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THE PREVENTION OF ARTERIO = SCLEROSIS*

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EVER IN THE HISTORY OF THE WORLD has the study of arteriosclerosis assumed so great importance as at the present time, because never before has this disease played so important a part in insidiously undermining efficiency and shortening the lives of the most

valuable workers. I am not in a position to make a comparative survey of the frequency of this disease, because, with heart troubles, it covers the entire field of my practice, but insurance

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men tell me that the mortality from the group of disorders that is covered by this name claims a number of victims that is more than double what it was thirty years ago. In 1910, one hundred thousand persons died of circulatory disease in this country, and I will venture the statement that there is not one of my hearers that has not lost a friend around sixty years of age during the past year from heart trouble, due, primarily, to arteriosclerosis. While this has been recognized, but little has been done in the way of prevention.

SEVERAL THINGS NEED TO BE DONE. We need a clear definition of the disease. We need to become dissatisfied with the enumeration of indefinite causes, and we need an educated public opinion that will shield the earnest worker in the field of hygiene and dietetics from the thoughtlessly applied epithets of those who, seeking a refuge behind a bad prognosis, have no efficient regimen of their own to suggest.

As TO DEFINITION, arteriosclerosis is the most improperly named of all diseases, and yet no one has suggested a better designation up to the present time. While it receives its name from the blood-vessels, which are often conspicuously involved, it is in fact a disease of the whole body, characterized by irritation, and finally, destruction of cells in all parts of the body, the destroyed cells being replaced, according to the law of pathology, by connective tissue.

FOR MANY YEARS THERE WAS DISCUSSION as to whether this disease began in the blood-vessels, in the heart, or in the kidneys, and the coincident involvement of the lungs, liver and digestive organs was noted. According to the point of view, it

was called "heart disease," "Bright's disease" and "autointoxication."

In this instance, everyone was right, and everyone was wrong, for all the organs mentioned were indeed involved, and the disease might be named as well for one as the other.

THAT IT IS NOT PRIMARILY A DISEASE OF THE ARTERIES IS SHOWN by the now familiar fact that the disease may run its course with only slight changes in the blood-vessels; or, the changes in the blood-vessels may be very marked and the disease itself have but little effect on the life of the sufferer.

The arteries, being of universal distribution and bearing much of the functional stress of the disease, may be granted the honor of giving it a name, and, from henceforth, the disease will be known as "arteriosclerosis" until such time as its fundamental nature is thoroughly understood and the underlying error of metabolism clearly designated.

I T WOULD SEEM THAT THE DISEASE ORIGINATES SOME-WHAT IN THIS MANNER: a person pursuing the even tenor of his way, being fed and nourished on the usual mixed diet and resisting successfully the usual slight accidental infections, is some day overtaken by some event that alters the chemical functions of his cells. This event may be a great nervous strain; it may be an infectious disease or surgical infection; or, it may be some form of acute food poisoning.

From that time on the cells of this person's body are sensitive to particular proteins that reach these cells from the alimentary tract or from the bodies of bacteria originating in some focus of infection. So long as the supply of the offending protein continues, the irritation of the cells is kept up, leading to destruction

and progressive sclerosis. Impairment of function follows with a greater and greater demand upon the circulatory organs, and eventually, the development of the picture of chronic Bright's disease, heart disease, apoplexy or presentility.

IF, HOWEVER, AT ANY TIME IT IS POSSIBLE TO REMOVE FROM THE BODY the offending protein, the irritation ceases, compensation is developed, and the man is capable of being well. The prevention of arteriosclerosis on these premises must depend, primarily, upon the avoidance of sensitizing events, such as periods of great stress and worry, infections, acute food poisoning, and the neglect of foci of infection; secondarily, upon the study of food relations of individuals from time to time, and the institution of a strict regimen when, on account of changes in blood-pressure, pain in the region of the heart on exertion, or because of nervous depression and loss of efficiency, arteriosclerosis is suspected.

The great fact that must always be faced by the student of arteriosclerosis is that it is a disease *without* symptoms. In actual practice, sufferers from this condition seldom come under treatment until it has lasted for from three to fifteen years, and, even then, they usually come because a life insurance man who has examined them or a physician who has treated them for

some other disease, has discovered arteriosclerosis.

A RTERIOSCLEROSIS IS SELDOM THE RESULT OF A SINGLE CAUSE, though most investigations reveal a sensitizing event. The effect of this sensitizing event might have been averted, had not the individual previously been a victim of too great ambition, of too long hours of labor, under too great strain, or the neglect of outdoor exercise, or the over-ingestion of

food, with perhaps the immoderate use of alcohol and tobacco.

A NOTHER ELEMENT IN THE PREVENTION OF ARTERIO-SCLEROSIS IS THE EDUCATION of all persons in the habit of taking "cures," if this name may be used for periods of time set apart for the putting of the body in the best possible order.

We should adopt the motto, "Attend to the health while healthy," and encourage the European custom of the combination of a vacation and a visit to a cure resort.

We must learn the secret of right living, and avoid apoplexy, heart failure, paralysis and sundry diseases of the liver and kidneys that follow in the train of errors of diet and work.

R ACE BETTERMENT MUST ALWAYS BE A MATTER OF THE IMPROVEMENT OF THE INDIVIDUAL. Arteriosclerosis is not your neighbor's enemy; it is your enemy. It is the greatest, though most insidious, danger to a group such as is gathered here to consider the welfare of the race in general.

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Cultivating the Religion of Health

that man must work out his own destiny, and that by an application of known scientific principles one may control and guide the forces which are operating upon him, and in so doing save himself the catastrophies which await him if he continue to drift and allow blind chance to lead him. The trouble is, we do not make a practical application of scientific discoveries and observations. When any new fact in metallurgy is evolved by

laboratory research it is at once put into practical operation in the steel industry or some other of the metal working trades.

A new discovery in agriculture is, through the agency of the Agricultural Department, immediately made known to the farmers throughout the country. Agriculture is making marvelous strides of progress in a practical way, but great discoveries in physiology and biology, which are of the most profound significance in relation to human welfare, are filed away among the musty tomes of the archives of learned societies, and nobody thinks of making any practical use of them.

For example. Sir William Roberts more than a quarter of a century ago showed by scientific experiment that vinegar is a poison to the stomach and wholly prevents the digestion of starch. This discovery ought to have led to the disuse of vinegar as an article of diet, but it still appears on every civilized table and continues its work of making business for doctors and

shortening useful lives.

LEHMANN, the great German physiologic chemist, showed almost a century ago that caffein is a poison, that it does not differ essentialy from uric acid and produces highly poisonous effects, even in comparatively small doses. Yet the use of tea, coffee and other caffein-containing drugs has not only continued, but has greatly increased since his time.

The florist burns tobacco in his hot houses to destroy green flies and other vermin and the farmer washes his sheep with a decoction of tobacco for the same purpose. Both the florist and the farmer at the same time fumigate their own interiors with pipes, cigarettes, or cigars without regard to the fact that the

protoplasmic poison, nicotine, is no respecter of persons.

THE PHYSIOLOGISTS LONG AGO DEMONSTRATED THAT ALCOHOL IS NOT A STIMULANT but a narcotic, but alcohol still receives the homage of millions who worship at the shrine of Bacchus under the delusion that it is a needful and harmless stimulant. In almost every relation of our civilized life, we are ignoring the great biologic principles, upon every one of which is emblazoned the inexorable fiat, "The soul that sinneth, it shall die."

The public conscience must be awakened to the recognition of man's obligation to obey the physiologic and biologic laws which govern his existence. The great Galton expressed the hope that the sanctity of the laws of eugenics would sometime become so generally recognized as to constitute a sort of religion.

EUTHENICS, or the principles of right living, must be conceded to be as important as eugenics. What we need is a general recognition of the claims of the new religion—the religion of the body, which makes for physical righteousness and has for its goal the physical redemption and salvation of the race.

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Strong Drink is Aging

DLD AGE HAS COME IN THESE DAYS to be described by medical men in the terms of disease. And when one stops to think about it, old age does seem an abnormal condition. One man passes away at forty with every symptom of senility. Another man reaches approximately the age of one hundred, his mental faculties alert to the last, his step elastic, and his passing "a mere going around the corner," as one of our novelists

has beautifully put it. Such a death was that of Professor Chevreul, the distinguished French chemist, who appeared in his laboratory one morning at the age of 103 years, bidding his friends goodbye. Surprised, they asked, "You are going away, then?" "Yes," he said quietly, "but not the way you mean." They understood and bowed their heads in sorrow. The next morning he was dead, not having died, but merely passed out, as every man would do did he live a natural life.

Old age is thus a purely relative matter, especially when we remind ourselves that after the first four decades the mortality rate is increasing from such chronic diseases as hardening of the arteries, heart disorders, Bright's disease, etc. These diseases are always precursors of senility, and are due for the greater part to the inability of the organs of elimination to cast out poisons accumulated in the body as the result of the ordinary vital processes and poisonous food substances and drinks.

UNDER THE LATTER HEAD COMES ALCOHOL, one of the most virulent of all the poisons taken into the body. Indeed, there is a close correspondence, on the one hand between the increase in chronic diseases and the development of old age symptoms after forty, and on the other hand, the permanent increase in the consumption of alcoholic liquors.

The characteristic effects of alcoholism in relation to senility are thus described by Robert Saundby, in a new work on "Old Age: Its Care and Treatment." Says Doctor Saundby, "Old age confers a certain amount of immunity to the effects of alcohol; that is to say, the seasoned toper carries his liquor better, it interferes less with his stomach, intellect, and his power of locomotion, but its poisonous effect on the structure of stomach, liver, kidney, heart, blood-vessels and brain is cumulative, and

as the result we have a whole series of chronic interstitial inflammations of these organs that are responsible for three-fourths of the diseases of old age."

further pointed out by Doctor Saundby: "Chronic alcoholic indulgence may induce indisposition to work, indifference to calls of duty or disregard of social obligations; it impairs memory, weakens the power of concentration and of judgment, in some cases this downward progress ending in partial but permanent dementia. The face is cyanosed, the extremities cold, the grasp weak, the gait reduced to a shuffle, digestion is feeble, the bowels are constipated and there is no desire for food. When this stage is reached cessation of drink usually follows, but the general health in spite of this and of careful nursing does not improve, although the enfeebled patient usually dies from some intercurrent diseases, and not directly from the effects of alcohol."

Dr. Alfred Gordon, of Philadelphia, reports a study in mental deficiency of "seventy-eight individuals whose parentage could be traced to twenty families two generations back. Very careful inquiries and very cautiously gathered data lead to the discovery of marked alcoholism in the twenty grand-parents." After describing very vividly the characteristic physical and mental defects of his subjects, Doctor Gordon pointed out the remarkable fact that of these seventy-eight individuals, fifty-six were orphans, their parents having died early.

P. ALEXANDER BRYCE has observed the fact that "the experience of assurance companies has amply proved that the abstainer's life, from the business point of view, is better than that of the moderate drinker. The statistics of the United

Kingdom Temperance and Provident Institution show that only sixty-five abstainers die for every hundred moderate drinkers—all carefully selected lives. For every thousand adult male deaths, one thousand, six hundred and forty-two publicans and five hundred and sixty abstainers die."

In a noteworthy book by William H. Tolman, Ph.D., Director of the American Museum of Safety, and Adelaide Wood Guthrie, of the Department of Research of the American Museum of Safety, entitled "Hygiene for the Worker," the authors counsel the workingmen to abstain from alcohol on the ground that it brings on old age: "The person who uses alcohol in any of its forms is less likely to live as long or to work as efficiently as the one who does not. Alcohol quickens the circulation and weakens the walls of the blood-vessels. Professor Metchnikoff, the eminent French scholar, who has been devoting his labors to the solution of the problem of 'old age,' advocates entire abstinence from alcohol, because it leads to degeneration of the arteries, a common cause of death among Americans who have been prominent in the business world and the professions."

IN LONDON A FEW YEARS AGO, the Grand Magazine conducted a symposium on longevity and the means of achieving it, and, said the editors, "with a single exception the men have been all their lives exceedingly moderate, not to say abstemious as regards both food and alcohol."

BUT THERE IS NO NEED OF CONTINUING THE TESTIMONY.
Almost without exception every scientific writer urges the relation of alcohol to senescence and agree with a recent writer on the subject that "if there be no diathesis or intercurrent dis-

ease, and all the organs and tissues are equally resistant, and the senile process is uniform throughout the organism, as it should be in normal health and normal senilization, there should be no violence to a single cell, no friction, no pain, no quiver or protest from any part, but 'like the fading of a flower or the falling of a leaf' the passing one drifts out on the ebbing tide of life into the great beyond. If, then, we gently lift the curtain from the threshold of the chamber where this transformation is taking place, we will see a man from 95 to 110 or 120 years of age, whose initial and acquired vital capital has been finally exhausted through the inexorable law of growth and decline of waste and repair, calmly, almost unconsciously and almost imperceptibly passing away. Owing to the inherent tendency of protoplasm to grow old, this tragic scene must ultimately come, but when this shall be, within certain rather wide limitations, depends largely upon the character of the vital capital with which one begins his physical superstructure and the way he husbands that capital. Indeed, whether the final curtain shall fall at threescore and ten or at four, five or six score years, depends almost wholly upon the adjustment of internal and external relations through nutrition and the conservation of energy.

T. C. O'D.

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IN THE PHILIPPINES the non-meat diet is making progress automatically (as in other parts of the world), owing to the high cost of beef, which in a few months has increased there almost 100 per cent, reaching as high as fourteen cents gold a pound on the hoof, as compared with seven cents a pound five months ago, an average of nine cents a pound for 1913, as compared with 8½ cents during 1912.

DR. S. JOSEPHINE BAKER, writing in the Woman's Home Companion, states a fact which can not be too often repeated, that the ordinary baby care is very often over done. "During its time of rapid growth a great deal of quiet is essential to the baby," says Doctor Baker. "During the second year it should sleep over twelve hours each night, with a nap morning and afternoon. During the next year the same period of sleep at night should be observed, but one nap a day is sufficient. Remember that the baby needs peace and quiet for the safety of both its mind and body. It needs to be held in its mother's arms quietly and gently. It does not need unnecessary handling or the thousand and one ways of entertainment that are devised by the admiring family and relatives. Babies will develop naturally if left alone; any forcing is harmful and cruel and represents only selfishness on the part of the grown people."

8 8 8

The Chewing Gum Habit

T.H. McCLINTOCK, M.D., writing in the Medical Times for January, 1914, reviews some of the claims made by chewing gum advertisers for that product—mainly the claim that it is an aid to oral hygiene and that it assists digestion. So far as oral hygiene is concerned, says Doctor McClintock, "the people who are particular about keeping the mouth in a healthy and sanitary condition do not rely upon the use of gum; many of them do not even use it, while others, who chew it daily have mouths, which, to be polite, are at least unattractive."

In regard to the assistance which it renders digestion, the nature of this assistance, says the writer, "is hard to explain, while there are many good reasons why it can exert no particular

influence over that process. It can not aid salivary digestion for obvious reasons. With even a moderate effort given to mastication, the salivary enzymes produce all the effect on starch that nature requires. Mastication is mostly useful as a process of trituration and lubrication.

"There is no evidence that salivary digestion continues to any considerable extent, after the food reaches the stomach. Gastric secretion is quickly stimulated by the anticipation of food, and the acidity of the gastric contents soon inhibits the action of, or destroys completely, the salivary amylase. There is, undoubtedly a certain admixture of food and gastric ferments, or possibly a slight amount of protein hydrate; but this is only a possibility, and to what extent it proceeds is yet problematical."

THE WRITER POINTS OUT THE FURTHER FACT, as showing the uselessness of the habit, that "the greatest amount of chewing is done between meals, when gastric digestion is well along toward completion and the stomach contains sufficient free hydrochloric acid to destroy whatever salivary enzymes may reach it at that time."

8 8 8

THE American Food Journal, discussing the fact that the decline in the use of meat by American people is not in proportion to the increasing cost of meat, contrasts conditions in America with the fact that "Europeans were forced to learn long ago that meat was a luxury to be included in with extreme moderation. They have learned to live without it. In fact, the present generation of Europeans of the middle class never acquired the meat-eating habit that has such a hold on the American people. It is no hardship on these people to forego the eating of great quantities of meat."

LIVE in the open air as much as you can. "Let no man think of himself more highly than he ought to think." For this it will be convenient not to think of yourself much at all.—
E. E. Hale.

2 2 2

FIRST-AID EQUIPMENT FOR THE HOME



HE SUCCESS WITH WHICH ONE IS ABLE TO COPE with an emergency depends, not alone upon knowing what needs to be done, but upon having at hand the facilities to do it with. When the suburbanite's home caught fire it might have been saved had fire buckets been in

readiness for use. While the family were scurrying hither and thither, rushing to the neighbors for utensils in which to carry water, the fire got beyond control and the home was destroyed.

In Cases of "sudden illusters" or of "accidents" in the family, measures of treatment which can at once be put into operation often turn the scale between life and death. Every home may well include as a part of its furnishings an equipment for giving simple treatments for the relief of pain and first-aid in case of sickness and injury. Fortunate indeed would be the household where such an equipment is never needed; fortunate also that home where it is at hand when needed.

NO GREAT OUTLAY IS NECESSARY for such an outfit, but to be available with the least possible delay when wanted it is essential that it have some permanent location, a cupboard, shelf, or a set of drawers unused for any other purpose, and so arranged that each separate article has its own special place,

where, even in the dark and when one is in a hurry, it can be sure of being found. The following is a list of first essentials:

Clinical or fever thermometer.

Bath thermometer.

Ice bag.

Hot water bags (one large, oval, one long bag).

Enema outfit.

Fomentation cloths.

Cheese cloth, mackintosh and flannel for compresses and packs.

Two Turkish towels.

Roll of adhesive plaster.

Sterilized absorbent cotton.

Sterilized gauze, one package.

Three or more rolls of bandages (varying width).

Medicine dropper.

Atomizer.

A package each of bicarbonate of soda and boracic acid.

A bottle of some bland sweet oil.

Tube of vaseline.

Two white enamelware bowls.

Camphor ice. Castile soap.

A good pair of scissors.

Hand and nail brushes.

Other useful articles may be included, but with these as a beginning one is fairly equipped for ordinary emergencies.

IN MANY CASES OF ACCIDENT AND IN COMMUNICABLE DISEASE a thorough disinfectant is required for cleansing wounds and hands. Strong soap suds disinfect, and in many

instances is all that is needed, although not sufficiently powerful to be depended upon for destroying disease germs. Most chemical disinfectants are highly poisonous, and while needing to be at hand when required should be kept out of reach or securely locked away, where children may not have access to them. Lysol answers the purpose of disinfection, printed directions for use being on each bottle. A finger cut with a clean knife needs only to be washed with soap and water before dressing. A wound made with an unclean instrument ought to have a cleansing that will be destructive to germs.

GERM DISEASES are so often accompanied by fever that when a person, particularly a child, is indisposed it is of first importance to know the body temperature. When taking this by mouth the end of the clinical thermometer containing the mercury is placed under the tongue, on either side, the lips being kept tightly closed during the entire time of taking the temperature, which should be from two to five minutes.

With a baby or a delirious patient it would be unsafe to take the temperature in this way, as he might bite off the bulb and swallow the mercury. Should such an accident occur, give white of egg to the patient and send at once for a physician. For small children, it is best to place the thermometer in the rectum, after first oiling the bulb, for five minutes. The temperature may also be taken by placing the thermometer in the child's arm pit, after having wiped it dry. Hold the arm tightly to the side, flex the elbow, and place the hand on the opposite shoulder, allowing ten minutes for registration.

THE NORMAL TEMPERATURE of the adult body is 98.6 F., that of a young child slightly higher. A temperature above 100° is called fever; that above 105° indicates a serious con-

dition. The temperature taken by rectum will be one degree higher than when taken by mouth, the axillary temperature about half a degree lower. A subnormal temperature is a matter for much concern, a temperature below 95° being extremely dangerous.

Before being returned to its case a thermometer should be washed in cool soap suds, well rinsed in clean water, and dried. In case of communicable disease a disinfection before washing is also essential.

A regular bath thermometer is incased in wood to protect it from breakage. If such a one is not obtainable the ordinary atmospheric thermometer can be used for obtaining the temperature of water for baths or treatment.

No article on the List is likely to be more frequently needed than the hot water bag, which when filled is an effectual means of relief in case of pain, earache, stomach ache, toothache—almost any ache, indeed, is subdued by its soothing influence. In cases where moist heat is required, a flannel cloth wrung out of hot water and then wrapped about the bag affords a very effective means for a prolonged application of heat.

The cloths employed for giving fomentations should be about a yard square, all wool and of soft texture. A single blanket cuts into four good fomentation cloths, which is not too many to have for general use, although thorough treatment can be given with but two cloths.

The quantity of material to be provided for compresses and packs must depend upon conditions and the size of the family. One may begin with a yard of mackintosh, two of flannel and ten of cheesecloth, adding more before this is entirely used up.

BANDAGES CAN BE PREPARED from the good parts of worn sheets or pillow slips if perfectly clean. Rolls six to eight yards in length are most convenient—one inch wide for fingers, two inches for feet, two and one-half to three inches for head and arms, and four inches for legs. A good way of keeping them in condition for use is to seal the rolls in a perfectly clean glass fruit jar.

MRS. E. E. KELLOGG.

8 8 8

GRATEFUL and salutary spring the plants
Which crown our numerous gardens, and
Invite to health and temperance in the simple meal
Unpoisoned with rich sauces, to provoke
The unwilling appetite to gluttony.
—Dodsley.

2 2 2

The Dietetic Value of Acid Fruits

M ANY PEOPLE HAVE NOTICED THE MARKED BENEFIT from the use of acid fruits. The writer has not infrequently been told by persons suffering from dyspeptic disorders that the juice of a lemon taken soon after meals has sometimes given relief. Others have been benefited by apple juice and other moderately acid fruits.

THE NATURE OF THIS BENEFICIAL EFFECT of fruit was not understood until recent experiments by Pawlow and others, which have demonstrated two things: first, that the acids of fruits stimulate the stomach to produce gastric acid, which is absolutely essential for good digestion; and second, that the acids of fruits are able, to a considerable degree, to take

the place of the natural acid of the stomach when this is absent.

THESE FACTS EMPHASIZE THE IMPORTANCE OF ACID FRUITS, including the tomato—a vegetable-fruit—as an aid to digestion, especially in cases of persons suffering from hyper-hydrochloria, or achlyia, a condition in which there is deficiency or absence of hydrochloric acid, the normal acid of the gastric juice. One of the important functions of the hydrochloric acid of the gastric juice is to activate the pepsin; that is, without acid the pepsin is unable to do its work, which consists in the digestion of protein. The addition of hydrochloric acid to pepsin renders it active and efficient, and the acids of fruits have been proved to be to some extent capable of replacing the hydrochloric acid in activating pepsin.

T IS THUS EVIDENT that persons suffering from deficiency of acid or the absence of acid should take care to make acid fruit or fruit juices of some sort a part of every meal, being taken at the beginning of the meal as well as at the close of it. Even in some cases in which the stomach makes neither pepsin nor acid, fruit acids are found to render much service in supplying a normal stimulant that the stomach resumes its production of pepsin, as a result of which action a marked improvement in digestion results.

THIS RECENTLY ACQUIRED KNOWLEDGE respecting the relation of fruit acids to digestion, also explains the inability of persons suffering from hyperacidity to make use of acid fruits. The effect in these cases of the fruit acids is to cause the stomach to make an increased amount of acid, and hence to increase the difficulty.

I THINK self-narcotization and self-alcoholism are rather ignoble substitutes for undisturbed self-consciousness and an unfettered self-control.—Oliver Wendell Holmes.

2 2 2

In Which Tobacco is Brought to Account

THE FIRST NUMBER of that unique quarterly, The Unpopular Review, contains a valuable contribution to the question as to "whether the value of tobacco to society is worth what society pays for it in direct expenditure as well as in the destruction of property, lives, health, etc.," the article summing itself up in the following "balance-sheet":

Madam Nicotine in Account with the People of the United States.

Dr.

1. To amount spent on tobacco and acessories \$1,200,000,000 Less taxes, say 105,000,000

\$1,095,000,000

- - c. Loss of life in fires.
- 3. Preemption of arable land, 1,200,000 acres.
- 4. Extra expense for R. R. equipment, hauling, etc.
- 5. Expense of keeping the country clean.
- 6. Morbidity.
- 7. Retarding education of children.
- 8. Waste of time.

- 9. Weakening of social sense.
- 10. Weakening of will power.

Cr. Smokers euphoria.

THE "EUPHORIA" is rather an indefinite quantity—"some claim that tobacco quiets the nerves and therefore makes them more peaceably inclined, more ready to effect compromises in a dispute, and altogether more sociable. Others, on the other hand, claim that it stimulates the mind and enables them to do better intellectual work. In all cases, the effect is personal, not social, and the evidence with regard to it is entirely subjective. But the claim that tobacco stimulates a person's brain, rests upon his own testimony. There is no reason to believe that the effect of nicotine on literary output can be detected by others, and the many cases in which smokers have deliberately given up the habit and yet continue to do their brain work without diminution of effectiveness, create a strong presumption against attaching much weight to the subjective testimony on the subject."

C ERTAINLY this is a small item with which to offset the tangible financial cost and the social losses to the community and to the people at large, as set forth in the balance-sheet. Lack of space forbids extended quotation from the article, but we can not forbear giving the following paragraph under the head of "6. Morbidity":

"The effect of tobacco upon the health is an important item in the cost of the habit to the country, though one which can obviously not be expressed in figures. Dr. von Frankl Hochwart, the eminent nerve specialist, has written an article dealing only with the nervous diseases of smokers, and though this paper was read at a meeting of neurologists and eight physicians took part in the discussion, not one of them expressed dis-

sent on any essential point.

"This distinguished authority based his statements on the study of 1,500 of his own patients who were heavy nicotinists. After eliminating all of the other poisons or diseases which might have affected these cases, he reached the general conclusion that, among smokers in general, about one-third complained of troubles which they attributed to tobacco. These symptoms were particularly strong in the case of heavy smokers, of whom half showed bad effects, lasting sometimes for a considerable time. The troubles were especially noticeable in the case of cigarette smokers. The most common complaints were palpitation of the heart and general nervousness, but a large number of other nervous affections were diagnosed as specifically attributable to nicotine, such as loss of memory, meningitis, aphasia, deafness, and dyspepsia."

THE MANUFACTURE OF TOBACCO is generally regarded as an unhealthy occupation, says the writer, "and many assert that it tends to produce miscarriage in the case of women. Some, like Sir Thomas Oliver, think the evidence on this point not conclusive. But this eminent English authority holds that tobacco is bad for the health of English soldiers and speaks of it under the head of occupational diseases. "Tobacco especially," he says, 'I believe to be a cause of heart trouble among soldiers, though many authorities doubt it. I have known a man who was anxious to be invalided out of the army produce the most marked cardiac symptoms by the surreptitious use of strong cake tobacco." 'Smokers' cancer' is a term familiar to physicians. It

is not necessary to discuss at length the effects of tobacco on health in an article dealing mainly with the economic and social phases of the question. Suffice it to point out the fact of its harmfulness, leaving to physicians the consideration of the mode and extent of nicotine morbidity."

THE TAX MADE BY TOBACCO upon railways in the form of smoking cars and compartments is an interesting point brought out by the writer. These cars represent an investment of over \$71,000,000, against which interest and depreciation must be charged, an investment made necessary by the demands of smokers. The loss is particularly great in parlor cars, for "not infrequently a smoker will engage a seat in a parlor car and leave it empty during the greater part of his trip. He uses the additional seat provided gratuitously for him in the smoking section of the car, or in a special smoking car."

3 3 3

Athletic Records on a Non-Meat Diet

THE 1913 REPORT OF THE VEGETARIAN ATHLETIC AND CYCLING CLUB (London) activities makes interesting reading, for it shows that not only can athletes win victories on a meat-free diet, but that they can go further and make records. In cycling, a member of the club made twenty-four miles and 1,546 yards in one hour, the British record for an unpaced path. Another record was for an out-and-home fifty miles, which was done in 2:17:38, bettering the previous record by exactly one second. The same cycler made a fifty mile record for Irish roads of 2:20:27. In another contest, with one hundred and twenty starters, a member of the club won second

place, doing fifty miles in 2:29:26. Grubb, who did the unpaced record mentioned above, made the fastest out-and-home one hundred miles ever ridden, doing the distance in 4: 43: 33. A first was taken in a four mile path walk in 33: 2, three other members making it in 34:2, 34:2.2 and 34:10. Another first was made in running—two miles in 9: 33,—and a second in a five-mile steeple chase, twenty-seven starters, in 31:20. In addition to this, the report goes on to say, "S. V. Bacon is middleweight wrestling champion, catch-as-catch-can style. He is also civil-service diving champion, and was runner-up for the middleweight amateur boxing shampionship of England. R. J. Smith won the Troon Merchants' Aggregate Medal and Bogey Prize (Golf). Kenneth Wilson, eight years old, took second prize in our Club, sixty-vards swimming handicap—time, 56 seconds, and won an open 50-yards handicap at Leeds in forty-six seconds."

2 2 3

THE open-air school movement is gaining ground rapidly—not merely because the theory is good, but because the school has made good. Just the other day at a reception held by the Franklin Open-Air School, of Chicago, one of the pioneer institutions of the kind, one little fellow was pointed out by a visitor as being too active, in her mind, for an invalid. Said Dr. O. W. McMichael, the supervising physician, "He is one of our most notable cases. He is a hopeless little cut-up. The first time I saw him he was only a whisper of a human being. They said he couldn't live a week. Now he is cured. There isn't a symptom of tuberculosis in his body. This one boy alone is worth all the labor and expense the city has been involved in to bring about the school. But there are many others here who have had similar experiences."

ACCORDING to a bulletin just issued by the Department of Agriculture, the 1914 meat supply of this country is more than 18,000,000 animals short, basing this estimate upon the supply per capita of 1910. As showing the tremendous increase in the price of meat, it is shown that in spite of this decrease in supply, the value of cattle, sheep and hogs on farms represents an increase of \$395,000,487. It is interesting to note that meat is beginning to feel very directly the increased consumption of non-meat products, the bulletin stating as one of the reasons for a decreasing supply "the competition of higher prices for other farm products."

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Efficiency and the Declining of the Senses

S IR GILBERT PARKER, statesman, author and traveler, and one of the most acute observers of our modern life, notes a disquieting fact in the one-sided nature of present day education and intellectual development. "Have our senses increased in acuteness, in precision, in delicacy and in scope with the undoubted mental and intellectual advances which we have made in the last generation or so?" Sir Gilbert asks in the February Munsey. "During the last few years," he says, "some of us have been wondering whether, with life made so mechanically easy as it is, our senses are not losing vitality and usefulness," and cites, by way of illustration, an increasing inability to concentrate the mind, lessening powers of observation and inattention. For one thing, he says, inaccurate memory of what is heard "has become startling dangerous." "In the law courts daily you have two people—sometimes more—giving diametrically opposite reports of the same conversation. Me-

chanical skill of a machine-like character is on the increase, but the observation which makes for capable initiative does not appear to be increasing. It would be interesting to ask a hundred oculists of experience on the one hand, and a hundred manufacturers whose workmen have to apply science and art to industry on the other, whether they are satisfied that the steadiness and control of the mind which a registering eye gives is developing. To a registering eye—an eye which sees and photographs—there comes, under stress of the senses and the illumination which follows, a moving picture of innumerable things in their proper places, the automatic memory of the thousand visualized objects."

A CCIDENTS ALSO FORM AN OBJECT LESSON. "On a recent visit to the United States, where the tides of life flow with greater velocity than in England, men in the control of large affairs right and left said they regarded the lack of trained observation as the chief origin of the defects—the very grave defects—which exist in that splendid and wonderfully organized nation. The idealism, the vision, the adaptability, the training which enables the United States to organize upon a large scale are thrown into chaos and catastrophe, as the constant railway accidents show, by lack of the decision and the precision which belong to expert observation and the firm control of the senses. As the tide increases in velocity in the smaller area of Great Britain the trouble will greatly increase there."

DURING THE PAST FIFTY YEARS, as Sir Gilbert observes, "steam and electricity have developed to an extent as almost to paralyze and certainly to dumfound, the observer of human progress who realizes the magnitude of the powers which

have been harnessed for the race of men to drive through the highways of civilization and beyond." But the fact remains that all this marvelous development has left practically untouched those qualities which are the very essence of human personality, and which are the stuff of which geniuses are made.

3 8 8

ALCOHOL is getting short shrift from the newer text-books on hygiene and physiology. Typical of these is a recent volume for the lower grades entitled "The Human Body and Its Enemies," in which we find the following: "For business reasons it is wise to leave alcohol absolutely alone, for many firms will not employ any one who drinks. This is true especially of banks, railways, and other business concerns which are entrusted with peoples' property or people's lives. Athletes who are ambitious to excel always leave alcohol alone when preparing for a contest. Locomotive engineers must not drink, for the lives of the passengers are in their hands. Lawvers, must work hard at times, and sometimes an innocent man's life depends on the good work of the lawyer who is defending him; in a case of this kind alcohol is a hindrance. The physician fighting disease cannot afford to drink, as it would make him unfit to give advice to the patient depending on him. The machinist cannot afford to drink, for if his nerve is unsteady he may lose a finger or suffer some other painful and mutilating accident. The salesman in a store cannot afford to drink, for he must receive money and return the change quickly and accurately. The stenographer dares not drink, for he may write an error into an important letter. Indeed, it may be said that any good work demands of a man that he leave alcohol alone. Drinking is out of place in the life of any man."

How sensitive the body may be to ill-attention to the feet is shown in a recent guide to "how to be beautiful." The author shows that "the nerves of the body center in the feet and a material connection exists between the nerve centers in the feet. especially between those of the great toe and the brain and nervous system. Even insanity has been produced by trouble with the great toe. Constant pain in the feet seriously affects the whole nervous system, makes some persons ill directly and others indirectly by not permitting them to have needed exercise. If the mind is disturbed by pain in the feet, it can not concentrate. Old age is hastened by reason of feet which are not properly cared for, or properly shod. Too narrow or two short produce great evils, but shoes or boots that have both these defects allow Nature no opportunity to protect herself from it. Besides the injury to the nervous system, high heels bring about even more aggravated injuries, and require surgical operations in portions of the body which one does not in any way associate with the feet. Then, too, high heels keep the knees in an unnatural position, and the connection of the knee with the nervous system is well known to physicians. With high heels the action of every muscle employed in walking or in maintaining the correct posture of the body is interfered with, while even eve diseases are traceable to the wearing of high heels."

Autointoxication a Cause of Dental Disease

In the January number of that very wide-awake journal, Oral Hygiene, H. E. Bliler, D.D.S., takes for the thesis of a very instructive article the statement that "all cases of pyorrhoea alveolaris are due to autointoxication, or have that as a basis." The author quotes to splendid effect Boeker, Billroth and

Bouchard. Boeker, he says, "from personal experience and clinical observations maintains that most all diseases are directly traceable to the gastro-intestinal tract—that closer attention given to auto-intoxication as a source of disease will solve many of the most perplexing problems in internal medicine. Neither can we have an unalterable classification of the toxins or toxemias. Bacteria gravitate to those parts in which the least resistance is met. Billroth found bacteria in small numbers in the upper bowel segment, increasing in the intestines, and the largest number in the fecal repository, or colon. The number of bacteria found in the alimentary tract is almost beyond computation. in normal as well as abnormal conditions. Bouchard, of Paris, laid great stress on autointoxication as the prime factor in most all morbid phenomena, favoring circulatory stasis of the liver, and causing, in a measure, morbid conditions and metabolic disturbance, as in gouty and rheumatic affections."

A LL THIS IS CONFIRMED by Doctor Bliler's own experience, "that appendicitis and carbuncle, from which we get fatal toxemia, also pyorrhoea alveolaris, are local morbid manifestations of gastro-intestinal poisoning and infection, attacking the weakest point of resistance, which varies in different individuals. Theorists, no doubt, will take issue, but the facts remain; they are all pus-producing and tissue destroying toxemias, and by using the same eliminatives, they all disappear (in primary stages), and normal conditions are restored. Our social relations, with excesses of food and drink, are not conducive to natural immunity from autointoxication."

GEORGE EDWIN HUNT, D.D.S., Editor of Oral Hygiene, goes Doctor Bliler one better and indicates how autointoxication can be removed by less strenuous methods than the rev-

olutionizing of our social customs. "Putrefaction in the colon." says Doctor Hunt, "is mainly due to an excess of animal proteins in the food. Any one can reduce it to a minimum or get rid of it altogether by cutting out meat as a diet, walking a few miles each day, and drinking buttermilk. Without meat the amount of nitrogenous matter will probably be reduced to the point where what is taken as food will be assimilated and used up in constructive metabolism; the walk will create a sufficient demand for nitrogen foods to care for what you do eat and is therefore an aid to the proper form of diet: the bacilli in the buttermilk are anti-ferment agents and will reduce the number of putrefaction bacilli in the colon. The constant use of eliminatives is harmful. While a thorough cleaning of the lower bowel by means of purges will carry away immense numbers of bacteria, unless preventive measures are adopted for their future inhibition the same causes which led to their propagation before the exhibition of the purge will operate to bring about the same effects after its use. Without unassimilated animal protein in the colon, there is little or nothing for putrefactive bacteria to feed upon."

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THE BOWELS should move three times a day. The big apes in the zoological gardens have three bowel movements a day. Doctor Hornaday says the apes in the Bronx Park collection have three bowel movements a day. The Turks habitually move the bowels three times a day. The natives of South Africa do the same. The Japanese have used agar-agar from time immemorial. The Siberian natives kill the reindeer, take the half-digested reindeer moss out of their stomachs and eat it to secure free bowel movement. The Alaskan Indians use seaweed dried in the sun on the shore. Dogs eat grass.

"The first wealth is health; sickness is poor spirited; it must husband its resources to live. But health answers its own ends and has to spare; runs over and inundates the creeks and meadowlands of other men's necessities."—Emerson.

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The Increasing Cost of Meat

TWO RECENT CONSULAR REPORTS from Europe throw interesting light on the rising price of meat. In Germany, says Consul General Robert T. Skinner, of Hamburg, "the cost of meat continues generally to increase and the number of animals which reach the abattoirs to decrease," and gives the following figures to confirm this statement:

	1910	1912
Oxen	614,011	523,149
Bulls	477, 564	421,772
Cows	1,807,550	1,727,621
Calves	1,054,633	961,452
3-month calves		4,360,326

L ESSENED SUPPLY due to foot and mouth disease is cited by the Consul General as one cause of the increased price, a less ingenuous reason than that given by Consul Heenan, of Warsaw, Poland, who asserts that "the meat supply of Russian Poland is diminishing and the price increasing," not because of cattle disease, but because the consumers of meat are emigrating to America!

That is to say, in Germany the price is increasing because the supply is decreasing, while in Poland, it is increasing be cause the demand is decreasing. It is hard to reconcile these two reasons, though it is not important that they be reconciled, for we suspect that the same causes are at work in Europe as in America; namely, an awakening of the people to the physiological undesirability of meat, and also, economically, to the wastefulness of meat production as compared with the raising of cereals, vegetables, fruits, etc. People are discovering that, as June Eddington put it the other day in the Chicago Tribune, "a man can live on cereals and vegetables and have all the food elements needed at from onefourth to one-seventh the cost of a meat diet. Benjamin Franklin as a boy did better than this, and lived to be an old man. The new advocates of the fish diet need to remember that twelve cents a pound for fish generally means twenty-four cents a pound for actual food, for the average amount of refuse amounts to about fifty per cent of the whole fish. The lowest waste in one of the large fishes, salmon, is about thirty-five per cent, and the highest in any fish is about sixty-two per cent. There are only a few products in which the refuse is not considerable. None is reckoned for dairy products ordinarily, since water in food is never counted as refuse. It does, however, reduce greatly its relative value as food, making it highly dilute. To the natural refuse from almost any food may be added a considerable per cent of waste due to carelessness or ignorance.

"THE NATURAL WASTE OR REFUSE in different portions of beef, cut up entire and sold for food, varies from about six up to fifty-four per cent. The great packers could use one and another part for commercial purposes, so that the refuse is as nothing. They have learned to do this by keeping scientists constantly in their employ. A poor cook can increase

the refuse from almost any piece of beef fifty per cent without

half trying.

"The internal organs of veal, as of the pig, are accounted as without waste, while the waste indifferent portions of the carcass varies from fourteen per cent of the fillet to sixty-three per cent of the hock.

"This question affects the cost of our food vitally," Miss Eddington concludes. "We have to pay for refuse, and a good price, too. Therefore it becomes highly essential that we study the relative values of food in order to decide how we shall spend the money we have, especially if it is only a little money."

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Little Definitions in Diet-I

C ALORIE (also spelled calory): The unit used in expressing the heat-yielding capacity of a food. When burned in the proper apparatus one calorie of any food gives off sufficient heat to increase the temperature of one gram of water almost two degrees Fahrenheit (one and eight-tenth degrees, to be exact). A term of this kind is essential in discussing questions of diet, for the body requires, first of all, heat, whether it takes one or twenty ounces, a spoonful or an entire quart of food to supply it. Indeed, so much do foods differ in their heat-yielding qualities that it requires only four-tenths of an ounce of olive oil, but two and one-third ounces of celery, to afford a hundred calories of heat. Even foods which have similar elements vary vastly in this respect. Celery and cane sugar, for instance—an ounce of the former contains 5 1/3 calories, the latter 116 calories, though both contain carbohydrates almost exclusively. Obviously then,

there is needed a standard by which foods may be prescribed with reference to the amount of heat they yield and not to their bulk or weight, and such a standard has been found in the "calorie."

PROTEINS: The proteins form one of three large groups (the other two are "fats" and "carbohydrates") into which organic foods have been classified. They contain, on an average, nitrogen sixteen per cent, carbon fifty-two per cent, hydrogen seven per cent, oxygen twenty-three per cent, and sulphur 0.5-2 per cent. It is of the proteins that the structure of the human body is very largely composed, being comparable, to borrow an oftused figure, to the iron that goes into the building of a locomotive. The growing body for its development thus calls especially for protein substance, the proportion of proteins in the daily ration being higher during the growing years, indeed, than at any other time in life. Proteins are also necessary for repairing the body, inasmuch as in the daily activities of life human tissue is broken down and must be replaced. Except as it is forced upon the body to the exclusion of the natural fuel substances, fats and carbohydrates, protein is not food in the sense that when burned in the body it furnishes heat and enegry, as coal burned in the locomotive generates heat and energy. Proteins in excess of the actual needs of the body undergo putrefaction with extreme readiness, the putrefactive processes giving rise to virulent toxins that are carried to every part of the body, where they poison and paralyze nerve and muscle tissue. The foods in which the proteins predominate are lean meat, beans, peas and eggs. Foods rich in protein are also spoken of as "nitrogenous foods."

C ARBOHYDRATES: The carbohydrates are made up of 44.4 per cent carbon, 6.2 per cent hydrogen and 49.4 per cent of oxygen. Since they contain no nitrogen whatever, foods in which they predominate are often spoken of as "non-nitrogenous foods." They do not in any way enter into the structure of the human body, serving wholly as a fuel supply, carbohydrates, with fats, being the body's sole source of heat and Sugars and starches, which form the two main branches of the carbohydrate family, are utilized with the utmost readiness by the body,—the sugars, on account of their high degree of solubility and diffusibility, being easily digested when the digestive apparatus is in a condition of health, while the starches, rather less easily assimilated, are almost perfectly digested (98 per cent, to be exact), so that they form an admirable fuel supply. The foods in which carbohydrates prevail are the cane sugars, vegetables of all kinds, fruits, and cereals.

FATS: Like carbohydrates, fats contain no nitrogen, being made of 76.5 per cent carbon, 11.9 per cent hydrogen, and 11.5 per cent oxygen. On account of this large proportion of carbon, the fats are less easily burned in the body than carbohydrates and require a larger amount of oxygen for digestion, though they give off a larger amount of heat than do the carbohydrates. This extraordinary yield of heat is shown by the fact that whereas one gram of carbohydrates, as also one gram of proteins, gives up but 4.1 calories of heat, the same amount of fat gives 9.3 calories. We may say, then, that the body depends upon the fat for its heat, upon carbohydrates for its energy, and upon proteins for the building up and maintenance of its structure.

M INERAL SALTS: There enter into the structure of the body tissues a large number of inorganic mineral substances called "mineral salts." In the bones, muscles, nerve-tissues, skin, certain glands, blood, lymph, etc., these substances exist in relative quantities that scarcely change, varying a little in each organ according to the health of the body. Under ordinary conditions mineral salts are found in the various tissues as follows: muscle, 1.1 to 1.3 per cent, blood 0.9 to 1.15, bone 34 to 27 per cent. This shows how important a part these salts play in the feeding of the human body, as also experiments by Forster, a German physiologist, who deprived experimental subjects of mineral salts and found that as the salts gradually diminished in the system the animals became weaker, with stupidity, trembling, muscular weakness, sluggishness and finally convulsions, with digestive difficulties and vomiting. Death occurred at the end of twenty-six to thirty-six days. The salts chiefly found in the body are iron, phosphorus, potassium, soda, lime, calcium, sulphur, chlorine and magnesia. They are taken into the body chiefly in the green vegetables in common table salt (chlorid of sodium), and in the cereals.

ATER: Water plays an important part in the human food supply. It constitutes four-fifths the entire weight of the body, and through the urine, perspiration, exhaled breath, etc., is an important factor in the elimination of waste products of the body. In the excreta just named two thousand to three thousand grams of water are lost daily, a loss which must be made good by water in our food and drink—sixty per cent of it being provided by the former. Water is not an unimportant source of mineral salts, especially lime, and often iron, sulphur, magnesia, etc., depending upon the locality of the well. The needs

of the body demand that water for drinking purposes be fresh, well aerated, odorless, tasteless, limpid, sweet and free from organic matters.

T. C. O'D.

3 3 3

Placing the Responsibility for the Bad Boy

M R. JACOB RIIS, discussing the "Bad Boy" at the National Conference on Race Betterment held in Battle Creek last month, made the statement that there was no such creature, an assertion in which he was upheld in an address which followed by Judge Ben Lindsey. Dr. H. Addington Bruce, in an article in the February Century on "The Boy Who Goes Wrong," verifies this position, asserting that the blame for the boy who goes wrong does not rest with the boy himself, or yet with his remote ancestors. It rests squarely with the parents, says Doctor Bruce, who, through ignorance or neglect, have failed to mold him aright in the plastic days of childhood. "What is needed, especially in this comlpex civilization of ours, with its myriad incitements and temptations, is a livelier appreciation of the responsibilities as well as the privileges of parenthood. Most of all, perhaps, from the point of view of coping with the problem of vice and crime, do parents need to appreciate that it is in the very first years of their children's lives that the work of character-building should be begun.

"The whole family life, accordingly, should be regulated with a view to 'suggesting' into the infant mind ideas which, taking root there, will eventually blossom into habits of right thinking and right living. In their intercourse with one another, with all who pass within their doors, the parents exhibit only those traits which they most desire to cultivate in their child—

such traits as kindliness, courage, sympathy, geniality, courtesy, self-control. They should surround him with a material environment that will tend, again by the force of unconscious suggestion, to develop in him an appreciation for the good, the beautiful, and the true. Doing this, keeping close watch over his physical condition, and deftly guiding his intellectual interests to things worth while, they need have little fear that in after years he will be numbered among the world's delinquents."

DOCTOR BRUCE EMPHASIZES THE IMPORTANCE of "keeping close watch over the boy's physical condition." How important is this he shows in an extraordinary case of waywardness due to dental defects in a Cleveland youth of sixteen years, who as a boy had been a model of good conduct. "Then, having gone through high school and begun work with a business firm, he suddenly developed thieving tendencies, finally breaking into a post-office, an exploit which earned for him a term in a reformatory. This was so far from curing him that soon after his release he adventured into highway robbery, was caught, and was sent to jail.

"So sudden and startling had been the change in his behavior that the Cleveland police authorities were convinced he was not responsible for his actions, and advised his mother to have him committed to an asylum for the insane. Before taking this extreme step she had him examined by a skilled neurologist, Dr. Henry S. Upson, whose careful testing of the boy failed to disclose any sign of organic brain trouble. Doctor Upson noticed, however, that his teeth were badly decayed, and this led him to suggest an X-ray examination, as a result of which it was discovered that the youthful criminal was suffering from several

abscessed and impacted teeth.

"Following an operation for their removal, there was a steady improvement in his moral as well as in his physical health. When his term of imprisonment was at an end, he found work in a printing-shop, and at last accounts, a year after the operation, had won for himself the reputation of being 'quiet and industrious, self-controlled, and without any indication of either moral or mental aberration.'"

2 2 2

The 1913 Man Hunt

A CCORDING to newspaper reports, 135 men were killed during the 1913 season for deer hunting. This is an average of 4.5 men per day. In addition to the killed 140 persons were wounded. According to these facts deer hunting is more dangerous than the hunting of lions, rhinoceroses, panthers or any other of the most ferocious beasts of the forest.

This horrible slaughter of men and deer goes on year after year and nobody raises any protest—a good illustration of the

brutalizing influence of the flesh-eating practice.

N EXT YEAR, the same as this, the hunters will swarm into the woods with a full knowledge of the fact that for every hundred deer they may shoot, they will shoot one man. Deer hunting is more dangerous than war. There is no other sport in which men engage which compares wun it in fatality except football. The new race the world is looking for will tolerate neither one of these brutal sports.

2 2 Question Box 2 2

11352. Acidity of the Stomach.—R. W. S., Washington:

"What measures would you recommend for an acid condition of the gastric juice?"

Ans.—Avoid meats, mustard, pepper, condiments of all sorts and liquids, including broths, also meat extracts of all kinds. In extreme cases, avoid much chewing of food. Food should be taken in the form of purées, such as mashed potatoes, whole grain mushes, etc. Take at each meal two tablespoonfuls of olive oil. Avoid overeating and, of course, avoid alcoholic beverages, tea and coffee.

11533. Albumin in the Urine—Chemical Test for Albumin
—Chemical Test for Urine—Mille Diet—Sanatogen
—Swollen Eyelids.—B. S. H., Minnesota:

1. "What form of kidney disorder is indicated by the presence of albumin in the urine?"

Ans.—The temporary appearance of albumin in the urine indicates congestion of the kidneys, a very common result of constipation. When albumin is constantly present, it indicates chronic degeneration of the kidneys, the result, according to Professor Fisher, of an undue accumulation of acids in the tissues. The concentration of these acids in the kidney results in the dissolving of the cement substance which holds together the cells of the kidney. This cement substance appears in the urine as albumin.

- 2. "Do casts indicate a serious condition?"

 Ans.—Yes.
- 3. "What is the chemical test for albumin?"

Ans.—A common coarse test consists of boiling the urine in the presence of an acid. Nitric acid is usually employed. There are various other tests. There are sources of error, however, which must be guarded against. Hence, an examination of this sort must always be made by a skilled chemist or physician.

4. "Do you consider the 'functional test' advisable?"

Ans.—Yes. The test of the renal efficiency is a very valuable one and should always be performed before a surgical operation when there is the least reason for suspecting a deficiency of renal activity. It is a safe precaution to use this test before every surgical operation in which ether or chloroform is used. When laughing gas or oxygen are used as the anesthetic, the preferable method, the test for renal efficiency is less important, as laughing gas does not injuriously affect the kidneys. The most commonly used test for sugar in the urine is the so-called Fehling's test. The polariscope is also used. These tests can be properly made only by persons skilled in laboratory methods or who have had special training.

5. "Is a milk diet advisable if albumin is present? If not, what diet would you suggest?"

Ans.—A continuous milk diet is not to be recommended, as it results in anemia. Temporarily a milk diet is often beneficial. It is doubtful, however, whether the benefit received from a milk diet cannot be more than duplicated by a diet of fruit juices and cereals.

6. "Would Sanatogen be beneficial?"

Ans.—The writer has never felt called upon to recommend Sanatogen, so much above its actual merits is this proprietary preparation extolled. It possibly has a value somewhere approximating that of skim milk, but is in no way superior, and, in the estimation of the writer, much inferior to skim milk.

7. "What is the cause of swollen eyelids in the morning? The swelling disappears wholly or partially during the day. There is no pain or soreness."

Ans.—This symptom frequently occurs in cases of Bright's disease. It may also occur in anemia, in some cardiac affections,

and in chronic intestinal toxemia.

11534. Hemorrhoids.—O. J. P., Pennsylvania:

"I am troubled to a slight extent by hemorrhoids. What can I apply to remove the obtrusion?"

Ans.—When of recent origin, hemorrhoids may generally be relieved by a cold sitz bath, the application of cold compresses, while the use of some antiseptic suppositories containing tannin are especially to be recommended. Chronic hemorrhoids which are painful or bleed frequently should be removed. This operation may be painlessly done by means of local anesthetic and is devoid of risk.

11535. Pin Worms.—M. M., Pennsylvania:

"How can I destroy pin worms which have troubled me, the past few months? I eat very little meat, my diet consisting of graham bread, potatoes, butter, fruits, cereals, etc."

Ans.—A physician should be consulted, who, after examination of the stool, will administer the remedy adapted to the

particular parasite present. Repeated examinations should be made to make sure that the cure is complete.

11536. Timidity.-R. H. H., New York:

"What shall I do to overcome a timidity in the presence of others? I also suffer from chorea, the result of a great loss of body-weight caused by insufficient food. Am a vegetarian, the only animal foods eaten being milk, cream and butter. My daily ration has been consistent with the standards on page seventeen of the Sanitarium Diet List. The doctors advise medicine containing iron, but I decline to use this on account of a disbelief in artificial methods."

Ans.—Improvement of the general health by an outdoor life and physical training and association with agreeable people ought to enable you to overcome this difficulty. The peculiarity complained of is largely a matter of temperament and in some cases is overcome only with considerable difficulty, but by persevering efforts will gradually disappear.

11537. Sugar in Urine.—H. B. S.. Missouri:

"I am told that a 'trace' of sugar in urine at the age of seventy is not a serious indication, being less grave than before middle age. Is it therefore important to keep the amount of starchy foods very low at seventy? The prostate gland is rather obstructive in my case."

Ans.—A slight amount of sugar appearing in the urine after the free use of sugar is not a serious indication, because it may easily be avoided by the avoidance of sugar. But when sugar appears in the urine on a diet containing no sugar, the condition indicates the presence of insipient diabetes. The case needs to be carefully studied and the diet exactly adapted to the body

needs. Every case of diabetes ought to have the advantage of a few weeks' training in a scientifically managed sanitarium.

11538. Memory Training.—T. E. J., Saskatchewan:

"Is there any possibility of memory improvement after a man has passed fifty-four years? In the case I have in mind the man has lived a moral life for thirty-seven years and is in fair physical health. He is troubled with insomnia and nervous weakness at times."

Ans.—Yes. There are a number of courses in memory training which are valuable, but by giving thorough, systematic attention to the matter, it is probably possible for one to obtain much improvement.

11539. Rupture.-J. H. U., Wisconsin:

"Can a small rupture be cured without operation? If so, how?"

Ans.—It is possible to cure a very small rupture without operation by means of special exercises under the direction of an experienced physician or physical instructor who has been specially trained. For a radical cure, however, operation is to be recommended. As now done, this operation is not dangerous and rarely fails of accomplishing a radical cure.

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CLEANLINESS of body was ever esteemed to proceed from a due reverence to God, to society, and to ourselves.—Bacon.

A With Our Readers A A

High Blood-Pressure

EDITOR GOOD HEALTH:

What is meant by the term, "high blood-pressure"? Please suggest causes of the disorder and indicate methods of relief.

A. L. DOWLEY

Le Claire, Iowa.

High blood-pressure is due to poisons circulating in the blood, which result in a narrowing and hardening of the arteries, so that the heart is compelled to contract with greater vigor, thus raising the pressure required to circulate the blood through the contracted arteries. There are various poisons which have been proved to be the cause of high blood-pressure, and among the most common of these are tobacco, tea. coffee. alcohol and condiments. Probably the most universal and the most important of all are the poisons that come from the colon as the result of chronic intestinal intoxication, which always accompanies chronic constipation. A most important thing in cases of high blood-pressure is to remove the causes of the disease; that is, all of these disturbing poisons should be gotten rid of as far as possible. The use of tea, coffee, tobacco and condiments should be discarded. It is also important to restrict the use of salt, for this has a tendency to raise bloodpressure. The amount of salt eaten should be reduced to the minimum. It is also of the highest importance to make the

bowels move with sufficient frequency to prevent the absorption of colon poisons. This will require three or four bowel movements daily, so there will be no opportunity for the absorption

of poisons.

To accomplish this, it is necessary to make free use of fruit and coarse foods, such as fresh vegetables, especially beets, turnips, lettuce and other fresh vegetables. Potatoes should be freely used, taking the place largely of cereals. The alkaline salts which they contain neutralize the acids of the tissues and aid in the removal of uric acid, which is a frequent cause of highpressure. Bran should be freely used as an aid to bowel action, and in most cases great benefit is derived from the use of the Japanese seaweed, agar-agar, and specially prepared paraffine oil. A considerable amount of moderate exercise, and free exposure of the skin to the sun and air, so as to secure a free, active surface circulation, are also very important. A person whose blood-pressure has reached a point as high as 180 or 200 is in imminent danger of apoplexy and other serious complications, especially with the heart and kidneys. The best thing that such a person can do is to put himself under careful treatment for a few months, in a scientifically managed institution, where all measures useful in such a case can be brought to bear at one and the same time, as it is only by this means that improvement can be secured in so advanced a case. Arteriosclerosis, which is the cause of high blood-pressure, is a progressive disease. It is like a fire in a house, which burns and consumes until the house is destroyed.

Health Missionary Work

PROFESSOR FISHER'S article on "Eugenics" in the November GOOD HEALTH is fine. I wish very much that GOOD HEALTH could be in every home in the world, and I am enclosing a few more names of people who I think would want to take the magazine.

Very cordially yours for health,
Oneida Castle, N. Y. CLARA V. HEALTH.

A Very Instructive Little Magazine

I was so impressed with Dr. Irving Fisher's article on "Eugenics" that I enclose you fifty cents in stamps for five extra copies to send to some of my friends. It is the best magazine article on the subject that I have ever seen. I think GOOD HEALTH is a very instructive little magazine.

Yours very truly,

Grandview, Texas.

G. W. ROOTES.

Good Health First of Fifteen

I AM enclosing herewith renewal subscription to GOOD HEALTH. Some fifteen other magazines come regularly to my home, but any and all of them are laid aside until GOOD HEALTH is considered. In other words, it takes precedence over all of them.

Yours very truly,

F. J. PACK, A.M., Ph.D., Deserte Professor of Geology, University of Utah.

Salt Lake City.

IN A RECENT VOLUME, "The Health Master," Samuel Hopkins Adams makes one of his characters, a physician established in the home to keep the family well, after the Chinese manner, say of those laxative medicines advertised as preventing appendicitis, "Commercial travelers, because of their irregular habits, are great pill-guzzlers as a class. Appendicitis is a very common complaint among them. A Pittsburg surgeon with a large practice among traveling men has kept record, and he believes that more than fifty per cent of the appendicitis cases he treats are caused by the 'liver-pill' and 'steady cathartic' habit. He explained his theory in this way. The man begins taking the laxative to cure the effects of his bad habits of life. Little by little he increases his dose as the digestive mechanism grows less responsive to the stimulus, until presently an overdose sets his intestines churning around with a violence never intended by Nature. Then, under this abnormal peristalsis, as it is called, the appendix becomes infected and there is nothing for it but the surgeon's knife."

Decreasing Longevity of the English People

THE NOTABLE DECREASE in the number of persons who have attained great age among civilized peoples has attracted the attention of various observers. But the significance of this fact has by some been questioned on various grounds, particularly on the ground that statistics are now more accurately kept than formerly. But the researches which have been made within the last few years by Rittenhouse and others have shown conclusively that there is an increased mortality rate after middle life, and hence a decrease in the number of persons who attain maximum longevity. Recently a considerable degree of excite-

ment was created in England when Doctor Newsholme, Medical Officer of Health to the London Local Government Board, announced that the death-rate among men above fifty-five is increasing in England. This statement was telegraphed to this country and attracted considerable notice, but the situation in America, as shown by Rittenhouse, is much more serious.

I N A RECENT PUBLICATION Mr. Rittenhouse, Conservation Commissioner of the Equitable Life Assurance Society, gives a number of tables which clearly show the increased mortality in advanced life and indicate that the cause of this increase is the increase in degenerative diseases. The death-rate from these diseases, which include cancer, apoplexy, organic disease of the heart and Bright's disease, has been steadily increasing during the last thirty years and in all ages. The increase of these degenerative diseases for the entire population has been eighty-six per cent. The principal increase has been in persons over forty years of age, in whom the increase ranges from ninety-two to one hundred and thirteen per cent. Cancer in particular is shown to be making a very rapid increase, having gained fifty-five per cent in the last ten years. A study of the statistics of Massachusetts and New Jersey shows a slight decrease in death-rate in all ages under forty, but an increase varying from seven to thirty-seven per cent in all ages above forty. This increase in mortality in advanced life is not due to the keeping alive of a larger number of feeble infants that were formerly killed off by communicable diseases, for, as shown by Rittenhouse, the records indicate that there has been little or no increase in the number of persons surviving to the later years of life. The views of a few experts who have given this matter careful attention will be of interest to the reader.

We quote from the paper by Rittenhouse to which we have already referred. Mr. Rufus W. Weeks, Vice-President and Actuary of the New York Life Insurance Company, says:

"It does seem a pity, that our civilization has not yet developed into a form which would be as favorable to the valuable lives of middle age and early old age as it is to the young."

Dr. Oscar H. Rogers, Medical Director of the same com-

pany, after discussing dietetic excesses, says:

"For a long time to come we shall have to count on a higher mortality in our various companies at the older ages, and I believe that the reason for it is that we are all of us, as a nation, living too well."

Dr. Frank Wells, Medical Director of the John Hancock

Mutual Life Insurance Company says:

"In recent years there has been a marked increase in diseases of the brain and nervous system, particularly affecting men past middle age,—an increase of 250 per cent in certain diseases, and 150 per cent as a whole, due to tension of modern business life."

Mr. John K. Gore, Actuary of the Prudential Insurance Company of America, in an independent study of this subject in 1903 found an increase in mortality between forty and forty-nine and a larger increase at higher ages. As the result of his inquiries Mr. Gore draws the conclusion that "thus far in the history of the human race there is no evidence from mortality statistics that the extreme length of life is increasing, or will increase to any appreciable extent."

Said Mr. Frederick L. Hoffman, Statistician of the Prudential Insurance Company of America: "There is, of course, no question whatever that the American death-rate, using the term in a very comprehensive sense, has substantially declined

within the last fifty years, but it is equally evident that this decline has been at the younger ages, and not during the period of life which, economically, is of the greatest value. There is no doubt that the mortality of adult ages is still decidedly excessive."

Mr. Charles G. Reiter, Assistant Actuary of the Metropolitan Life Insurance Company, comparing the death-rate of 1905 with that of 1870 for ages 55 and upward, showed an

increase of 14.9 per cent to 28.1 per cent.

Said Dr. Henry Toulmni, Medical Director of the Penn Mutual Life Insurance Company, "The increased mortality at the older ages is of extreme interest to us. This must surely be accounted for in part by our mode of life."

Dr. Wyeth E. Ray, Medical Director of the Travelers Insurance Company, asserts that the experience of the Travelers Company shows an increased mortality at the ages of 45 to 50.

There are doubtless other causes of this decrease in longevity which are far more potent than "tension of modern business life."

Doctor Rogers is right in his suggestion that high living is

the dominant factor in producing premature senility.

Dr. Eugene L. Fisk, Medical Director of the Provident Savings Life Assurance Society, noted in 1907 an increase in mortality above sixty of fifteen to thirty-four per cent in thirty years in the experience of five of the leading insurance companies of the country.

Dr. Brandreth Symonds, Medical Director of the Mutual Life Insurance Company of New York, states that in spite of greater care and skill in the examination of applicants for insurance there has been an increase in mortality in the ages over

(Continued on page 14, Advertising Section)

M Book Review M

The Menace of Cancer

FROM a statistical standpoint this is the most important paper on the subject of cancer which has appeared. The author, who enjoys international fame and is the world's most eminent statistician, has here brought together more reliable information with reference to the prevalence and increase of cancer than has ever been collected before. The

paper is a mine of facts of the most vital importance.

The fact of greatest importance to which Doctor Hoffman calls attention is this, that cancer is increasing, and at a very rapid rate. This is true in all countries. The following table, giving the mortality rate for cancer in different countries, shows very clearly the fact that cancer is especially a disease of civilization, the rate varying from 127.7 per hundred thousand in highly civilized Switzerland to 5.1 per hundred thousand in semi-civilized Ceylon:

INTERNATIONAL STATISTICS OF CANCER MORTALITY, 1900-1909

INTERNATIONAL DIMINISTRES OF		Chirch Michigani, 1700 1707	
Switzerland	127.7	Australia	65.4
Netherlands	98.8	Italy	57.9
Norway	95.0	Japan	55.6
Scotland	90.0	Denmark	51.5
England and Wales	89.1	Spain	45.9
Germany		Hungary	40.5
Austria	75.4	Jamaica	16.3
United States (Reg. States)	72.1	Servia	10.5
Ireland		Ceylon	5.1
New Zealand	68.1	-	

Doctor Hoffman says, respecting the cancer rate of Ceylon, "The low cancer death-rate for Ceylon cannot possibly be the result of serious errors in diagnosis or mistakes in classification of the causes of death, since the vital statistics for this island are generally accepted as entitled to confidence."

Doctor Hoffman also shows that in eighteen of the leading countries of the world the death-rate from cancer has increased within ten years nearly twenty-five per cent. These figures are certainly alarming, especially as they are vouched for by so eminent a statistician as Doctor Hoffman, whose authority cannot be questioned.

"The Menace of Cancer." By Frederick L. Hoffman, Statistician

Prudential Life Insurance Co. of America.

8 8 8

The Health Master

VERY one has heard of the Chinese plan of hiring a physician to keep the family well, instead of letting sickness come and then trying to cure it. Now comes Mr. Adams and gives the experiences of a family who actually try out the plan and install a doctor who is as well versed in hygiene as he is in medicine. The family consists of three generations. Doctor Strong holds informal talks with them on health subjects, such as pure food, fresh air, adenoids, infections, eye-sight, drugs, patent medicines. Of special importance is the chapter on patent medicines, in which the more vicious of the nostrums which are confided in by many people are shown to be deadly in their effects, their names being given in many instances. The author is highly qualified to write a popular treatise on health. He is a member of the National Association for the Prevention of Tuberculosis, and is one of the few laymen honored with Associate Membership in the American Medical Association.
"The Health Master." By Samuel Hopkins Adams. \$1.35 net.

Boston: Houghton, Mifflin Company.

8 8 8

Behind the Beyond

To the first of this collection of sketches the volume is indebted for its title. "Behind the Beyond" is a delightful burlesque on the conventional problem play, plot carefully outlined and "business" indicated in the stereotyped phraseology of the stage, all, however, sprinkled over with a whimsicality that makes one wonder how he ever has sat through a problem play without laughing. The "familiar-incident" sketches from every day events-such as sitting for the photographer, for the dentist, and the

barber,—treated with the same spirit of whimsicality, are irresistibly droll, as are also a series of skits on "Parisian Pastimes." Readers of Leacock's "Nonsense Novels" and "Literary Lapses" will find the present volume quite up to the high quality of humor attained in the earlier books.

"Behind the Beyond." By Stephen A. Leacock. New York: John

Lane Company.

8 8 8

Eight Secrets of Happiness

THE present volume weaves the story of health around these eight phases of personal hygiene: care of the face, hair, eyes, ears, teeth and feet and clothing and drinking. It is full of sound, practical advice, not too common a thing in these days of many health books. Happiness itself is described as "a state of the well-being of the body and of the mind. No matter what the social condition of the person may be—rich or poor, old or young—they evidence a measure of happiness if they be free from disease. If the body and mind are in a healthy state, you will find the possessor cheerful and ready to receive you with outstretched hand and happy smile. The hovels of poverty exhibit very few scenes of pleasure, but if health be present, then the poor are likely to be happy withal"—a truism, of course, but a truism which can not be repeated too often.

"Eight Secrets of Happiness." Fifty cents. Edited and published by

the W. A. Barnes and Company, New York.

8 8 8

The Human Body and Its Enemies

THE present physiology, designed as a text book for the lower grades, is an encouraging sign of the times. It has caught the modern spirit in that entire emphasis is not laid upon mere physiology, except as a knowledge of physiology drives home the lessons taught by hygiene—and the present volume takes hygiene to mean, not only one phase of the subject, such as dress or outdoor sleeping, but every aspect of health involved in the everyday life. The following point of view, as put by the author, can not be too often stated: "In some quarters, a certain timidity prevails in dealing with the topic of health and disease, on the ground that increased knowledge along these lines will lead to a more pessimistic point of view. The important rôle of optimism in the preservation of health is

well recognized. Yet, in view of our present knowledge of the wonderful defenses of the human body, it must be conceded that an understanding of them gives an increased confidence and renewed opitmism

based on facts and not merely on sentiment."

"The Human Body and Its Enemies: A Text-book on Physiology, Hygiene and Sanitation." By Carl Hartman, B.A., M.A., Instruction in Zoology, University of Texas, and Lewis Bradley Bibb, B.A., M.D., Attending Physician, Austin Sanitarium. Two hundred and forty-seven illustrations. Yonkers-On-Hudson: World Book Company.

8 8 8

How to Be Beautiful

THE lesson emphasized on every page of the present work is this, that there is no beauty without health, and that the first requisite for beauty culture is to cultivate those habits that will make for vitality. Every process, from the removal of wrinkles to removal of superfluous flesh, involves health-getting methods, and we know no better popular treatise on many phases of hygiene than the present work on the culture of face and figure. The various chapters deal with the care of the hair, facial massage, beautifying the eyes, nose, mouth, neck, and arms, care of the teeth, hands and feet, the reduction of flesh, etc. The volume is beautifully printed and is profusely illustrated.
"How to be Beautiful." By Marie Montaigue. \$1.00 net. New

York: Harper and Brothers.

8 8 8

Nerves

A NEW addition to the "Home University Library" that is meeting with an excellent reception is the volume on "Nerves," by Dr. David Fraser Harris. Doctor Harris has aimed "to explain in non-technical language the place and the powers of the nervous system." No attempt has been made to produce "an essay in physiology, because the activities of only one great system of the body are discussed." The volume is a discussion of "the capabilities and peculiarities of the nervous system, more particularly of those regions whose activities are not associated with the

rousing of consciousness." Of particular interest and value is the chapter on "Fatigue and Repair," which is a clear exposition of the entire subject of fatigue, both muscular and neuro-muscular, and its relation to sleep, while another chapter touches upon the significance of fatigue, especially neural fatigue. "If the starved masses in the great European cities," says the author, quoting from an authority on economics, "could only acquire nerve-tone through being fed up for a week, there would be a revolution. Bad hygiene, alcohol and nerve-starvation have rendered them so unfit for effort that they remain as they are in their miserable surroundings; but a little more nerve-force and some organization and the course of history might be changed."

"Nerves." By David Fraser Harris, M.D., F.R.S.E., Professor of Physiology in Dalhousie University, Halifax. Fifty cents net. New

York: Henry Holt and Company.

2 2 2

European Dramatists

 ${
m T}$ HE present volume of essays will be of particular interest to GOOD HEALTH readers, who are likewise students of eugenics, on account of the motif recurring so often in the work of certain of the dramatists discussed, notably Isben and Strindberg. Speaking of Isben the author says, "Do what we will, we can not escape the influence of the past. Heredity lays its skeleton hand upon us and we enter the struggle of existence with the inerradicable taint of hereditary weakness or degeneracy gnawing like a vulture at our very vitals." The readers of GOOD HEALTH, too, will find much to interest them in the study of George Bernard Shaw, for we have lost no opportunity of informing our readers that Shaw leads the most strenuous sort of life, made possible by the non-flesh diet upon which he has lived for many years. Other essays than those already named deal with Granville Barker, Materlinck, and Oscar Wilde. In the two latter studies, Doctor Henderson is at his best. Than the study of Oscar Wilde, especially, no appreciation of the brilliant Irishman that we know of has been more engagingly done. The Strindberg, too, while it suffers a little from the Johnsonesqueness of its manner, yet is really a valuable guide to the work of the great Swedish dramatist. The entire volume, indeed, contains not a dull page and the most valuable of recent contributions to our critical literature.

"European Dramatists." By Archibald Henderson, Ph.D. \$1.50.

Cincinnati: Stewart & Kidd Company.