

Simple lessons on tuberculosis or consumption : with reference to its cause and prevention / by M. J. Rosenau, E. C. Schroeder and Emile Berliner, special committee ; prepared under the direction of the Committee for Prevention of Consumption of the Associated Charities, Washington, D.C. ; Gen. George M. Sternberg, chairman.

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Committee for Prevention of Consumption of the Associated
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Simple Lessons

ON

Tuberculosis or Consumption

FOR SCHOOL CHILDREN OF THE
SEVENTH AND EIGHTH GRADES



PUBLISHED BY THE
COMMITTEE FOR PREVENTION OF CONSUMPTION
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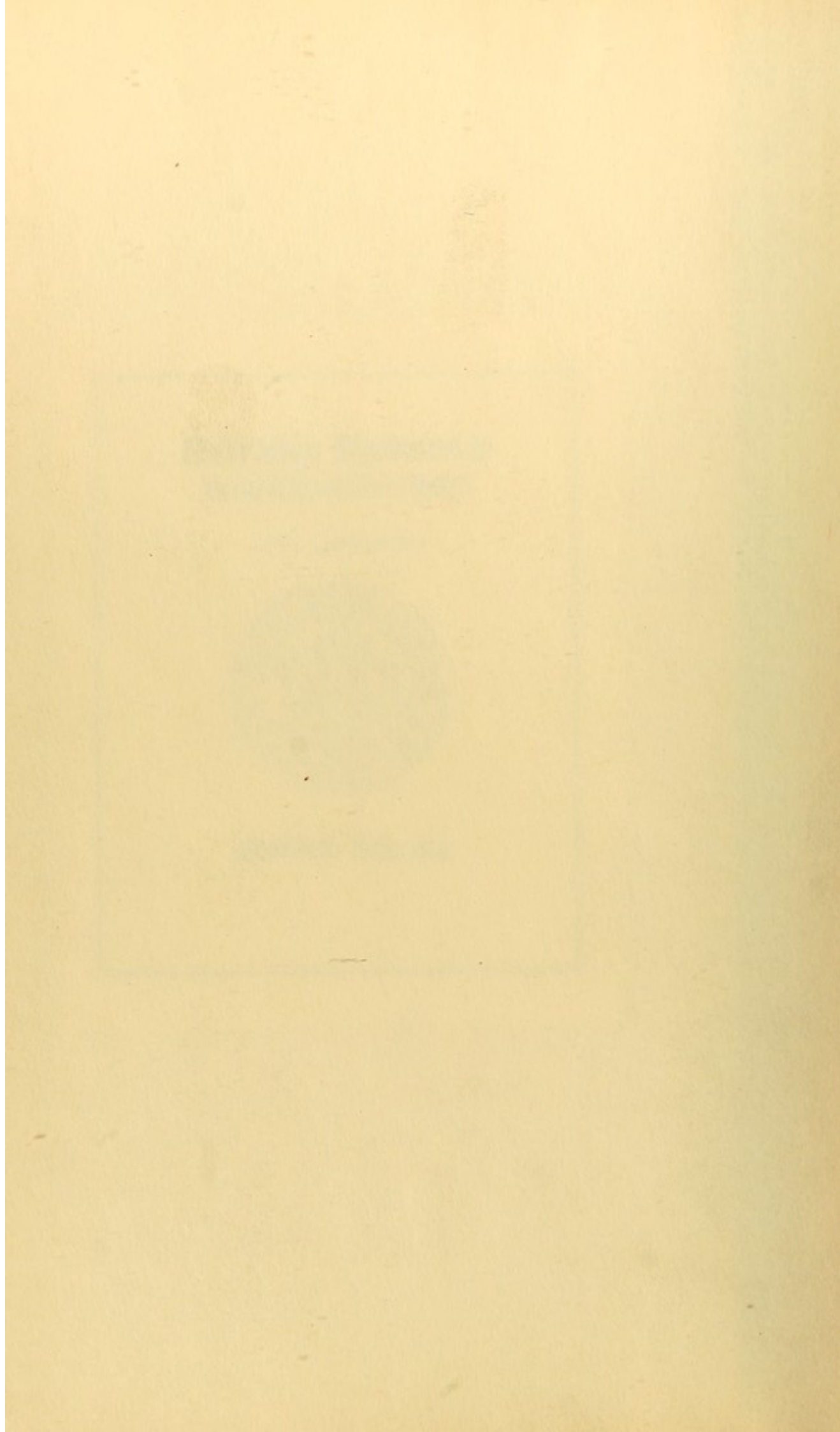
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Committee for prevention of consumption.

SIMPLE LESSONS

ON

TUBERCULOSIS OR CONSUMPTION

WITH REFERENCE TO ITS CAUSE
AND PREVENTION

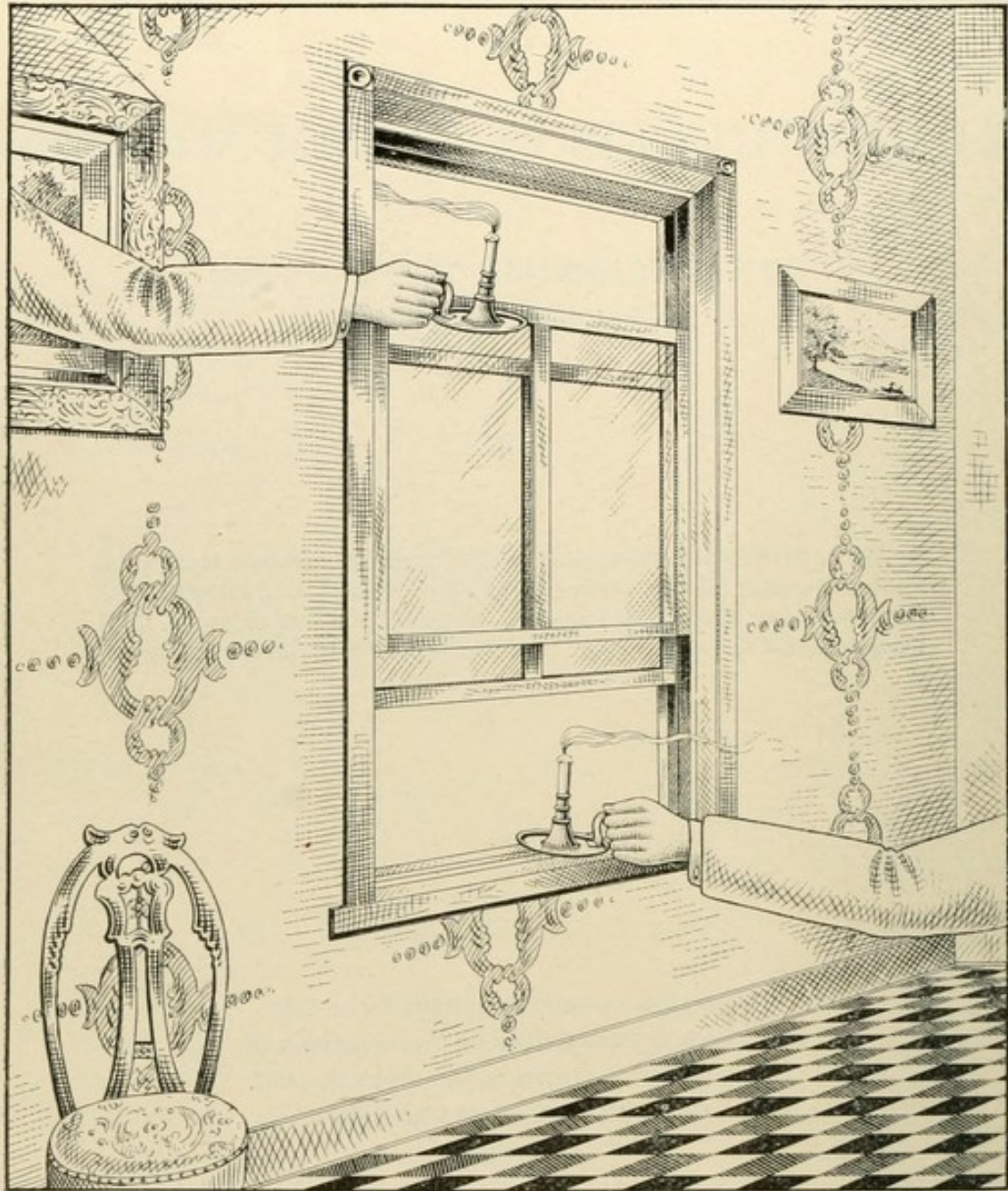
BY

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1908



A LESSON IN VENTILATION

On a calm, cool day, when there seems to be no current of air, the direction in which the air moves in a room can be shown by holding a lighted candle before an open window or door; when the candle is held low down the flame will point into the room, and when held up high it will point out.

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PART ONE



THE NATURE OF CONSUMPTION

What is Tuberculosis or Consumption ?

Tuberculosis and consumption are two names for one disease. The disease is caused by the growth and multiplication of a minute plant in the body of a person or an animal. The minute plant is called a bacillus, and is so small that it must be magnified several hundred times before it can be seen ; it is spoken of as the tubercle bacillus or consumption germ.

The presence of the tubercle bacillus in the body does not always cause consumption. When the germs of consumption get into the body a struggle occurs between the germs and the cells of which the body is composed. If the cells are victorious the disease does not develop ; if the germs are victorious tubercles, or little tumor-like knots or nodules, are formed. This is tuberculosis.

What Parts of the Body Does Consumption Affect?

Though consumption affects the lungs more commonly than other parts of the body, it may affect any part of it, such as the liver, the intestine, the lymph glands, the bones, the skin, the eye, the coverings of the brain, etc.

Why is Tuberculosis of the Lungs Especially Dangerous to Others?

Tubercles in the lungs soften and break down after a while and the material of which they are composed is coughed up into the mouth. This material often contains millions of tubercle bacilli and is therefore very dangerous.

How Are Tubercle Bacilli, or Consumption Germs, Scattered by Persons?

Tubercle bacilli, or consumption germs, are commonly present in large numbers in the material coughed up by persons who have tuberculosis of the lungs or throat. They are also present in the mouths of such persons and in the little drops of fluid sprinkled from their mouths and noses during coughing, sneezing and talking. Hence it is through the material that leaves the mouths and noses of consumptive persons that tubercle bacilli are scattered.

The germ-laden sputum from the mouths of consumptives may cling to towels, glasses, napkins, handkerchiefs, spoons, sheets, pillow cases, slates, slate pencils, and numerous other articles.

Drinking from glasses or cups without thoroughly cleaning them after they have been used by others is a practice through which not only consumption but also sore throat, diphtheria, scarlet fever and some other diseases may be communicated to us.

No habit is more to be condemned than that practiced by many persons of kissing babies and young children, especially on the mouth.

How Are Tubercle Bacilli, or Consumption Germs, Scattered by Animals?

The germs of consumption may be present in meat when it is obtained from tuberculous animals, but the most frequent way in which the germs of consumption from animals reach persons is in milk, cream, ice cream, butter and cheese from tuberculous cows.

If milk were a transparent fluid like water, the enormous number of bacteria dairy milk usually contains would be clearly visible; that is, it would look cloudy. Disease germs, including the tubercle bacillus, are readily destroyed by heat. *Raw milk is apt to be dangerous*, because it often conveys other diseases as well as tuberculosis, such as scarlet fever, diphtheria, typhoid fever, etc.

We can make sure that the germs of the diseases named in milk are destroyed by Pasteurizing or by simply scalding it.

Pasteurization of Milk.*

Heating milk a short time just hot enough to kill the disease germs it may contain is known as Pasteurizing it. Milk boils at about 212° Fahrenheit, or the temperature at which water boils. To kill the disease germs that are of more common occurrence in milk, it should be heated to 140° F. for 20 minutes or to 150° F. for 10 minutes. Pasteurized milk and also scalded milk should be cooled quickly and *should be kept cold and covered until it is used*.

Large Number of Victims of Tuberculosis.

It is estimated that over 150,000 people die of consumption every year in the United States; so that, unless the existing conditions are improved, 8 millions of the people now living in our country are destined to die of consumption. The disease affects the old and the young and is particularly

*So called after Louis Pasteur, a celebrated French scientist, who invented and introduced this important process for food products.

deadly between the ages of 15 and 40 years, which is the period of greatest vigor and usefulness.

It is further estimated that nearly a quarter of the dairy cows from which cities obtain their milk-supply are affected more or less seriously with consumption.

Tuberculosis or consumption causes greater losses and destroys more lives than any other disease.

What is the Character of Tuberculosis or Consumption?

Tuberculosis is usually an insidious, slow disease, which may be in the body a long time before it causes a noticeable change from health. Later on it causes general weakening, loss of appetite, a more or less severe cough, bleeding from the lungs, loss of flesh, and other conditions by which it is easily recognized.

At times, however, tuberculosis may be very acute, and may kill a person in a few weeks. To this rapid form of the disease the name of galloping consumption has been given.

The insidious, concealed nature of tuberculosis often prevents its detection during its early stages; hence, as those who must cough and spit can never be certain that they are free from consumption, all persons should make it a rule never to spit carelessly, for fear that they may scatter disease germs.

What Are the Early Symptoms of Consumption?

Among the early symptoms of consumption the following may be named: short periods of fever that repeat themselves daily, especially in the afternoon and evening; unusual quickening of the heart-beats after slight exertion; loss

of weight and strength; lack of appetite or otherwise disturbed digestion for which no satisfactory explanation can be found, etc.

It is important that consumption should be recognized in its early stage, because the longer the disease has been in the body the more difficult it is to cure.

Cough is *not always* one of the early symptoms of consumption.

Consumption is Not Inherited.

Consumption is not inherited, and large families of children of consumptive parents may pass through life without the slightest trace of the disease.

The tendency for tuberculosis to run in families is largely due to the fact that the children of consumptive parents are exposed from the beginning of their lives to the tubercle bacilli scattered by the parents during coughing, sneezing, etc.

Without the Tubercle Bacillus There Can Be No Consumption.

Consumption cannot develop unless the tubercle bacillus, or consumption germ, enters the body. It is therefore of the greatest importance to destroy the sputum of consumptive persons and to avoid the use of dairy products from consumptive cows.

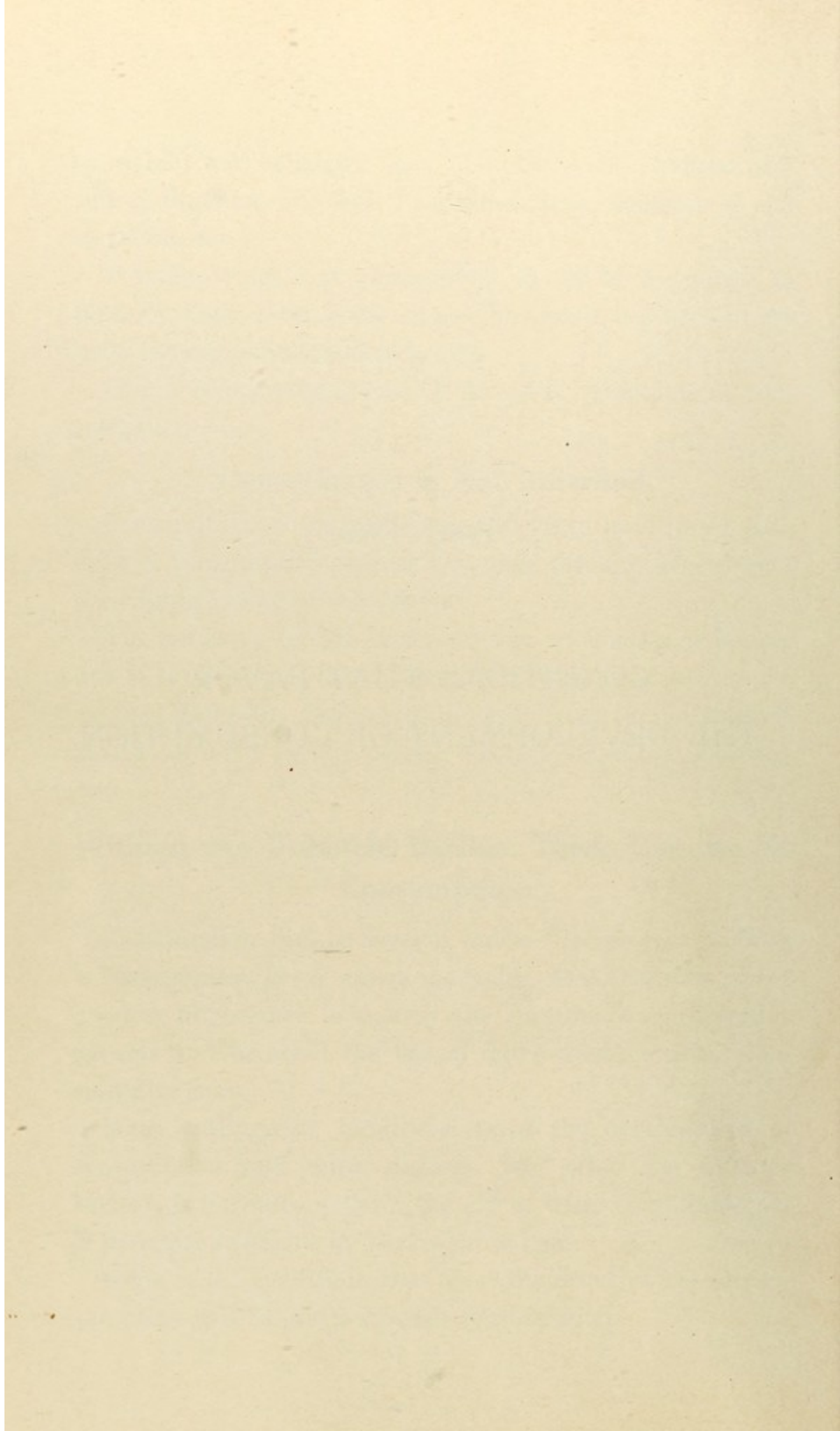
Many unhygienic conditions favor the development of consumption and other diseases, and often the tubercle bacillus is harmless without the aid of these conditions. It is therefore advisable to live hygienic lives.

Some of the conditions that favor the development of consumption will be given separate consideration.

PART TWO



CONDITIONS THAT FAVOR
THE DEVELOPMENT OF CONSUMPTION



DISEASE germs, like the seed a farmer plants, need a suitable soil and favorable conditions for their growth, and there are no germs of which this is more certainly true than those of tuberculosis.

Among the common conditions that prepare the body for the growth of the tubercle bacillus within it, the following may be named:

1. Living in poorly lighted, poorly ventilated, or damp houses.
2. Lack of plain, nourishing food.
3. Lack of cleanliness.
4. Lack of outdoor exercise.
5. Loss of sleep.
6. Cramping the lungs and organs of digestion by habitually standing, walking or sitting in a bent or stooped position.
7. Neglected colds, coughs, and other disorders, and long-continued catarrhs of the nose and throat which may be caused by breathing air laden with dust.
8. House dust in general, from carpets, hangings, etc.
9. Intemperance and indulgence in alcoholic drinks.
10. Vicious personal habits, including the use of tobacco by growing boys.

The Value of Pure Air and the Need of Proper Ventilation.

An abundant supply of pure, fresh air is the most powerful natural agent for the prevention of consumption among those who are free from the disease and for the cure of those who are affected with it.

We should be in the open air as much as possible; we should sleep in well ventilated bed-rooms, *preferably with windows wide open*; we should avoid crowded and insufficiently ventilated places, and we should make sure that the rooms in which we live and work are properly supplied with fresh air. There is much less danger that we will be injured by a little draft than by breathing stale air. When the weather is cold we should keep our bodies warm by clothing them properly and not by shutting out the fresh, pure air. If all persons breathed the full amount of pure air their bodies require, the frequency with which consumption occurs would be greatly reduced, and some other diseases that cause discomfort and suffering would cease to exist.

Crowded, overheated, damp, and improperly lighted and badly ventilated residences, work-shops, bed-rooms, living rooms, and places of assembly are among the most important conditions that favor the propagation of consumption.

How Should a Room Be Ventilated?

When the windows of a room are opened the *stale air passes out above and the fresh air in below*; hence, to secure proper ventilation, the windows should be open both from above and below. On a calm, cool day, when there seems to

be no current of air, the direction in which the air moves in a room can be shown by holding a lighted candle before an open window or door; when the candle is held low down the flame will point into the room, and when held up high it will point out. This simple experiment shows that we should have openings high up as well as low down in our rooms to secure a constantly incoming supply of pure air and to provide a passage for the outgoing stale air.

Lack of Plain, Nourishing Food.

Poorly cooked and otherwise unwholesome food causes various troubles of the digestion through which the natural power of the body to prevent the growth and multiplication of the tubercle bacillus and other germs within it is greatly weakened and often wholly destroyed.

Wholesome, nourishing food does not mean high-priced delicacies, which are often more harmful than nutritious; it means the ordinary, simple articles of food that can be obtained in abundant quantities for the price most people are able to pay, and well cooked in a cleanly manner.

Some member of every family, preferably the wife, should understand how to prepare food so that it will be palatable and digestible, and even though she does not do the cooking herself, she should keep the culinary department of her household under close observation, and make sure that it is at all times a thoroughly clean place, and that the cook is free from consumption and is otherwise a healthy, cleanly, careful and competent person.

The education of a girl is incomplete until she has learned how to cook plain, palatable dishes.

Food and Air.

There is a close relationship between food and air. The best food, perfectly prepared, frequently cannot be digested in quantities sufficient for the preservation of health unless a sufficient amount of pure air is breathed.

Lack of Cleanliness.

Cleanliness of the body, of clothing, habitation, and food and of everything with which we come in contact, is an important means of protection against tuberculosis and other infectious diseases. No better hiding places can be found for tubercle bacilli and other disease germs than dirt and rubbish.

The use of soap destroys many disease germs and removes many more than it destroys, and thus makes them harmless. One of the relatively few things in which persons differ from the lower animals is the use of soap. Soap is an emblem of civilization.

Disease germs may be transferred from unwashed hands to food and with such food into the mouth; hence, as we never know what filth may have been in contact with the numerous articles we handle, *our hands should always be washed before we touch food, either to prepare or to eat it.* Fruit that is used in a raw state, especially the kind we do not peel, should be washed before we eat it.

Remember also that clean and noble thoughts as well as cheerfulness are conditions favorable to the preservation of health.

Lack of Outdoor Exercise.

Lack of outdoor exercise affects mainly people who, from necessity, live much indoors. The clerk, the lawyer, the merchant and the mechanic, as well as the teacher and the scholar, spend many hours in rooms where the air may become stale and impure; hence, such persons should take daily walks in the open air and should, if possible, make frequent excursions into the country.

The best results are obtained from exercise when it is taken in the open air. Exercise should be moderate in amount and should be of a kind that uses all parts of the body.

One of the evils of our modern athletics is the strife to break records. *Overtraining does more harm than good.*

Loss of Sleep.

Sufficient sleep is as necessary for the maintenance of health as wholesome food and pure air.

One-third of our lives is spent in bed; hence the importance of proper bed-rooms.

A thoroughly satisfactory sleeping apartment must be well ventilated, and must be so constructed that the sun can shine into it during at least a part of the day. Damp rooms or rooms with moist walls, and interior dark rooms or rooms without windows (no matter how well they are ventilated through air-shafts or otherwise), should not be used as bed-rooms.

Young people should always make up for loss of sleep, *and should not take so-called nerve tonics* to correct the feeling of discomfort caused by insufficient sleep.

Carriage of the Body.

The normal position of the body is erect; the head should be carried high, with its weight supported on the backbone.

A stooped position, a curved back, an open mouth and a hanging chin are conditions that favor the development of consumption.

Cramping the chest by stooped walking or by sitting in a stooped position prevents the lung from expanding as fully as it should, and under this condition the blood does not receive an abundant supply of air.

It is a good practice to inflate the lungs fully several times each day by taking deep breaths in the open air.

Colds, Catarrhs, and Other Disorders.

We are all liable at times to become affected with coughs, colds, catarrhs and other disorders, which may help the tubercle bacillus to enter our bodies and cause consumption. Hence these little disorders should not be neglected or treated as unimportant. While they continue they have a similar relation to our bodies that an unguarded, open door bears to a strong house. The longer the door is open the more time a thief has to enter, and the longer the little disorders remain the more time the tubercle bacillus, which under normal conditions would often be unable to harm us, has to get in.

House Dust.

When house dust contains tubercle bacilli or other disease germs they may remain alive and dangerous many months, because they are shielded from direct sunlight. But this is

not the only reason why house dust favors the development of consumption and other diseases.

When air that contains dust is breathed, the dust is deposited on the lining of the nose and throat, and this delicate lining is irritated and injured in a way that aids the passage of disease germs through it into the body.

We should therefore attempt to avoid dust, and house dust especially, as much as possible, and to do so we should have no unnecessary draperies and hangings and no nailed-down carpets, etc. Bare floors and rugs are more hygienic than nailed-down carpets.

Carpets and rugs should be swept with a carpet-sweeper *and not with a hard broom*, and bare floors should be swept with a soft broom or wiped with a moist cloth. Dusting with dry cloths, brushes, and feather dusters stirs up dust, and the more dust is stirred up in a house the more dangerous it is. Removing dust with a damp cloth is more hygienic.

During sweeping the windows of a room should be lowered from the top down and kept closed at the bottom. Windows open at the bottom let air blow in and not out, and therefore cause the dust that rises during sweeping to be blown farther into the house and not out of it.

Habitual Indulgence in Alcoholic Drinks.

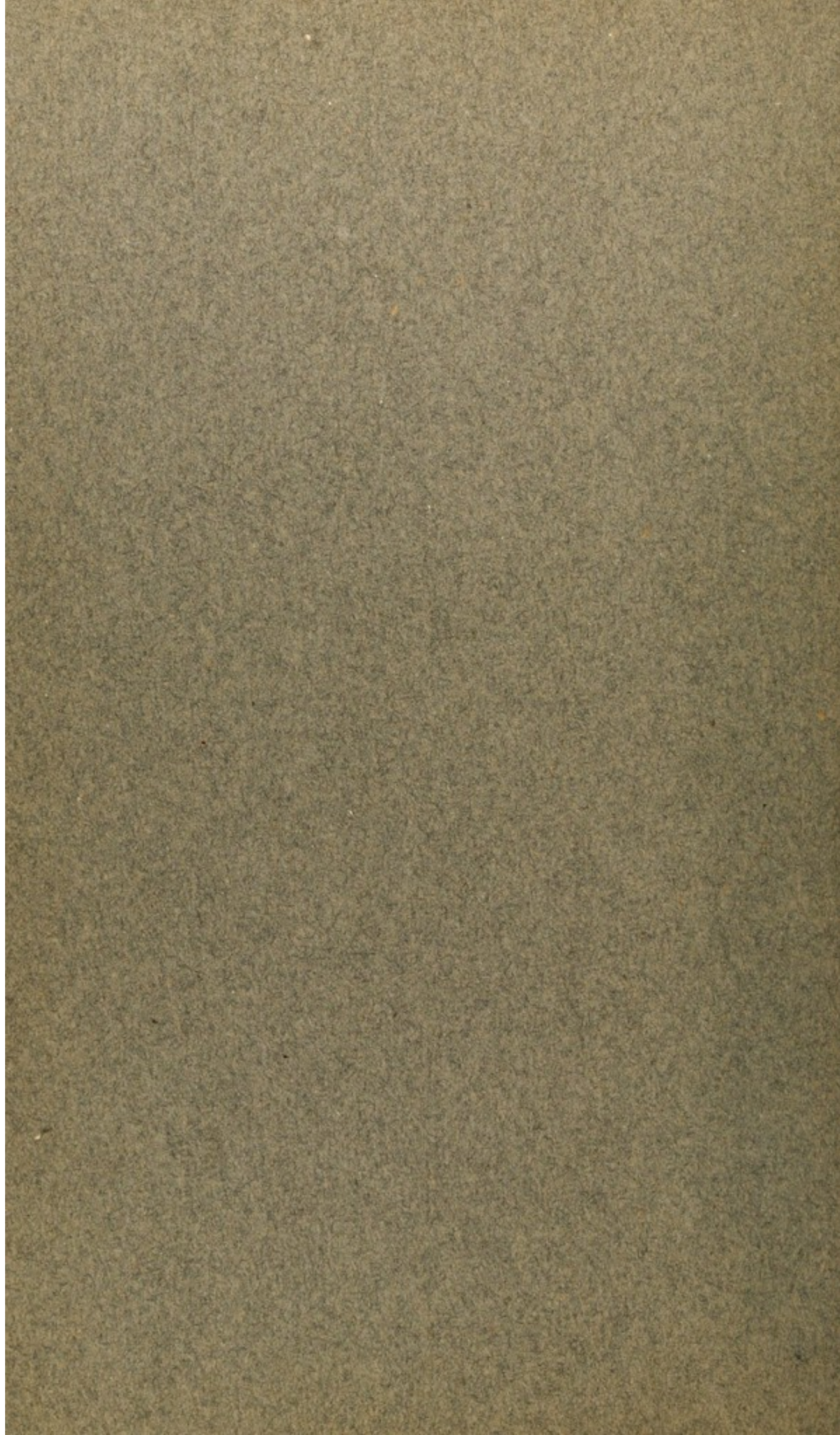
The habitual use of alcoholic drinks, even in moderate quantities, is regarded by high medical authorities as a condition that favors the development of consumption. Excessive indulgence in alcoholic drinks so strongly favors the development of consumption that few habitual drunkards escape the disease.

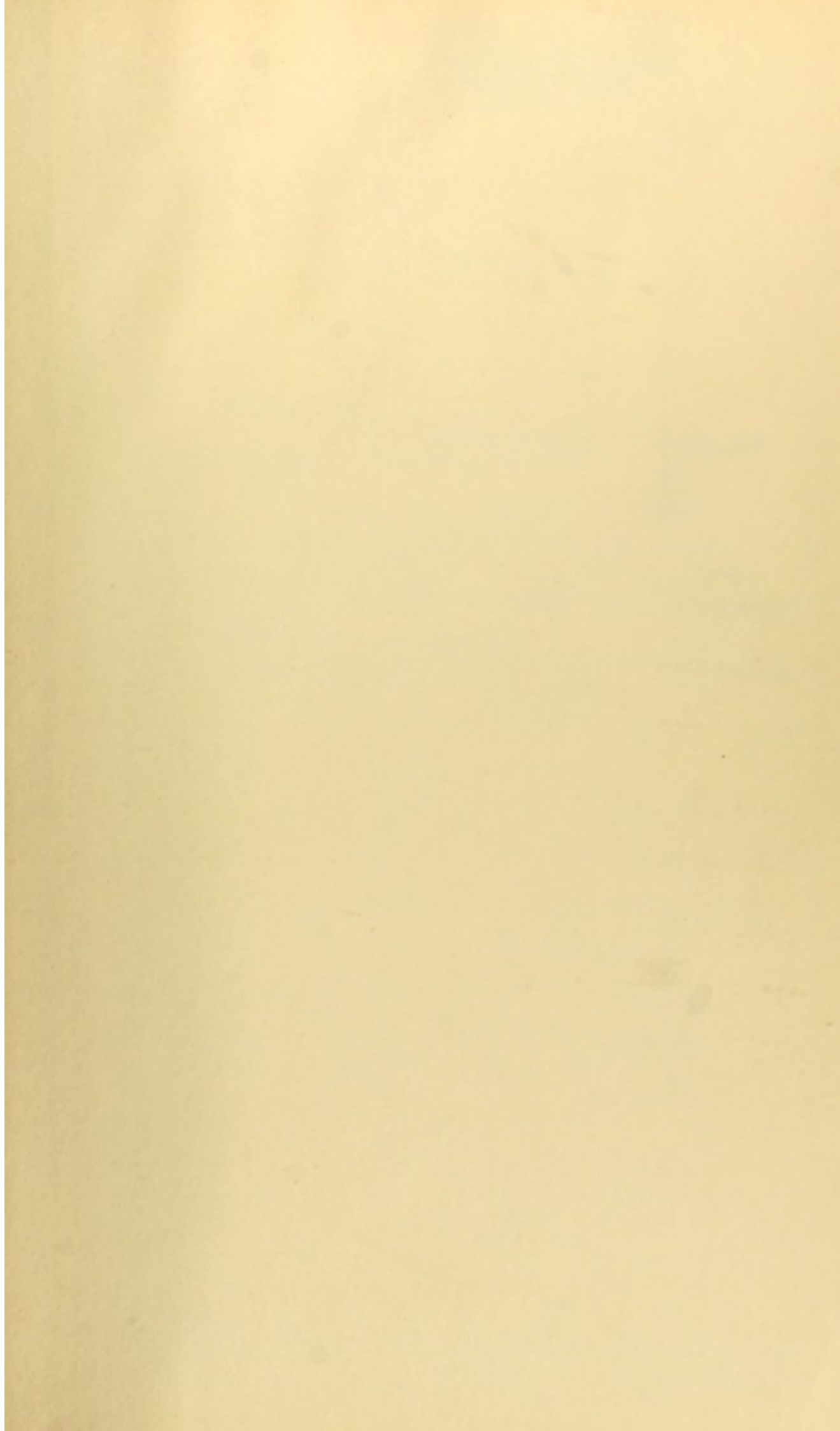
Vicious Habits.

Vicious habits, among which the use of tobacco by growing boys may be included, rob the body of strength and prepare it for the growth of the tubercle bacillus and the development of consumption.

Viciousness and intemperance are the constant aids to ill health, and disease is mostly the fine we pay for living improper lives and neglecting the laws of health.







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