but a few days each year." At our last meeting action was taken toward the removal of some defects. It is now possible to elect members between meetings, and not only for five days in the year. This change has led to a decided increase in membership of the permanent kind. Under the old system, every year the membership was recruited from the region where

we met, but the majority of the recruits joined for a year only, the association was stimulated by the membership fee received, then the new ones dropped out, the process was repeated, and still we languished for lack of members of a kind that work.

I believe we should not longer delay opening wider the entrance door and above place the motto—"Welcome to all who believe." To be a useful active member of our association, it is surely not desirable as the constitution says, to "have been, for a period of three years, in the active professional practice of technical branches of public hygiene; or have been for a period of three years on the executive or technical staffs of governmental departments dealing with phases of public hygiene in the countries represented in this Association." Such requirements should not stand against active membership, but would be proper for membership of sections.

A man who is high in power and position, whose name is known in every household, expressed a wish to belong to an association devoted to raising the public health. This wish was expressed when he had been told of the aims and practical work of our Association. He is a man who wishes to work, to bear his share of the burdens and honors, to vote, and to have free speech upon all and every question. He therefore did not want to be an honorary, or an associate; he desired to be an active member. Our constitution barred him, and his name does not therefore give luster or eclat to our roster. I would say, let any person of good character, who is interested in hygiene, who will pay his annual dues and will attend, be an active member.

I suggest that we simplify markedly the constitution and by-laws in such a way as to admit all who believe.

I would abolish the class of associate members, I would cut out all the hopeless red tape which now surrounds, and sometimes blocks, even the simplest business operation of the association. I would establish a permanent salaried executive secretary. His office would be a clearing house of information on all public health questions, and through this means we could take up definite and practical constructive work.

The obstructive features of our constitution and by-laws could be eliminated speedily, but the building up process upon a right foundation must, perforce, be slow. I do not advocate that we go at this matter with an axe, but on the contrary that it be done carefully and judiciously but with all convenient speed. As a vital first step in the direction of increasing usefulness and influence, of meeting the most important need of the situation, I regard the Journal as the essential factor. It is our orator. The enemies of Greece said, "Give over Demosthenes into our hands and we will cease our warfare against you." But the Greeks kept their orator and kept on fighting and the already great nation became greater. Let us make the Journal great by making it possible to do a great work, and then the parent

will see the rapid development and advancement of public hygiene, the correlation of principals and practice, and the promotion of public hygiene as a distinct profession. But enough of this; and now health, more health, is the slogan.

#### WHAT IS HEALTH?

This is the title a minister suggested to a hygienist whom he invited to occupy his pulpit. It is a big text. An authoritative definition might be productive of good to the public health cause. Perhaps careful examination would disclose that it would be wise for this association to formulate a definition and give it to the lay press. I think it would be gladly received and widely published. It would make clear a matter that is now hazy even in some minds which have dabbled more or less in hygiene. We all have read Dr. Crumbine's definition, which is excellent indeed, and I dare present it because of its excellence and because its review may lead to the adoption of my suggestion.

"Health" he says, "is a state of physical, mental and moral equilibrium—a normal functioning of body, mind and soul. It is the state when work is a pleasure, when the world looks good and beautiful, and the battle of life seems worth while. Health is the antithesis of disease, degeneracy, and crime.

"The laws of health are as inexorable as the law of gravitation, as exacting as eternal justice, as relentless as fate, and their violation is the beginning and cause of all disease, suffering, and sin.

"Health is the most desired of earthly blessings. When finally lost it cannot be purchased by uncounted millions, restored by the alienist, or returned by the pulpit.

"Health is that state of happiness, faith and love whose prototype was the first man—Adam; whose ideal is the Christ."

This is a splendid sermon, and it contains suggestions for several good sermons on health. I wish our association would adopt this, if consent can be gained, or formulate another, and send it forth to the world. It would comport fully with our dignity and the objects of our being, and would start something in the line of "the development and advancement of public hygiene."

#### WHAT IS HYGIENE?

Hygiene is a great science. It deals with the attainment and preservation of health. Solomon was asked "What shall I give thee,"—and he chose wisdom. But not enough of the gift was bestowed to enable him to preserve his health, as is evidenced by his many pessimistic lucubrations. He might well have asked for a healthy mind in a healthy body and a knowledge of hygiene sufficient to preserve both, and this would have been wisdom.

Hygiene has in it the promise of more good for both individuals and the human race than any other science. Its first great idea is—let us not be sick, for disease is ignorance and health is normal. It must answer the questions—from whence comes sickness and disease? And this it has done to a good degree. Second, it must answer—what is necessary to prevent sickness and disease? And this too it has done to a good degree.

The foolish, weak idea that unwellness and disease are devils or evil entities which somehow find entrance into our bodies prevails, even now, to not an inconsiderable degree. And, marvelous to relate, there arose only yesterday a cult which says there is no sickness, no disease, no pain. This declaration is made too in the presence of plainly apparent physical pain and suffering and even in the presence of a case of severe loathesome smallpox, thus discovering that the said cult is in pitiable and hopeless estrangement from common sense. And again it proves that the mentally sick or mentally defective class is larger than was previously believed.

For centuries man has tried to turn back, or at least to control disease by cure; yet, knowing since the days of the creation of the mythologic Hygiea, that prevention was the rational course. At no period in history has this truth been more forcibly shown than in the last quarter century by the triumph of hygiene over yellow fever. In connection with that disease therapeutics bore no burden. Not a single medicine in all *materia medica* had the least effect. Prevention and it alone, has abolished yellow fever. And this broad application of hygiene to the masses brings wholesale health. And it should be noted that, as with typhoid fever, the prevention of one case prevents three cases of other diseases. Business has profited greatly by this triumph of hygiene over yellow fever, and government and morals and all other elements of civilization also.

That health is the basis of all wealth, power and happiness is plain to any one. That business and government has for so long neglected to place hygiene in the front of all practical agencies for good, simply declares that those in charge of business and government have not yet risen to a full understanding of the situation they are trying to control. John Fiske remarked, "It takes a thousand years to raise the human family a single notch." In view of the tardiness of business men and of those in control of government to grasp the business and governmental importance of hygiene, it would seem that Fiske much underestimates the time. Münsterbyrg said, "Hygiene can prevent more crime than any law." Disraeli, the practical statesman and empire builder, said, "The care of the public health is the first duty of the statesman." A bill for a law intended to make practical the government's part in the care of the public health, provided as follows: "It shall be the duty of the bureau of health to collect and disseminate information relating to the public health."

This was pronounced to be a deadly provision by an orator in the Senate

of the United States. He said, "This would be planting the seeds of disease and killing more innocent and unsuspecting people than drugs ever saved." Think of it; this in the United States Senate in the 20th century and by a man who can read and write, saying that disseminating *information* concerning the public health would be planting the *seeds* of disease. This is calculated to make one despair of our nation ever being able to take kindly care of all of its defectives.

Not until the science of medicine had purged from the human mind the idea that insanity was possession of the devil, and showed it was a physical ill, did mankind come to treat the insane in kindness, patience and charity. The kindness, charity and patience were in the great human heart all the time, but the human mind was charged with error and this stifled the heart's expression. Obviously, we must rise out of the patent medicine stage of ignorance and out of any so-called religious beliefs which are "loaded with a perishable freight of over-ripe theology," before hygiene can do its beneficent work for mankind.

#### HYGIENE AND BUSINESS.

Sickness, ill health, disease, weakness and early death cannot build up business. It probably would not be amiss to say that if not a majority, certainly a good proportion of business failures are due to ill health or disease, unnecessarily, yes, foolishly acquired. "I am sick to-day and unfit for business" said the manager of a large business concern. Another said "I notice I am very liable to make mistakes in my business when I have a cold or a headache or have even a slight indigestion." Plainly, when a man suffers from typhoid fever or pneumonia or syphilis, he is absolutely unfit for business or indeed any of the affairs of life. He is then a charge, a burden, and a threat against business, against his family, his friends, and the state. A science which would prevent communicable diseases, and which can teach how not to have the minor ills (which in the aggregate do more harm than infectious diseases) is of great business importance, and such a science is hygiene. When an epidemic of smallpox or diphtheria appears in a community, business is hurt, and the business man demands that the health officer shall put it out. The business man formerly thought the way to get rid of epidemics was to deny their existence or to stifle all information of them, thus showing they believed ignorance to be a force for good, and this too, when ignorance is the only sin. But now he has emerged somewhat from this ignorance, and appreciates to a greater degree how hygiene can help business. There is no money in sickness except for the doctor and druggist, and they frequently spend all they can make from sickness in seeking cure for their own sickness. Three quarters of a century ago Horace Mann the well-known educator, when told one morning

he did not look well, said, "Yes I am ashamed to say I am not well." We did not know then as fully as now, the causes and needlessness of sickness, but Professor Mann had grasped the central idea of the science of hygiene.

If an archangel, with credentials to prove his power, were to come to Washington, and during a lull in the political hubbub were to tell us that for \$100,000,000 he would *cure* all the diseases and would leave the medicine or its formula to cure them as fast as they appeared after he was gone, we would raise the \$100,000,000 in no time. Congress, all state legislatures, boards of trade, commercial clubs, bankers' organizations, would all tremble with activity in their eagerness to produce the hundred millions. And what a funny sight it would be! Then the regulars, and the irregulars, and the quacks, and the mind curers, and the faith curers, and the advocates of all pathies, of all cults, and the business men, ministers, teachers, one and all, would view this proposition as a practical one, and in spite of the fact that it is contrary to the fundamental principles governing the situation. Now, right in the front of us and always present stands an archangel fully credentialed, who is ready to teach us how to drive ill health, disease, imbecility, insanity, crime and pauperism from the earth. His name is *Hygiene*. He does not ask \$100,000,000 for his discovery, he will give it to us. And yet, in the presence of this heavenly offer we stand stupid, like pigs before pearls. The proposition of the archangel Hygiene is rational, accords with nature's laws, and is the biggest and most practical business proposition before the world today.

To hope to overcome disease by cure is simply ridiculous. To try to sweep back the sea would be a more hopeful task. That prevention is practical, rational, business-like, scientific, is plain even to a child, yet we continue to depend upon the irrational, impractical, unbusiness-like, unscientific idea of cure to relieve the world of sickness.

#### HEALTH AND HEREDITY.

Race hygiene precedes individual hygiene in classification and in importance. Nation hygiene, as when a nation rises and puts out yellow fever, also precedes individual, that is, personal hygiene.

Race hygiene is primarily concerned with the great subject of heredity. Researches in heredity have let into many human problems a flood of light which was not enjoyed by those living in the first half of the last century. A strong thinker guided by this light said, "At the moment of conception the gate of gifts is closed." In fact, it is closed long before. It is personality which arises when the ovum and sperm cells blend together.

One servant may inherit one talent, another two and still another three, four or five. But these talents were given them; talents are not acquired. The person who is given but one talent will invariably hide it in a napkin

and it will be taken away altogether, while he who is given several, places them at usury and they produce a hundredfold. And so it is—all that a person may be, his entire physical and mental potencies, come with him from the womb.

“His life was gentle; and the *elements*  
So mixed in him that Nature might stand up,  
And say to all the world, *This was a man.*”

Our only privilege is to develop the heritage we have received, the elements transmitted from our parents, and this is our life long task.

“Recent studies in heredity” says Davenport “make it probable that every *disease*, every peculiarity of form, structure and conduct of human beings, is determined in part by an hereditary factor.” Continuing he says: “The nervous history of every child is thus, within limits, predetermined at the moment of conception. From this point of view the germ plasm carried by the parents becomes of increased importance. The family physician, after becoming cognizant of a contemplated marriage which must lead to nervous and weak offspring, should take steps to prevent its consummation. If the rules of professional secrecy regarding matters of importance to progeny work against social progress, they are in so far immoral. The physician must take an active part in race hygiene, or he may be replaced in this capacity by the rise of a new profession.”

In the act entitled, “In the Land of the Unborn,” in the play of “The Blue Bird,” Maeterlinck, in the manner of a genius, shows he has given thought to the great subject of heredity. In this act the curtain rises on a stage well filled with little children, covered with filmy white veils from their heads to their naked knees. In the distance is the sea of time with the rock of ages in the foreground. A white barge appears bearing Father Time with flowing white hair and beard and scythe. The barge touches the rock and Father Time steps out, and the unborn rush to meet him supplicating to be born. He is Time, he bears no bowels of compassion, and he gives not the slightest ear to the cry of the souls before him; he utterly ignores their pleas and supplications. “Ha! you all wish to be born,” he says. All rush toward him with uplifted hands and pleading mien. All carry small baskets. He waves back the first two. “No, not you; you must wait ten years.” They fall back. Two others present themselves. “Yes,” he says, “its your turn, get in the barge.” Now two others come forward. He eyes them severely and says, “Yes, it is your turn too; but hold”! (he looks in their baskets and asks) “have you there the diseases you are to suffer from?” They nod their answer and he passes them on.

It is further noted that Father Time makes no requests; he moves with brutal air and he commands. He looks over the heads of those near to him



and pointing to a little boy says, "You come; you are an engineer, mankind needs you." No others are called for.

Undoubtedly there are those who will say, Davenport and Maeterlinck have gone too far, they are extreme. Be that as it may, it is still true. Time goes relentlessly on, generations appear and disappear. Chinese continue to be born of Chinese, negroes of negroes; figs do not come from thistles; blue eyed individuals are born of blue eyed parents; those who break easily under the ordinary strain and stress of life are from a line of ancestors like them, and those who reach old age without serious sickness and without disease and retain their faculties, have in them the blood of those of like accomplishment.

A mere child for the first time saw his new born sister. "What's that?" he sharply asked. "It's your new born little sister" was the reply. "It looks like it" remarked the youngster and ran away to play. Whether or not it is true that "*every disease* is determined in part by an hereditary factor" I do not positively know, but I can say,—it looks like it.

#### THE MICROBE AND HEREDITY.

For three decades the microbe has held the center of the hygienic stage. The transmissible diseases have been wholly accounted for by and through it; but now a new science appears called eugenics, and it declares that not only every peculiarity of form, structure and conduct are determined in part by heredity, but *every disease* as well. However, this in no degree combats or contra-indicates the work of disease prevention, for no matter what the susceptibility may be, external causes have their effect. Besides, if a susceptibility to certain diseases is inherited, then those who bear it in their germ plasm should not become parents if disease is to be abolished.

Our free public school system is based upon the idea that education (nurture) is the greatest controlling force in life. "*We must educate, we must educate, or we perish,*" was the refrain of the orators, and they were right. Yet, it seemed at that time not realized that we educate because we have evolved to a plane where we demand education. We did not then know that acquired characters are not transmitted, and that the reproductive cells are, in a sense, parasitic to our bodies, and quite unaffected by external influences. We had long been told that no one by taking thought could add to his stature, but we had not grasped its full import, for we firmly held that education would drive hence quite all of society's ills. By it we expected to mend defective minds, not knowing that minds and their possibilities, like hearts and their possibilities, are determined at conception. Now we know where the trouble lies with defaulting cashiers, who are not lacking in education and moral training, some of them having been teachers of morals and religion, figuring prominently as Sunday school workers.

They are born defectives, having inherited a defective moral nature.

They have proceeded from a line tainted with the same defect. They did not inherit moral stamina sufficient to enable them to withstand the temptations before which they fell. Powerful and fierce indeed is that environment which can make a thief out of a man of moral inheritance. When needing sorely the bare necessities of life, when feeling the biting pangs of hunger, Lincoln did not falter in choosing the course of honesty. And we cannot conceive it possible for such a character to steal money to gratify the desire to splurge in society. Surely it is the boon of boons to be well born.

#### WHERE HEREDITY BEGINS.

It is true that whatever is inherited, be it good or bad, mental, moral or physical, has its beginning at some definite arbitrary time. This is when conception occurs, for then, as has been said, the "gate of gifts is closed."

Chromatin is the one constituent contributed in probably equal quantity by both parents, and being constrained to accept this as fact, then there may be, equally and interchangeably, inheritance of features peculiar to either parental stock. We are also constrained to conclude that the qualities inherited are contained in and carried by the nuclear material we call chromatin.

Infectious diseases are caused by the invasion of pathogenic organisms, but many considerations force the conclusions they cannot and do not invade the germ plasm; and even if they could and did and their particular disease produced in the child, still that disease could not be said to have been inherited, for the disease germ in such instance would not be a part of but would be a parasite upon the germ plasm. True, the result is the same whether or not this is inheritance; but the distinction is true, and it is an understanding of the truth that we must have.

In studying this matter we recognize first, the parental properties transmitted to offspring, and this includes all forebears for all generations; and second, we recognize certain attributes which may be ascribed to the bio-chemical interaction of the two parental germ plasms. That such action exists seems most reasonable, for otherwise, what prevents all the offspring of the same parents from being identical in all physical, mental and moral attributes?

#### WHAT IS INHERITED?

It is of common observation that some families are susceptible to certain infections. This is especially observed in connection with tuberculosis. Every one experienced in the treatment of this disease knows that in certain patients, even in the true incipency of the attack, all efforts fail to check the progress of the processes. Opposing this state we find families

which show marked immunity against certain or all infectious diseases. Even in the same family the different individuals not infrequently show a marked difference in susceptibility. An immunity against disease in certain animal stocks has long been observed. A farmer in Indiana with much pride showed me an enormous boar. "There is no runt in the litters sired by that animal," he said; "and further, his pigs don't get sick." "You believe in breeding strong stock?" I said. "I certainly do," he replied, "for what is the use in having animals which even under good conditions won't grow as we want them to and are forever getting sick and dying?"

It is well known that Hereford cattle are rarely affected with tuberculosis, while the Jerseys are exceedingly liable to it. This has been explained upon the ground that the first named breed is more recently from the ranges, where pure air, "the enemy of consumption," is most abundant. That the Jerseys have long been confined in houses and thus subjected to bad air with its consequent ill effects. This is not satisfactory. It would not, for a moment, be offered as an explanation of those physical features by which we know the Herefords from the Jerseys, nor in explanation of the marked differences which exist in milk and butter producing capacity.

Obviously, heredity is the force which produces these differences and it also produces the greater resistance to the tubercle germ which the Hereford stock enjoys. The frog inherits a blood plasma that is inimical to the anthrax bacillus and the cholera vibrio. The first known blood resistance to disease was that of the fowl to anthrax. It has been shown that it is difficult indeed to overpower a fowl with anthrax bacilli and produce the disease. The pigeon is of special interest in this argument because of its inherited immunity to the bacillus of human tuberculosis; but while it successfully resists this disease, it does not resist all diseases. I believe it is possible to present an overwhelming mass of experimental evidence to show that a truly healthy organism is endowed with blood cells which are able to attack and destroy very large numbers of intruding microbes.

Laboratory investigations with living animals show conclusively that the blood cell of the healthy non-impressionable subject, attacks, absorbs, and digests tubercle bacilli with energy and dispatch. On the other hand, the blood cells of certain individuals, and even of all of the individuals of certain varieties, do not have the power of destroying tubercle bacilli; and then, no matter what the medicine or food or other external influence, off goes the subject with tuberculosis. The prevention of disease in such an individual, like the making of Dr. Holmes' gentleman, must be begun by selecting proper ancestors. To protect absolutely from pathogenic germs would, of course, prevent the development of their respective maladies; but to do this is hopeless. To do it in part is practicable, and we must push the work to the limit, but hygiene must do more. Eugenics as a science

must be studied and applied by hygiene in its great and good work of disease prevention. Heredity is a force which hygiene must employ.

Dr. Hill in his excellent series of articles entitled, "The New Public Health," says: "The old public health was concerned with the individual. The old showed the sources of infection in the surroundings of man; the new finds them in man himself." Dr. Hill's reference is to the infections which are found in man himself; that is, man himself cultivates and carries and transmits among the members of his race the disease infections. A true and wise utterance indeed, but not the last word.

A statistical investigation of certain eye diseases, especially myopia of a high grade, has shown that the first born children of families hereditarily affected are much more liable to have eye defects than later children. The consanguinity of the parents is also shown to be a predisposing factor. Further, statistics show that myopia is more frequently transmitted by the mother than by the father. Female children are more apt to inherit myopic defects than male children, while the males show a greater tendency to the inheritance of other eye lesions.

Recently Professor Karl Pearson gave a curious instance of the inheritance of cataract. He reported records of a woman who suffered from cataract of the eye and who had now living thirty-nine decendants, all of whom were sufferers from cataract.

Certain it is that a disposition to tuberculosis may be inherited. From the parents may descend tissues which actually offer an hospitable soil to tubercle organisms. Again, resistant tissues or cells may be inherited which present an inhospitable soil.

For soldiers, men are selected who are not simply physically strong but who have not suffered from sickness and whose parents have had a fair freedom from sickness. Very common observation discovers that short lived lines of stock exist. Generally a long lived person has long lived ancestors. The insurance companies make practical business use of all of these and of many other like facts.

Research by Tyzzer, Mayit and Haaland in Norway and the collective inquiries in Germany and Holland all confirm the influence of heredity in cancer; and it has been suggested that probably no one can have cancer who has not inherited the peculiar or weak cells capable of being affected. We know that all sorts of physical, mental and moral defects are transmitted with fatal precision. We do not inherit strength; that is the result of nurture; we inherit the ability to acquire strength, that something which may be developed into strength.

If this is accepted, then failure to be born with the trait which makes possible the acquirement of strength, means weakness, which no amount of nurture can overcome. Weakness means openness to the invasion of infections. It is true, no matter how strong the tissues may be, nor how

capable the cells may be to produce antibodies, they cannot withstand an overcharge of infection. Therefore, both strong and weak may have germs caused diseases, but those who have inherited resistant tissues or a strong power to produce antibodies, have the most desirable inheritance.

Epilepsy, sick headache and certain insanities are certainly hereditary diseases. These are really unbalanced or defective states of nerve composition which never can be trained or doctored to normal vigor or resistance.

Surely we must go back of the microbe to find the true reason for disease, or should I say—to find the conditions which permit ordinary acquisition of disease. For it seems true that from the force we call heredity is derived the blood cell in the non-impressionable subject which enables him to withstand physical strains and the onslaughts of large numbers of disease organisms.

It has been said "we are the plaything of the forces of nature," and so we are if by this is meant we are governed by inexorable law.

And the lesson we are to first learn is—that we must know the law and obey it. This understanding will indeed finally enable us not only to realize and fulfill the grand inspired message of Pasteur—"It is possible to drive all parasitic diseases from the earth," but also, that all diseases and all defects of body and mind may be controlled in great degree.