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THE ECONOMIC WASTE OF SICKNESS AND PREMATURE DEATH*

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LOS ANGELES

Throughout our years, from youth to age, we are individually prone to miscalculate the economies of our lives. We have aspirations and ambitions. We would get on in the world. We can earn so much. It will cost so much for food and shelter, for clothes and warmth, for schooling and for luxuries. We must have certain embellishments. A watch is an ornament and will usefully mark the time—it will cost one, or a hundred dollars. And we must have fine clothes and feathers and jewels, and amusements—we must play as well as work. Will our earnings compass all these?

Our calculations are based on the theory that these are all the elements, and that we shall continue to be here and able to work. We do not allow that perhaps we may fall sick, and find all our plans go wrong. So we provide no surplusage.

But we know that the pianist who loses a finger must change his occupation. We know that the chief oarsman who has the colic, or has eaten or drank too much, loses the race. To the engineman a spell of dizziness may cause a collision of trains; and the fame of a general, and the issue of a battle, may be lost by an attack of headache.

The problem is the same for every child. The career of your boy is at the mercy of your neighbor's boy who plays with him, and who has a throat diphtheria: So he is at the mercy of a slight blow on the back or the hip, which may disable him with joint tuberculosis, and make him a dependent for life instead of a power in the world. Or he may have an infected lung, or pleura, that knocks all your calculations awry; that transforms him from one who would lift to one who must lean all his life.

In planning our own and our children's lives we usually fail to make any calculation that health may break down, and that the individual may become a liability instead of an asset to his family and the community. If we could be compelled always to consider this vital interest, it would amount to the greatest single reform in society, for it would keep us and our children away from many of the pitfalls of physical calamity. The economics of health, sickness and premature death are at once the most needed and most neglected subjects of our study.

* Delivered at the Central Presbyterian Church of Rochester, N. Y., on the occasion of the meeting of the American Public Health Association and the annual conference of the Sanitary Officers of the State of New York, Sept. 8, 1915.

We covet good health because it means longer life, which is the world's desire, and the first impulse of the normal human heart. Good health makes us forget the terrors of death. Pain and suffering, doubtless, are great discipline for us, but we always hate them and always must. Sickness handicaps us and blights our prospects and hopes for the joys we think we are entitled to. So in our quiet, sane moments we are ashamed of such of our foibles and our sins as bring on sickness; for this reason we try, some of the time, to lop off these and to keep well.

Less often do we consider the economic reasons for trying to keep well, yet they are among the most vital reasons of all. We not only neglect the calculation, we are often a little ashamed to broach the subject when it involves our friends and our families; it seems mercenary and ignoble. A man will warn his son to avoid carelessness and foolishness that might make him sick or handicap him for life; he will say, "If you get sick you'll have to go to bed, take disagreeable medicine, and be kept from pleasures—and you might die." He may warn the youth that if he gets sick his mother must nurse him, and that may make her sick, but not a word about the inability of the family to bear the expense of sickness. Yet this may be the chief reason. Unable to afford a nurse, the mother nurses the family invalids and becomes one of them herself.

In an active practice of medicine of several decades, and with some familiarity with the life of many hundreds of families, I recall hardly an instance among lay people in which the caution for health's sake was frankly urged on economic grounds. And when it has been so urged it has usually been spoken of under the breath, as though it were a shame to put life and health on so sordid a basis.

But the economic basis is a most vital one, and money is our call on the world for the munitions that fight off sickness and death; for it is a fight, and a continuing one, till death takes us; comfort, health, refuge from sickness and death, are often found by means of this potent thing called money.

Sickness and early death are the greatest drains on the resources of most of us—and more than any one influence handicap us, personally and in families, in our search for the things of life that are of paramount value. Sickness is our greatest pauperizer, as health is our greatest asset; and we usually ignore both of these truths.

The actuaries have made it easy for us to state, with some approach to accuracy, the money value of health, the loss to the community from sickness through loss of earning time and from the expense that must be paid in cash. They have also shown us the vast public loss from child mortality. Not only is all sickness expensive, but epidemics have destroyed nations and

peoples, have led to the defeat of armies, and have interrupted and postponed for centuries great public works that have been needed in the development of society and the safety of states. The Panama Canal is one of them.

There can be no doubt that the figures are fairly correct as to the ultimate cost and the loss to the individual and the public from these calamities, but the loss appears to be largely in the cutting off of possible future gains rather than from loss of so much cash out of pocket (except sickness expense); and so the public is slow to believe wholeheartedly in the figures.

The pecuniary worth, potential and prospective, of an individual at different ages is given by Fisher as follows:

At birth	\$ 90
At 5 years	950
At 10 years	2,000
At 20 years	4,000
At 30 years	4,100
At 40 years	2,900
At 80 years minus	700

The value of life is figured on the possible earning power through the years that are promised for the individual, so the value of the younger members is high; that of middle life is a diminishing amount; while the aged have less than nothing of value in this sort.

The annual cost of illness and death in the United States is conservatively placed at \$460,000,000; let us add \$500,000,000 for loss of earnings by the victims, and we have a total of \$960,000,000.

According to the most thorough survey of Pittsburgh, covering the experience of typhoid fever for thirty-five years, Mr. F. E. Wing found that the cases lasted in disability an average of over thirty-four days, and that the cost to the community of each death was \$6,000.¹ In four years the cost on this basis was \$9,000,000. In October, 1907, before the filtration plant for the city water was finished, there were 593 cases. In October, 1908, after the plant was in use, there were ninety-six cases. Assuming that the 497 cases shown to be avoidable suffered a mortality of 10 per cent., which is a fair estimate, there were forty-nine deaths in one month, costing the community \$294,000. At this rate the saving to the public would cover the cost of the filtration plant in nineteen months.

The loss by preventable or postponable deaths, the country over, is probably many million dollars yearly. Fisher, some years ago, figured out the economic saving throughout the country, if needless sickness, deaths and fatigue could be prevented, as 1,500 millions of dollars annually. Nobody knows, or can know exactly, what proportion of deaths is preventable or postponable, but every student of the subject is sure that a very large proportion are preventable—or rather are capable of being postponed to a later time of life. Especially is this true of the deaths of infants and children. Much of the average increase of the span of life among enlightened peoples, from about 33 to 45 or more years, has unquestionably been due to the saving of child lives.

For a long time evidence has been accumulating that the average life is growing longer. Two hundred years ago the gain was 4 or 5 years in a century; one hundred years ago it was nearly 10 years per century; now it is at least 50 per cent. more than this, or in excess of 15 years per century, in this country.

We may postulate, and we ought to assert, that the great purpose of public effort should be to make the world a better place to live in. That is a broad, simple, general proposition that is understandable. It is axiomatic.

What constitutes making the community a better place to live in? What must every community do to this end? Many things may be necessary, and they will vary with local conditions, but they all tend and must tend in the final analysis to one aim, and that is the prolongation of the average human life. If human life is growing shorter, the world is a worse place; if growing longer, it is a better place.

The shortening of the average means more deaths in early years; lengthening it means fewer child deaths and more people reaching adult and advanced age; more people spared for the productive years of life. Longevity is fostered in all ages by good health and freedom from accidents and infections. These conditions connote longevity and the cutting out of the money losses of sickness, disablement, and death of prospective bread winners, otherwise the children.

With increase in average longevity the race is maintained numerically by a lower birth rate, and this invariably follows. A lower average birth rate means more vigorous mothers; fewer women destroyed in early life by excessive child bearing. Other things being equal, smaller families mean more vigorous children. High death rate among children means high birth rate. This usually means poverty, and may mean degradation. The child-bearing adults are sometimes so depressed in body and spirit by hard labor, by sickness and death about them, that all their higher ambitions are destroyed; and this is degradation.

A late review² quotes some very meaningful statistics on this subject which, while possibly not entirely accurate for all of the countries considered, are doubtless comparatively correct. It says that of 21 countries, outside of America, 11 have an average longevity of over 50 years; the other 10 under 50 years. The 11 have an average birth rate of 24.9 annually per thousand people, and a death rate of 14.08. The 10 have analogous figures of 36.2 and 22.5. Russia has the highest birth and death rate—45 and 28.3 respectively, with a longevity of only 27.8 years, and an annual increase in population of 16.7 per cent. On the other hand, Australia has very low birth and death rates, and the highest longevity. The rates are birth 27.5, death 10.8, longevity 56, and natural increase 16.7—exactly the same as Russia. The writer compares Austria-Hungary with Great Britain. The former has a birth rate of 31.7, death rate 21.2, longevity 38.3 years, and annual increase of 10.5 per cent.; while the figures for Great Britain are birth 24.4, death 14.2, longevity 53.8, and annual increase 10.2 per cent. The increase being so similar in the countries compared with each other, he infers some natural law maintaining a fixed relation of births to the deaths in a community. It is a logical conclusion, but the law is in part physiologic. It is not wholly some recondite "law" of unaided nature that lessens the births as the death rate falls. Other causes are a widespread reduction of marriages, especially of early ones, and a more or less extensive resort to methods of limiting the size of families—which it is a crime under our laws to teach others how to practice. Whether or not it is wicked, or how wicked soever it is, the practical

1. Irving Fisher gave to the International Congress on Tuberculosis the actual cost of each death by tuberculosis as \$8,000.

2. Editorial, North American Review, August, 1915.

fact is that some people discover methods and resort to them.

As people prosper, are more effective, live longer, become rich, educated and refined, the death rate decreases; so does the birth rate. Large families come to the few among this class who covet them, or believe, on religious grounds, that they ought to have them; but mainly they come to the poor, simple, uneducated, natural folk who love children and believe that God sends them, and these people are the stalwart ones who are forever rising in the scale of world values, and are becoming the controlling factors of society. This class itself degenerates later; and their descendants give place finally to like people as they were at the beginning, and so the wheel revolves.

With such percentages of annual increase in population as have been noted, the nations will some day reach the limit of convenient existence. Famine, pestilence and war have, in the ages past, kept the race numerically within living bounds. With world fellowship and means of transportation increasing, and the increase of land production due to improved agriculture, famines will decrease; with pestilential epidemics coming steadily under more control with a promise of suppression of most of them, the sweeping mortality of plagues is becoming less common. When the combined food products of the earth are insufficient for the mouths that are to be fed, what will happen?

Speculation may be unprofitable, but it is a safe guess that the diminishing birth rate will, so far from destroying the race, actually save it in such circumstances. Nor will the progressive reduction of births endanger the existence of the race. With the refinements and luxury of the many who will live in that far-off time, there will always be more of the humble, simple, clean and physically strong people who will preserve the race from destruction, until the approach of the end of the habitable life of the earth. That will be millions of years in the future, and I believe that even then the human race will progressively adjust itself to the oncoming severe conditions, and live ages after we short-sighted people would naturally guess that the last man must die.

With increased longevity, life is easier, and easier because of it. Life for all the people can be easier only by reason of more substance, that is, less useless expense, less waste of energy. This means stable governments, stable and fixed conditions of living, continued through many generations; good public and personal hygiene long continued; constant watchfulness to guard against dangers of all sorts. It means in general, peace and plenty. Longevity is increased by conservation of the powers of the individual, and the lessening of forced hard work for long periods, especially by women and children. It is increased by regular, moderate work, and by wholesome attention, not with soul-breaking intensity, to all the serious problems of life. But too much luxury and idleness tend to rather early degeneration of the tissues of the body, and so a shortening of the average longevity.

Moral suasion will probably never produce the greatest progress for the betterment of mankind through improved health conditions. Nor will the good example of the small minority of excellent people who lead hygienic lives accomplish enough, although it will do much.

It is necessary, and will always be necessary, for an endless campaign of education among the people,

most of whom are heedless and indifferent to the dangers of accidents and infections, and harm to others. Laws and ordinances will be necessary, and their faithful execution more necessary. Political effort and agitation must be continued, so that a majority of the people will support all sane health measures. The force of law must be felt by the people of all classes, especially the careless and indifferent, to prevent them from making themselves sick, to the public loss, and from endangering their neighbors. It is unsafe to live in a community where the moderate precautions of a sane public hygiene can be defied by any man or family with impunity.

In the last few decades one European state has signally illustrated this truth. During the last few years the length of the average human life has been increasing in Europe as a whole at the rate of nearly seventeen years per century; in Prussia the gain has been at the rate of twenty-seven years. Why is this? It is certainly not accident or any one fortuitous circumstance that has done it. It is probably due to the frank obedience of the people to the health rules of a forceful government. The rules have been formulated by experts for the preservation of the health and lives of the people; and all classes have obeyed with hardly a question. If there has been a question of the authority of the state in these matters, it has been hushed in a sentiment of loyalty to the Fatherland.

America is learning slowly that government is an instrument of force; it is learning a better respect for law, especially when the law is for the protection of all the people. The old doctrine is passing that every man has a right to do anything he likes, regardless of his neighbors, unless *he* can see that he is doing them some distinct harm. The bugbear of paternalism is also passing, and the mass of the people in the most progressive communities will not tolerate the logical results of the notion that there is no need of public hygiene.

It is only by a study of well-recorded facts bearing on the public health that we may surely know whether or not we are harming our neighbors. Prussia illustrates the effect of militarism, as applied to the preservation of health, and shows the value of *compelling* people to avoid infection, carelessness and excesses that tend to sickness and death.

Will better public health, gained by methods that may seem militaristic, develop in the people that sort of vigor and virility that will tend to a martial attitude toward other nations and threaten or produce war? Such a suspicion is groundless, even childish. Wars are brought about by human selfishness, jealousy, egoism, suspicion and hate between peoples and rulers of peoples. All methods for better health, whether forceful or otherwise, are for the benefit of the nation employing them and tend to peace; never toward war against another nation, unless that nation violates flagrantly the health interests of its neighbors.

We have, in this country, done a few things that show that we are becoming awake to the need of public and private hygiene. In some of our large cities we have, within a few years, lowered our annual death rate from twenty per thousand of population to fourteen or lower, largely as a result of the most constant watchfulness and insistence on health regulations. Here are a few of the measures that have brought down the death rate and raised the average age of the people:

1. By improvement in milk supply in cities and towns, the amount of bad milk sold has been reduced often to less than one tenth of the former figure. This gain has been made at the cost of stringent ordinances, constant watchfulness of the milk supply, daily laboratory examinations of the milk, frequent inspections of farms, herds and dairies, and frequent and merciless prosecutions. And the struggle goes on for still better hygiene and economic conditions of milk supply—and there is need enough for it. Rochester (N. Y.) is wasting a half million dollars annually in the way her milk is delivered to her people.

2. Diphtheria antitoxin, and the almost universal use of it in cases of this disease, has materially lowered the death rate. The cost has been a campaign of education of the medical profession and public as to the life-saving value of the measure; the supply of the article free for the poor; the examination of throat specimens at public cost, and the insistence on scrupulosity in the manufacture of antitoxin.

3. Improvement in water supply for urban and rural populations, often at enormous expense to the public, has cost strenuous political, educational and social campaigns to induce the governments to vote the appropriations. For the effect of this measure on the death records we need only to look at the typhoid mortality of two cities, before and after. These are Chicago and Philadelphia; the drainage canal in the former, and the filter plant in the latter.

4. The destruction of mosquitoes in the prevention of malaria and yellow fever. These fevers have been among the most destructive and expensive in all history. It is impossible to compute the annual cost of them to the world before the mosquito discoveries, but it must have been scores of millions. The cost of mosquito destruction has been high; but it is a trifle compared with the cost of the diseases they produced. The control of plague and cholera constitutes a similar story. Like yellow fever, they often occur in epidemics. We know their microbic causes, and have learned how to stamp out the epidemics, and, to a degree, how to prevent them. Dr. Blue, the head of our federal health service, has shown us how these ends are attained; and our Dr. Strong, the hero of Mukden, has, in that city with a terrific epidemic of pulmonary plague, accomplished one of the most brilliant feats of control in all history.

5. Tenement house inspection and the prevention of overcrowding is a good measure that has met with less popular opposition than many other reforms.

6. The regular inspection of schools by medically educated experts eliminates children capable of spreading infection, and helps toward the relief of those handicapped by disorders that are correctible. This measure is being adopted by most progressive cities, often in the face of strong and persistent opposition. It is subject to few drawbacks, and has been almost free from abuse. It is increasingly popular, and ought to be.

7. Scientific midwifery among the poor at the hands of selected dispensary physicians and visiting nurses, and instructions to poor and ignorant mothers in the care and feeding of their babies (with free milk, if necessary). By means of these and similar measures, New York City has, within a few years, reduced its death rate among children under one year of age by more than 30 per cent. This record will be repeated by many other cities and by the more advanced country

regions. But it will probably be a long day before we can match New Zealand, which has the lowest infant mortality in the world.

The poor people have, of course, accepted these benefits gladly, but the public has required vast argument before voting the needed money. With such a record before it, the public is guilty of a flagrant waste of its own substance and of constructive manslaughter, if it refuses to supply the funds.

8. Visiting nurses for ordinary sickness, in cities, instructing and helping families that need it, prevent a lot of sickness, and they hasten recovery in many cases, and so cut down the cost of such calamities. The governing bodies of cities are usually slow to discover the value of this measure.

9. Vaccination against smallpox and typhoid fever. That against smallpox, notwithstanding bitter opposition, has for many years been so general that a considerable immunity among the people seems to have been established; and that against typhoid fever will before many years, if we can bring the facts to the knowledge of the people, become very common—with the result that typhoid will become a rare disease in the general community, as it is now in the armies of the enlightened world.

10. The pure food and drug laws now in force in this country have contributed to better health among the people, as they have repressed certain forms of unfair dealing and fraud among manufacturers and merchants. This reform was bitterly opposed in Congress and the legislatures for many years by certain powerful business interests.

11. The regulation and partial suppression of the use of alcohol has cut out a great amount of useless expense to the people, as it has reduced the amount of sickness. This is the verdict of the statisticians generally, notwithstanding the contention to the contrary by some good men. I believe that no woman has made such contention. We have undertaken, by federal law, to suppress the popular use of opium and cocaine, except in cases of known and necessitous sickness. And public sentiment will not allow this law to be repealed. We have made no large attempts at reducing the use of tobacco, except for children. Tobacco has been shown to increase the death rate, and the habit is a money-eater. Besides being very costly, it is probably the most grotesquely curious habit of the human race; speaking generally, no one ever began the use of tobacco because he, by himself, at first desired it. Probably a thousand million dollars annually is spent because of the tobacco habit.

12. The fashion for fresh air, outdoor sleeping, and athletics among students and the young generally is a powerful aid to hygiene, and has lessened the death rate. Let us pray that the fashion will not change. Draughts of fresh air do not cause colds; these are due to some derangement of the body health. And all the advantages of a flood of fresh air are gained by a moderate amount of it, if it is kept in motion; hence electric fans and a lesser coal bill are in order.

13. Taking some tuberculous patients off the street where they are careless with their sputum, and sending them to proper sanatoriums, not only helps them, but protects the public. Thousands of such patients are now in such places, where under watchful care they harm nobody, and have some chance of recovery themselves. Hundreds of sanatoriums, state, municipal and private, have been built and are operated at great expense, but the saving of life has much more than

covered the cost. The public education as to the dangers from careless spitting has returned more value to the public than the cost of all the sanatoriums. But this education is not more than a quarter accomplished. The propaganda must be kept up until all the people know and remember the facts.

14. The cure of hookworm disease is one of the greatest gains. We are amazed that a few cents' worth (less than one day's wage of a laboring man) of a harmless medicine could cure so destructive and costly a disease. It is now within the possibilities to make uncinariasis a rare disease, and incapable of wearing out a single patient. In Porto Rico 89,000 people were cured at a cost of 54 cents each.

Other reforms must follow, and a great and united popular sentiment push forward all such as can minimize the sickness of mankind, so that there shall be a constantly increasing number of people who will escape death until overtaken by the unavoidable degeneration of tissue due to age. Even some of these degenerations will doubtless be found preventable or postponable to a later time in life than they usually now occur.

Here are a few of the things to hope for:

(a) More educated health officers, and more education for them in universities. They must be sane people, men and women—certainly women as well as men!—who know how to get along with other people; who can usually get the laws carried out with the least friction; and who respect the rights of the people while loyal to the law; who are jealous of the rights of the weak and helpless; and who do not have an excess of official dignity, with projecting elbows. Such are people capable of proposing new and better health regulations than we have; and they can convince the majority of their constituents of the necessity of progress, and of the value of the reforms they propose. Many health officers, like other public servants, are autocratic, uncompromising and apparently anxious to show and use their authority. Neither the cause nor the public good needs such servants. People in authority, when obliged to use their power in ways likely to be displeasing to the people affected, should always regret, and act as though they regretted, to use their power with severity—and then use it politely if firmly, and only after persuasion. This is the hand within the velvet glove that usually accomplishes the difficult object with thanks rather than execration from the public.

(b) Improvement in the hygiene of rural life and rural schools. Both are disgracefully below the standard in cities. Country life ought to be the healthiest life of all; and country schools can, with only moderate industry, be made as wholesome as any school in the metropolis. The movement by two great organizations, the American Medical Association and the National Educational Association, to further this purpose ought to have our hearty encouragement. It is a profitable measure and means health and wealth for the whole country. It has not kept pace with the progress in the conveniences of country life, such as better roads, automobiles, telephones and free mail delivery. The country people are lamentably neglected in the matter of hospital care and expert nursing. A few of our states have awakened to the necessity of enabling counties to provide proper hospitals and nurses for rural communities. This movement ought to be advanced by every means possible.

(c) We should teach early and late the value of keeping the physical body up to normal vigor all the time. It wards off sicknesses and helps us to weather them when they are unavoidable, and it often keeps us out of the expensive hands of doctors and nurses. Early diagnosis of apparently trifling ailments is important. Severe diseases are thereby often prevented. This is what the school inspection doctors do for the children. In sickness, procrastination is one of the most expensive and dangerous of our indulgences.

(d) We need to make a more vigorous campaign against flies, mosquitoes and vermin. Swatting the fly is good, but it is a makeshift. We must destroy the breeding places of flies and mosquitoes. We know the methods of doing this, and it is infinitely cheaper than our burden from the unlimited breeding of these pests. But one careless and indifferent family in a neighborhood can furnish breeding places for the flies and mosquitoes for the town, and nothing will do effectively but an ordinance requiring the health officer to declare all such places to be nuisances, and to compel their abatement. This, with public sentiment to sustain the officer, would reduce these insects to a trifling inconvenience. And one popular and successful movement that could enact such an ordinance and cause its effective enforcement would mean a general interest in public health that is equal to other reforms that would give the community a nation-wide, enviable reputation, and insure the lowest death rate.

The importance of body vermin in spreading infectious diseases has been emphasized by recent studies in typhus fever. Certain of the warring nations of Europe are profitably carrying out extensive measures for scrubbing the bodies of their soldiers, and disinfecting their clothing by heat.

We might profitably increase our facilities for free baths for the poor in cities. The bath house might have facilities for heating safely and quickly each bather's clothing while he is in the bath. The self-respecting bathers would probably resent the suggestion of vermin in their clothing, but they would not object to the disinfection if told that their clothes might contain tubercle or typhoid bacilli, and that the oven would not harm the garments.

(e) We ought to make a larger effort to lessen the spread and havoc of the venereal diseases. The economic loss to the nation from them is beyond computation. The results are great suffering, disabling complications that are sometimes mortal, blindness, insanity, barrenness, locomotor ataxia, aneurysms, loss of service and other multiplied calamities. The list is long and sickening. And the diseases are widespread, especially in cities. In New York in one year the number of cases was about 4.5 per cent. of the whole population.

We have done a few things to lessen them a little, mostly working around the edges of the problem, as it were, without attacking it in the direction of its greatest menace. We have to some degree banished the promiscuous drinking cup in public places, on railroad trains, and where numbers of people are employed. This helps a little, and is a good object lesson in hygiene.

We have advised against promiscuous lip kissing, with small result to change a fashion.

We have encouraged the use of domestic and toilet facilities that tend to lessen the spread of the diseases.

We are, with admirable unanimity, successfully fighting against segregation and official examination of prostitutes. This will remove somewhat the temptation to men and boys toward the dark ways—with a fatuous sense of safety that never exists.

We have reduced somewhat the use of alcoholics, for these have led countless thousands of men and boys to contract these diseases, who otherwise would have had enough caution, self-respect and resolution to avoid exposure to them.

We have begun to get over our cowardice and prudery, and to give a few boys and girls some slight knowledge of sex hygiene, and how to avoid these infections.

We have, by an admirable addition to the principles of medical ethics, unlimbered the tongues and courage of physicians who can and will, better than formerly, protect women known to them to be in danger through expected marriage. The certificates of perfect health before marriage that a few clergymen are demanding will do a little good, but not much, because of accommodating physicians and careless examinations by those unskilled.

Surgeons, in treating these diseases, are more cautious than formerly to avoid infection, by the use of rubber gloves and other devices.

We have seen most of a certain class of doctors shamed against further spreading of that abominable physiologic heresy that the health of any man requires sexual indulgence. Their subsidence has undoubtedly lessened a little the spread of these diseases, as it has lessened the degradation of man.

We are more and more providing quick and efficient hospital and dispensary care for the poor who are overtaken by these infections, for this is humane, and is a protection to the community. Every such patient is a constant menace to the people about him.

Lastly, we are preaching the gospel of a single standard of morality for men and women alike. This is right as well as righteous, and will do good as far as it goes; but with a present record of 60 per cent. of syphilitic women; having received the infection from their husbands, it is to be feared that it will not for many years greatly influence the spread of venereal diseases. Not 1 per cent. of syphilitic men receive the infection from their wives.

Probably the most effective means within our power to lessen greatly the spread of these diseases is the general education of the young of both sexes as to their nature, their baneful effects and the way to avoid them. But this measure, clearly the right of every boy and girl to have for their own protection, and much desired by them, is strongly opposed by many good people for reasons that seem to me utterly inadequate and even nonsensical. May the wisdom of these sensitive people, the love of their kind, their respect for essential purity and the rights of the young so increase that they may come to know that whatever knowledge is necessary in order to be healthy and avoid death is proper for young and old alike; and that not forever shall the best youths of our land be allowed by their ignorance to go blindly to their destruction.

(f) Finally, and never to be forgotten, the progress we have made in cutting down the death rate has been due to the results of scientific research during the last few decades. But for this research we would still have a death rate in our cities of twenty to twenty-four per thousand annually instead of fourteen or less. In this

progressive work the pathologists of America have had a great part.

The wonderful results so far achieved are a promise of greater yet to come, and tuberculosis, cancer, diabetes, pneumonia and other destroyers of mankind will yet be conquered. The public health weather vane points to more endowment of research, and that is what we most need. The workers are ready, but the public says the endowments are expensive. That is true, but the beneficial results are one hundredfold greater than the cost.

The promise of further reduction in the death rate is in two factors only: the more efficient use of the knowledge which research has already given us, and of the new knowledge which further research is bound to produce. On this progress we pin our faith, in the calm certainty that it will not fail us.

The Auditorium.

PHYSICAL EXAMINATION AND REGENERATION OF EMPLOYEES*

SIDNEY M. McCURDY, M.D.

YOUNGSTOWN, OHIO

The advantage to be gained by industries in this country entering the field of preventive medicine by means of the physical examination of employees depends on the attitude assumed by medical advisers and the captains of our industrial organizations. That the need for the physical examination of the working force of the world is fundamentally sound, and has an economic and humanitarian basis, has been recognized by the medical profession for years. The fear of a few people, and they are often great molders of public opinion, that some industries may abuse the privilege gained by a knowledge of the physical condition of its workmen is no ground for the denial of its usefulness to all. Industrial organizations are in business and not philanthropy, and therefore are primarily interested in the increased efficiency and the diminished waste, which are due to preventable accidents and sickness. Industry is also humane and is as distressed at inhumane practices as is the individual. Neither the individual, industry, or, in the last analysis, society can afford any unnecessary loss of productivity, or of diminished efficiency due to reparable and preventable physical defects.

For ages the medical profession has been endeavoring to educate the public in the science of preventive medicine, and the public in turn as it has received the education responded by making new laws for the control of public health. Today we hear, knocking at the door, large aggregations of capital, asking that they may be admitted to the portals of preventive medicine, and that they may lend their aid toward stamping out the wastes due to preventable accidents and sickness. Just what industries were real pioneers in the work of the physical examination of employees and to what medical men especial credit is due does not seem to be clearly recorded.

Railroads were among the earliest to engage in this work, but with the avowed purpose of eliminating the unfit, and with no provision for physically regenerating them. I recently read in a report of the Colorado Fuel and Iron Company that many years ago Dr.

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