

# THE EFFECTS OF SOME DISEASES, HABITS AND HEREDITY UPON LONGEVITY.\*

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MR. CHAIRMAN AND GENTLEMEN: There are a number of diseases, occupations, environments, heredity and personal habits that enter into the longevity of the human race. While there are many more, the brevity of this paper will only permit us to consider four or five of these diseases, or conditions, with which we have personal experience.

Intemperance in drinking is the first of these habits, or conditions, which we will consider, for the drinking habit, treating, the social glass, is considerably in evidence among many of our best citizens as well as among the other classes of society. The excessive drinking habit is injurious to the individual and to longevity, not only from the diseases which follow in its wake, but it is the likelihood that the chronic drinker will become engrossed in difficulties, broils and feuds, which he would otherwise avoid, that tends to make the chronic drinking man's life hazardous in the extreme. It should be remembered that the majority of moderate drinkers constantly increase in their habits and tastes for liquor, as it is a drug that enslaves; the moderate drinker of today is oftentimes the confirmed inebriate of the future. It has been said that a runaway horse is never safe in harness after he has once kicked out; it is also true that 90 per cent of the chronic drinkers keep up their bibulous habits until death claims them, regardless of the many so-called drug and liquor habit cures that are foisted upon an unsuspecting public.

It should also be remembered that Venus and Bacchus go hand in hand; the man who drinks excessively of wine very often ends up his escapade in looking up some Venus to consort with, from whom he is liable to taint his blood with a disease that may not only follow him to his grave, but be perpetuated to his

children and generations which may follow.

If any one present in this audience will reflect over their college days, and remember the friends they had with the unquenchable liquor thirst, not only during the Christmas holidays or banquet times, but day in and day out during the year, you will find that they have long since joined the great majority. As medical and educated men you know the most fertile source of cirrhosis of the liver, nephritis, gout, rheumatism, gastritis, malignant diseases and ulcer of the stomach, arterio sclerosis, apoplexy and many other of the diseases which figure most prominently in our mortality statistics, are attributed directly or indirectly to the excessive use of alcoholic stimulants in one form or another.

When we study statistics on the subject we find that one out of every ten bar-room or inn keepers die from alcoholism or its effects and that only two clergymen out of every thousand die from the same cause. Frau Jurke was a chronic drunkard who was born in 1740 and died in the year 1800. 709 of her 834 descendants were traced, with the following result: 106 were illegitimate; 142 were beggars; 64 were charges of the state; 181 females were prostitutes; 69 were convicted of crime; and all told the descendants of this one dissolute and dissipated woman cost during the period of seventy-five years a sum estimated at \$1,250,000. It does not matter whether this degeneracy was the result or the cause of alcoholism, the effect is the same on the community at large.

Heredity plays an important part in longevity. While not more than two or three diseases are transmitted from parent to child, predisposition to diseases are often inherited. To illustrate: We could not inherit

\*Read before the American Life Convention, New Orleans, La., Feb. 24, 1911.

freckles, but we do inherit the blonde complexion and thin skin that makes the child freckled as soon as exposed to the sun; so many of the tendencies to disease are inherited in this way. The following ten laws of heredity are usually acknowledged to be correct. "Church & Peterson."

1. The child tends to inherit every attribute of both parents.

2. Contradictory attributes cannot be inherited from both parents.

3. The child may inherit the attributes of either parent solely.

4. It may inherit the qualities of one parent in some respects and of the other in other respects.

5. It may inherit the father's attributes for one period of existence and the mother's for another.

6. Some attributes have the quality of prepotency, or the tendency to push aside or overrule other attributes.

7. Attributes which are similar in both parents tend to become prepotent, giving rise to convergent or cumulative heredity.

8. Attributes may be transmitted in latent form from one generation to another, to reappear in a third or fourth or still more remote generation—a phenomenon termed "reversion."

9. Attributes tend to appear in the progeny about the same time of life in which they become manifest in the parents.

10. Attributes of the father tend to be inherited by the sons and of the mother by the daughters.

No one will deny that heredity plays an important part not only in tuberculous and cancerous affections, but it is equally true of albuminuria, rheumatism, apoplexy, gout and many other diseases. Maudsley has said: "There is a destiny made for a man by his ancestors, and no one can elude, were he able to attempt it, the tyranny of his organization." It is well understood that in these cases with a predisposition, or lack of resistance to infection, there is a fertile soil, and

when once, for instance, the tubercle bacillus is transplanted into such soil, the story of the case is soon entered in our mortality tables.

Notwithstanding the repeated declarations by numerous leagues that consumption is not hereditary but infectious, that consumption is a house disease, and that we are infected through milk, meat, kissing and dry sputum that is inhaled, nevertheless the one fact remains potent that the insurance companies had to pay a heavy price for their knowledge of the fact that risks of tuberculous parentage have a higher mortality than from those families whose parents are not tainted with the disease. We can readily understand the fact that the tubercle bacillus cannot infect the spermatozoa or germ plasma, but the ovum that is impregnated and developed in the womb of a tuberculous mother for nine months stands a strong chance for direct infection through the placental connection and that underweight persons from such mothers have had exceedingly hazardous mortality; for while we may not inherit tuberculosis we do inherit a lessened vitality, or a tendency toward the contraction of tuberculous diseases, which has decimated or wiped out of existence many families.

Out of one hundred cases of tuberculosis investigated in a hospital, where records were not perverted as they often are, 70 per cent of the cases had a tuberculous parentage. The fact of the matter is that the tuberculosis tendency is inherited; the disease is also infectious. This is the reason for increased mortality in underweights who inherit this lessened vitality. We must also take into consideration the fact that not only underweights may inherit this tendency, but that their brothers and sisters inherit the same predisposition; so they run the double risk of not only inheriting the tendency to tuberculosis, but perhaps later in life becoming infected by living with their brothers and sisters, any of whom are liable to develop the disease. Not only is the death rate from tuberculosis exaggerated from such tainted stock, but the mortality

from many collateral diseases is very much increased from parents tainted with tuberculosis.

It is estimated that one-seventh of all deaths are from tuberculous causes, and that between the ages of 18 and 35 one-fourth of all deaths are of tubercular origin. In twenty-five years we have had about 23,000 deaths in New Orleans from tuberculosis with approximately only 800 deaths from yellow fever, showing the great mortality from tuberculous diseases.

Syphilis and diseases resulting from it add largely to our mortality tables.

If "606" or salvarsan comes up to its expectation or promises, which very many careful and conservative medical practitioners doubt, there will have to be a rearrangement of mortality statistics coming under the class of syphilitics. It is expecting too much that one injection of an agent which in some form or other has been used since almost the very beginning of medicine, should revolutionize the hazards of a loathsome disease, rendering it innocuous for all times by a single injection. It is essential in every case where we have a syphilitic case under consideration to be sure of our diagnosis, because many laymen are not expected to understand the difference between chancre and chancroid; so that quite a number among the laymen have honest doubts on account of this supposed infection from syphilis, which in reality in some instances was a mistaken diagnosis. With the Wassermann reaction and the discovery of *spirocheta pallida*, a great deal of light has been thrown upon the diagnosis of this disease, and we can come to conclusions with very much more accuracy than before these discoveries were made.

While we have very few exact statistics in regard to the number infected in a given population, as a rule we think the percentage rate of infection by syphilis as given by specialists is rather higher than actual experience would justify. Some have contended that as high as one in six in city population have been in-

fectected either by acquired or hereditary syphilis. Some of our Southern physicians have stated that nearly all of our negroes are syphilized, and that tuberculosis and syphilis will finally end the race question, as tuberculosis is three times more prevalent among the colored than it is with the white people. It is my personal experience during twenty years of active practice in New Orleans that this ratio of infection, one in six in syphilis, is very much exaggerated; perhaps one in twenty-five would be nearer the truth.

Fournier states that "in 2,395 cases of syphilis in which the date of invasion of tertiaryism could be determined exactly, 106 died in the first year, 227 the second, 256 the third, 229 the fourth, 205 the fifth and 201 the sixth year. So that the tertiary form is reached in more than one-half the cases within six years. The deaths from the tertiary results and complications of syphilis have been so numerous that Runeberg finds double the expected mortality in all those who admit ever having been infected; so syphilitics have very little chance of reaching old age.

The following rules have been given and followed by many of the most conservative medical directors of the country at the present time: No person under the active treatment of a well defined case of syphilis is insurable until six years after date of infection and two years of actual anti-syphilitic treatment has been carefully carried out. Any evidence of tertiary syphilis is a ground for rejection. If there is no glandular enlargement, eruption, or mucous patches, following a supposed infection after six months of waiting, the patient might be insured. It is our opinion, based upon actual experience, that many syphilitic subjects properly treated with iodide of potash, mercury, or cacodylate of soda, with proper hygienic dieting and hot bathing, can be actually cured, as proven by no tertiary symptoms appearing and the union of marriages of these patients resulting in perfectly healthy and normal children; such a result can only be expected where the in-

telligence of the patient and the persistency of the doctor follows up the treatment to its legitimate end. As a matter of course we would not encourage or advise marriage in all such cases, but after six years have elapsed without a symptom, we think the ban of celibacy could be properly removed.

Malaria, like many other diseases, has had much of the venom or sting extracted from it. You remember the fearful mortality that almost decimated the laborers under De Lesseps in his efforts to excavate the Panama Canal. The mortality at that time from both malarial and yellow fevers reached unprecedented records. These diseases as much as political graft and inefficiency caused the abandonment of the project by the French government, after twenty years of disastrous experience.

As a matter of course, you all know the history of Dr. Gorgas' sanitary work in Panama, which has reduced the mortality on the isthmus to 15 per 1,000, or about equal to the mortality rate in our best sanitated cities in the United States. What has been done in Panama has, to a limited extent, been duplicated in our Southern states. Not so thoroughly as a matter of course, because one is done under military regime and the other by sanitary inspectors and boards of health, with less power of enforcement of regulations. Another condition which has helped on the isthmus has been the issuing of rations of quinine just the same as food. This compulsory prophylaxis or taking quinine by the ton has helped to eradicate the malarial plasmodium. The drainage of the swamps and lakes to destroy the breeding places of mosquitos has also had much to do with its reduction, but so long as a number of people were acting as hosts as between the mosquito and the next man to be inoculated, there could be no definite stamping out until the population of the zone had been practically cinchonized.

In our Southern states the great majority of the anophiles mosquitos perish or hiber-

nate during the winter months, but the malarial plasmodium lives through to the next spring in the blood of malarial subjects; so it is virtually the man, and not the mosquito, that carries over this disease from one season to another.

Dr. Harris says: "Malaria, though decreasing in severity and frequency, continues as one of the most prevalent diseases in many localities in the United States. In 1900 the number of deaths reported from malaria was 14,900. The seriousness of the disease and the importance of medical cure should be more emphasized, especially as quinine, taken long enough, is almost a specific for the disease. The most marked effect of malaria is seen upon the renal organs and vascular structures; consequently in malarial countries the death rate is high and the mortality from nephritis and various forms of paralysis is inordinately increased. There would be little chronic malaria if acute cases are cured, but there are today probably two or three million persons in the United States who are harboring malarial parasites. The microscope is not always a criterion to chronic malaria; undoubtedly the disease exists without the presence of the parasites in the peripheral circulation. There should be a campaign of education begun with the medical profession, because physicians as a class do not appreciate the seriousness of malaria or the ease with which it can be eliminated.

It has been reduced 65 per cent in five years in Italy by the free use of quinine. All duty on quinine or peruvian bark should be removed. Boards of health should furnish the drug to poor people free in malarial sections. If we had the power to cinchonize our infected population in the winter time, and to drain our swamps, lagoons, marshes, and oil our lakes, we could get rid of malaria altogether. But the most optimistic can hardly expect this consummation at least during our generation. Within a period of twenty years as a practitioner and teacher of medicine in this city, I have personally witnessed only one death.

from malarial fever, and that was of the congestive or aestivo-autumnal type at Ruddock, La., a point forty miles above the city.

The anophiles is a back-of-the-city, country, lake or swamp bred mosquito, and is not very prevalent in New Orleans, except on the lake border, or where there is stagnant water. I think that the blood of three-fourths of the inhabitants of this city would be negative as to the malarial plasmodium. We very rarely see malarial chills in this city, except from patients who have migrated from the country. So far as the effect of malaria on longevity in New Orleans is concerned, I would consider it of no very great importance. The parishes along the river front are less infested with malaria than are the lands on the lakes, bayous and lagoons that exist further back in the swamps. This has caused the majority of insurance companies to remove the five and ten dollars extra per one thousand which they originally charged against applicants living in the swamp section of the South, and very many of these companies have gone into previously prohibited territory to solicit business. This is dependent upon two causes. A great many of these farms and sections of swamp lands have been better drained, houses and beds have been screened, even our colored population, who are not subject to malaria, know the preventive effect of the free use of quinine. So the numerous deaths formerly recorded from congestive malarial fever and malarial hemaeturia, have given place to the milder forms of chills and fever, which are only harmful to longevity from its destruction of red blood corpuscles, producing anaemia, congestions of the liver and spleen, etc., rendering the patient more vulnerable to other diseases, or coming in as complications to pneumonia, Bright's and any of the acute infectious diseases.

If starvation has claimed its thousand, overfeeding has claimed its ten thousand.

One of the worst results of the habit of gormandizing and excessive drinking is gout, and the diseases apoplexy, Bright's and vascu-

lar trouble, which so often accompany it. One of the actuaries for a large New York life insurance company showed only 48 deaths from gout in a period of 40 years, as some other cause than gout is usually given when death takes place, though from the previous history and attacks of gout it was plainly evidenced that these subjects had rheumatic or gouty tendencies when insured. The pecuniary loss to the company from such risks is four times greater among gouty and rheumatic applicants than it should be. Such subjects have always been considered hazardous risks, particularly as these patients usually live in large towns and cities where the appetites that they have cultivated are kept up as is the case of drinking habits which often increase, and this is productive of both the gouty and rheumatic diathesis. In exceptional cases such applicants have lived out their three score and ten, but it is the general average, and not the exception, that we have to deal with in mortality tables. As said before, it is thoroughly known to all medical directors that where the immediate cause of death is given as apoplexy, heart disease or kidney trouble, gout was the real contributing cause, which had rendered the life hazardous from the time it was insured. Current text books say "the outlook for gouty and rheumatic patients is seldom favorable." The course of gout and rheumatism is ever a downward one, and may be cut short at any period by the rapidly coming on of organic degeneration in the blood vessels, or to intercurrent maladies, such as heart and kidney diseases, apoplexy and pneumonia, to which all gouty patients seem particularly liable. Such cases should only be insured after there has been an absence of attacks for four or five years where habits have changed and where the hereditary tendency is not well marked. Even then it is perhaps better to give only endowment insurance.

Overweight subjects carry the suggestion of overfeeding or overdrinking. The experience of medical men in dealings with such

patients has been hazardous in the extreme. There is a French adage that "We dig our graves with our teeth."

While overeating is not so damaging as intemperate drinking, it is nevertheless one of the common causes of short life history. This can be readily understood when we contemplate the fact that the average well-to-do person eats twice as much as his necessities require. The food is very often improperly cooked and masticated, which is as damaging as the overeating. Gladstone, who lived to be 97 years old, was reputed to have masticated every morsel fifteen times, so that the food was thoroughly mixed with the salivary juices and in an absorbable state before it entered the stomach at all. Overeaters, drinkers and gormandizers should remember that the twenty-nine feet of alimentary canal is the sewer of the system, and that it is more risky to neglect the one within you than the one on your premises.

The large meat eaters and wine drinkers should know that food undergoes the same decomposition within this human sewer as it would undergo if improperly kept and treated outside the body. The ptomain and other poisonings, of which we read so often in the daily press, are but records of this decomposing food products within the body. These, however, are the acute results, which impress themselves forcibly upon the mind, but it is

the slower results upon the liver, upon the hardened arteries and overchoked kidneys, dilated stomach with gaseous distentions, that are some of the secondary results of this overfeeding, which are only too often referred to other mortality causes. As heart and kidney diseases very often go hand in hand with intemperance in both eating and drinking, it is the overloading of the system with indigestible food and beverages that is very often the starting point of many of the sudden deaths. As said before, gout and rheumatism are two other diseases high in the mortality tables, which are very often traceable to overeating and drinking.

The average man fifty years old weighing 200 pounds and less than six feet tall is almost sure to have hyaline or granular casts in his urine if he has been an excessive eater or drinker. The lack of elimination in such subjects on account of constipated habits and improper action or lack of action of the kidneys and liver, have led to numerous fatalities that otherwise might have been averted.

The army and navy rules are two pounds to the inch up to five feet seven inches; after this height seven pounds may be added to each inch, and still be within the range of acceptance. If you will exclude the lightweights with no consumptive histories or taints in the family, they have greater longevity than those heavyweights who are addicted to intemperance both in eating and drinking.

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### ABSTRACTS FROM AN ORATION—"THE COMMERCIAL DOMINATION OF THERAPEUTICS, AND THE MOVEMENT FOR REFORM."

By: GEORGE H. SIMMONS, M.D.,

Chicago.

We have long suffered from a want of governmental or other supervision over the manufacture of medicines. In no other country has the standard and quality of drugs been left entirely to the manufacturer's honor.

From time to time the medical profession has made spasmodic, but weak, efforts to remedy the condition: we find records of this even as early as the beginning of the nineteenth century.

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