

*Impairance. Alcohol. Physical Effect*

DISEASES OF HEART

DISEASES  
OF  
BLOOD  
VESSELS

DISEASES  
OF  
KIDNEYS

THE TRIANGLE OF DEGENERATION

—Illustration from Bulletin of the Provident Savings Life Assurance Society.

# SOME DISEASES OF MATURE LIFE

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**T**HE human machine, normally constituted and normally directed, should keep in running order, according to our present physiological knowledge, from seventy to ninety years. At least fifty of these years can be counted as of service to the individual's immediate family, to his community in all probability, and very possibly to the nation or to the world. Instances of such well-rounded lives are sufficiently frequent to warrant the assumption that such is a normal expectation of well-spent human existence and that any marked departure from it denotes corresponding inefficiency in the art of living.

## What Diseases Are Being Conquered

The yearly reports of the United States Census Bureau, with their detailed causes of death, afford reliable material for a study of the causes of abnormally shortened lives. The latest report, that for 1913, contains tables of the death rates from different important causes since 1900. In these tables



appear clearly the fruitful results that have followed the active campaigns against tuberculosis and other infectious diseases. All of the latter except measles, rabies and venereal diseases show a marked decline. Civilization is conquering these causes of premature death.

#### The Sick at Work in Middle Life

But another class of diseases against which no special efforts have been directed, excepting the bulletins issued by the various life insurance companies, presents either a steady increase in the death-rate, or a standstill with slight fluctuations from year to year. These are peculiarly diseases, not of youth, but of maturity. Many of them carry off men and women in middle life, thereby shortening their period of usefulness and productivity.

A number of studies have been made of the statistics of mortality from special diseases at various ages to find what ones occurred most frequently. The chief causes of death thus detected are, diseases of the heart, arteries, and kidneys, and cancer.

The study of the causes of these diseases has been a more difficult task. They are so interwoven that it is difficult to tell which grow out of or lead to the others. Of late, increasing emphasis has been placed upon the agency of infection as the inciting cause. "The role of bacteria in causing kidney trouble and arterial and heart changes is becoming more and more apparent," says Dr. Eugene Lyman Fisk,\* Director of Hygiene of the Life Extension Institute.

If this is the case, the way in which factors that have been held as causes exert their action may be more easily interpreted. Alcohol, for instance, has been fairly well demonstrated to diminish normal resistance to bacilli and this would account for its frequent appearance in the list of conditions that appear to work together in the origin of these leading diseases of adult life.

Standard medical works\*\* include the following conditions that are commonly found in clinical experience to precede or accompany the diseases of heart, liver, and kidneys.

\*Personal letter.

\*\*Osler and McCrae, Anderson, Hare.

#### TABLE OF THE DEGENERATIVE DISEASES AND THEIR ALLIES

Diseases Included in the U. S. Census List of Causes of Death	Frequently Recurring Causes of These Diseases	Death Rate per 100,000 (U. S. Cen- sus Report for 1913)
Disorders of nutrition	Errors in diet, alcohol, nervous and mental strain.	
Diabetes	A disorder of nutrition, specific causes not known. It follows injuries to the liver, nervous system, errors in diet, especially heavy beer-drinking which perverts the functions of the liver, pancreas and kidneys. Other factors, mental strain, heredity, etc.	15.3

Diseases of the Stomach (exclusive of ulcer and cancer.)	Irritants: chemical, mechanical, thermal, biologic; prolonged use of tonics and purgatives; tobacco; alcohol (second in importance)	14.
Diseases of the Arteries	Gout, syphilis, lead-poison, over-work, over-eating, tobacco, alcohol.	25.2
Kidney Disease (Chronic)	Diseased arteries, gout, hard work and high nerve tension, chronic disorder of nutrition, lack of exercise, exposure, syphilis, alcohol	92.5
Heart Disease	Kidney disease, arterial disease, infectious diseases, syphilis, diabetes, tobacco, alcohol, sudden strain.	138.6
Liver Cirrhosis	Heart disease, arterial disease, gout, syphilis, lead poison, chronic disorder of nutrition, alcohol	13.4
Apoplexy	Heart disease, arterial disease, kidney disease, sudden increase in blood pressure, alcohol.	74.6

#### An Ever-Present Factor

An important point to be noted about the appearance of alcohol as a factor in these various diseases is the number of times it is mentioned. It is named as one of the causes of disordered nutrition and again separately in each of the diseases in which disordered nutrition enters as a factor. The same is true of diseased arteries and the other maladies to which they lead. Syphilis appears repeatedly as a predisposing factor in degenerative diseases. Syphilis alone is accorded in the United States Census a direct death-rate of 7.2 per 100,000, but its repeated appearance among the causes of the other diseases proves that the direct death-rate due to it by no means adequately represents its responsibility for shortened lives. Into this mortality cause alcohol also enters as an important factor. "The close connection between alcoholic abuse and the contraction of venereal disease, being an absolutely established fact, should in the interest of public health be more widely appreciated." It will be noted that "abuse" here does not mean drunkenness, because according to all testimony it is the lighter degree of alcoholic influence, that leads oftenest to venereal exposure.

From all of this we see alcohol mount up in geometrical ratio as a cause of death in mature life. In the United States mortality records, deaths due directly to alcoholism, considered as the final stages of chronic alcoholic poisoning, are entered, in 1913, slightly less than five years ago, as 5.9 per 100,000. But from its occurrence and reoccurrence among the causes of these diseases which comprise so large a proportion of the total death rate it is clear that the responsibility of alcoholism for shortened lives is far greater than the percentage given it in the official figures would indicate.

It is also clear that any effort to conquer these yet unvanquished degenerative diseases, in which alcohol is so prominent a factor, must include, in order to be effective, a strong effort to cut down and cut out the beverage use of alcohol. Thus the use of alcohol is distinctly a public health question.





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