



This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

Usage guidelines

Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

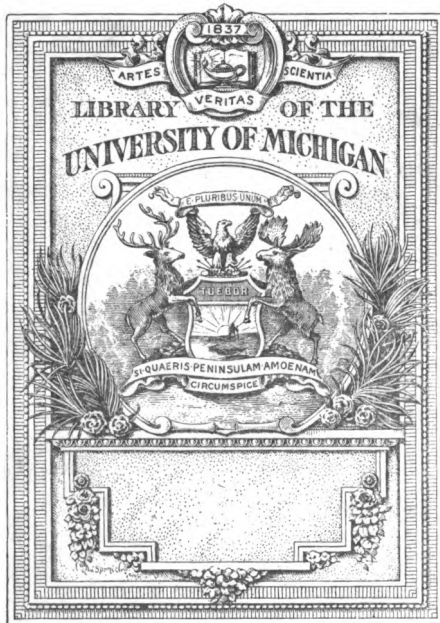
We also ask that you:

- + *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.
- + *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.
- + *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.
- + *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

About Google Book Search

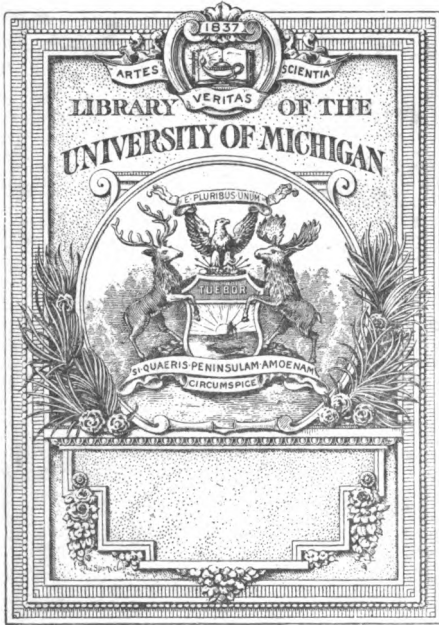
Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at <http://books.google.com/>

THE
ART OF LIVING
IN GOOD HEALTH



213
S 15
57

2001



210
S 13
87

201

**THE ART OF LIVING
IN GOOD HEALTH**

THE ART OF LIVING IN GOOD HEALTH

A PRACTICAL GUIDE TO WELL-BEING
THROUGH PROPER EATING, THINKING, AND LIVING
IN THE LIGHT OF MODERN SCIENCE

BY

DANIEL S. SAGER, M.D.

NEW YORK
FREDERICK A. STOKES COMPANY
PUBLISHERS

Copyright, 1907
BY **FREDERICK A. STOKES COMPANY**

All rights reserved

Copyright, 1906
BY **DANIEL S. SAGER**

Entered at Stationers' Hall, London, England

September, 1907

THE UNIVERSITY PRESS, CAMBRIDGE, U. S. A.

Dr. Ag. E. S.

TO MY MOTHER
MELISSA CHAPIN

P R E F A C E

"Health is the greatest Wealth." — EMERSON

IT is regrettable but true that a majority of people are almost wholly ignorant of the best methods of the conduct of life, and apparently are uninterested in knowing how to live. Men and women reaching the age of forty or fifty years begin to see this as a sad reality, the foundations of disease already having been laid as a result of neglect or violation of Nature's inexorable laws. But why should any individual be compelled to wait so long before knowing that he should have begun to learn how to live at the same time that he began to learn his A, B, C's? It is more important to the race that its individuals should live well than that they should know Latin or Greek. Nature allows humanity to perpetrate gross violations of her laws for years, only to take revenge by cutting down men and women in the prime of life. Nature never forgives, whether the transgression is wilful or otherwise — the just and the unjust suffer alike. That so vital a matter as health should receive such scant attention is one of the inconsistencies often met with in human affairs.

Although the basic principles of dietetics have been known for, probably, hundreds of years, they might

as well have remained in darkness in so far as they have been put into practice by the masses; otherwise disease would be practically unknown, and the average human life would be very much longer than it is. It is of little use merely to know things; it is of great importance to do them.

If the reader has ever looked out on the world with its millions of blind, maimed, and diseased, he must have been painfully impressed by the never-ending stream of toiling misery; and if he has reflected on the matter at all he must have wondered why there should be so much suffering. There is only one answer, and that is that the cause of the greater part if not of all disease is the violation of certain natural laws. We eat or drink for health or ill health (disease). Explain it as you will, this is the only way in which disease can occur in the human body.

When it is remembered that every child born of ordinarily healthy parents need never have a day of sickness or disease of any kind from its birth until its passing away, the health of the people would appear to be a matter of national importance, to which the law makers of the land might devote themselves in their most earnest endeavors to educate the race by governmental methods.

This book is intended to contain the most advanced knowledge on the subject of diet, as expressed by the most eminent writers and experimenters in the world, and it is also intended to be a liberal presentation of matters that are not to be regarded as in any sense exploitations of any particular theory or "fad." Although many theories are discussed, it must not be

supposed that they are all approved. The dietetic platform is so broad that it will be readily understood that there may be differences of opinion or preferences. From a scientific standpoint the feeding of the human body consists in supplying it with the proper amount of the various elements of carbon, oxygen, nitrogen, hydrogen, etc., irrespective of what their source may be, animal or vegetable; this is not the only standpoint, however, to be taken in considering the subject. The various phases of the diet question are presented in an impartial manner, and the reader may draw his own inferences. One should be able easily to select a diet which experience teaches him is the best adapted for himself. Between the extremes of individuals and climates are gradations varying up to the point where the law of average reigns. Occupation, environment, age, sex, temperament, climate, and other conditions must modify any stereotyped set of regulations. It may be set down, however, that there are certain principles of paramount importance from which there can be no deviation, rules which must be as fixed as were the laws of the Medes and Persians, for all forms of diet, and which may be summarized in the two words *Moderation* and *Insalivation*. These two principles form the foundation of the whole structure of diet reform, including as they do *How Much to Eat* and *How to Eat*. Next in order of importance comes *What to Eat*, then comes *When to Eat*. The climax of all, the mental attitude in its relation to diet, must not be forgotten. Once the principles of moderation and insalivation are understood and thoroughly mastered, a great many

of the other disputed dietetic questions solve themselves as a natural consequence. The question of the art of living is by no means limited to a discussion as to the propriety of a flesh-meat or a cereal, nut, fruit, or vegetable diet. The whole question of living is one which must be removed to a realm higher than that in which the relative merits of these foods form the chief feature of discussion. The essence of the food-reform idea has been aptly expressed by a famous French philosopher in the words, "Use, do not abuse; neither abstinence nor excess renders a man happy."

On the plea that health is the heritage of every man and woman in the world, every fair-minded individual who reads this book is asked to interest himself in the principles of food reform. A hundred years ago Brillat-Savarin, a French scientist, called attention to the principles of Mastication and Moderation in his work entitled "The Physiology of Taste," a classic even to this day. Individuals practising these principles will be forcibly impressed with what it is to enjoy life thoroughly, and in doing this they will be made to realize the truth of the saying, "If thou knowest thyself (canst control thyself) thou shalt live happily."

The chief object of this book is the teaching of health, so that it may prove a source of strength to thousands who may be more or less ill, as well as a beacon light to those who might run on the shoals of ill health without due warning. In preparing a work of this character, the sources of information to be consulted are necessarily various. The standard works of physiology and chemistry, containing as they do the knowledge of scientific investigators throughout

the world, are obviously valuable books for consultation. Of the works of individual scientific experimenters consulted, those of Horace Fletcher on nutrition and right living are too well known to require detailed comment.

The writer takes pleasure in directing attention to the extensive, elaborate, and painstaking dietetic experiments made at the Battle Creek Sanitarium under the able direction of Dr. J. H. Kellogg. The work carried on at this Sanitarium in the many phases of dietetics is monumental.

An effort has been made to render all scientific and technical terms as intelligible as possible.

With these explanations **THE ART OF LIVING IN GOOD HEALTH** is sent on its mission in the hope that it may help, in some measure, to make life more enjoyable and more beautiful to all who seek its counsel.

D. S. S.

BIBLIOGRAPHY

- THE FOUNDATION OF ALL REFORM.** By Otto Carque.
GASTRONOMY AS A FINE ART, OF THE SCIENCE OF GOOD LIVING.
By Brillat-Savarin.
THE A. B.-Z. OF OUR OWN NUTRITION. By Horace Fletcher.
THE MIRACLE OF LIFE. By Dr. J. H. Kellogg.
THE WAY, THE TRUTH, THE LIFE. By Dr. J. H. Dewey.
ENCYCLOPEDIAS BRITANNICA AND AMERICANA.

TABLE OF CONTENTS

CHAPTER	PAGE
I. NATURAL MAN	I
II. THE SCIENCE OF BREATH—BREATHING . .	9
III. WATER DRINKING	13
IV. THE MOUTH-TREATMENT OF FOOD: MASTI- CATION OR CHEWING	19
V. THE CHEMISTRY OF FOOD	31
VI. CEREAL DIETETICS	39
VII. MEAT DIETETICS	45
VIII. MILK DIETETICS	59
IX. MILK DIETETICS; INFANT FEEDING . . .	64
X. DIETETICS OF EGGS	80
XI. FRUIT DIETETICS	82
XII. NUT DIETETICS	94
XIII. VEGETABLE DIETETICS	109
XIV. THE RAW-FOOD QUESTION	116
XV. PROPORTIONED BILLS OF FARE	134
XVI. SUGAR DIETETICS	137
XVII. SALT AND THE SALT-EATING HABIT . . .	158
XVIII. OVEREATING	163
XIX. A RATIONAL VIEW OF EATING	173
XX. MEAL PLANS	186
XXI. PETER'S VISION	191

CHAPTER	PAGE
XXII. THE NATURE OF DISEASE	203
XXIII. THE ENSLAVING DRUGS: ALCOHOL; TOBACCO; TEA; COFFEE; MORPHINE; OPIUM	213
XXIV. BATHING AND BATHS	221
XXV. EXERCISE — CLOTHING	230
XXVI. SLEEP AND SLEEPLESSNESS	234
XXVII. THE OUT-DOOR LIFE	237
XXVIII. MENTAL CULTURE: FEAR; WORRY; NER- VOUSNESS; CHRISTIAN SCIENCE; MIND CURE; THE EMOTIONS; MENTAL HABITS	244
XXIX. THE SUPERSTITION OF MEDICINE	297
XXX. THE ART OF LIVING: LIVING TO EAT, EATING TO LIVE, THE ART OF LIVING ONE HUN- DRED YEARS, THE TWENTIETH-CENTURY HEALTH CODE	311
XXXI. THE NECESSITY FOR HEALTH EDUCATION	324
XXXII. LIFE	336
—————	
INDEX	339

THE ART OF LIVING IN GOOD HEALTH

I

NATURAL MAN

*Know then thyself, presume not God to scan,
The proper study of mankind is man.*—POPE.

In the traditions of all nations there constantly occurs the idea of a lost paradise where man once lived free from disease in perfect happiness and freedom. The historians of antiquity from Herodotus downwards represent the people as looking backward to a

**A Golden
Age of No
Flesh-Foods**

“golden” age, when animals were not slain for food and all was perfect happiness and peace. Several centuries before the time of Christ, we know that Buddha, Pythagoras, Socrates, Plutarch, and other reformers taught the doctrine of the non-use of flesh as an article of food. Hesiod, eight centuries before Christ, pictures the “golden” age in which flesh foods were unknown. Consequently the non-use of flesh-food as an article of diet is by no means a new question. Since to-day more than one-half of the world’s inhabitants are not flesh-eaters, — that is, are vegetarians, using the word in its broadest sense, — the condition which led to it must have been the outcome of centuries.

By the term “vegetarian” is meant one who does not use flesh as a food, replacing meat by nuts, fruits, cereals, and vegetables.

2 *The Art of Living in Good Health*

The Japanese, the Chinese, the Buddhists of India, and millions of others in the East, have been vegetarians for a period of between three thousand and four thousand years at least, — probably were always so. Why the people of the East, even those living in the colder territories, should be vegetarians, while we of the West should be just as pronounced meat-eaters, is an interesting question.

It is surprising that man should be so often classed among the carnivora or flesh-eaters by writers describing his habits and diet. The evidence is directly against such a classification. The strong resemblance which man bears to the anthropoid apes, which subsist almost entirely upon fruits and nuts, places him in the frugivorous class. This resemblance between man and ape, it should be noted, is limited to their physical qualities. The vast dissimilarities between the highest ape and the lowest primitive man are essentially that man possesses intellectual or mind powers which are entirely lacking in the ape. Man possesses a moral sense, is capable of forming abstract ideas, and is the only animal capable of expressing thought by articulate speech. But so far as diet is concerned, man is like the ape in belonging to the class of fruit-eaters. Eminent anatomists and naturalists, such as Cuvier, Carpenter, Louis Figuiet, Taylor, Professor Owen, Lubbock, and many others have shown that not only is man adapted by his anatomical structure to a diet of fruit and nuts, but that the meat-eater's violation of this law has been the undoubted source of endless suffering and disease. This fact, which had already been recognized by the ancient sages, Plato, Socrates, Seneca, Pythagoras, Plutarch, and others, has been confirmed by the great universal law of evolution which Lamarck, Darwin, Wallace, Spencer, and Haeckel have established, and which has thrown so much light

Man Naturally a Fruit-Eater

is directly against such a classification. The strong resemblance which man bears to the anthropoid apes, which subsist

almost entirely upon fruits and nuts, places him in the frugivorous class. This resemblance between man and ape, it should be noted, is limited to their physical qualities. The vast dissimilarities between the highest ape and the lowest primitive man are essentially that man possesses intellectual or mind powers which are entirely lacking in the ape. Man possesses a moral sense, is capable of forming abstract ideas, and is the only animal capable of expressing thought by articulate speech. But so far as diet is concerned, man is like the ape in belonging to the class of fruit-eaters. Eminent anatomists and naturalists, such as Cuvier, Carpenter, Louis Figuiet, Taylor, Professor Owen, Lubbock, and many others have shown that not only is man adapted by his anatomical structure to a diet of fruit and nuts, but that the meat-eater's violation of this law has been the undoubted source of endless suffering and disease. This fact, which had already been recognized by the ancient sages, Plato, Socrates, Seneca, Pythagoras, Plutarch, and others, has been confirmed by the great universal law of evolution which Lamarck, Darwin, Wallace, Spencer, and Haeckel have established, and which has thrown so much light

upon the origin of life and its development on our planet.

It is also evident that the food of all animals was originally derived from the vegetable kingdom, which is the storehouse of all nutrition; the animal organism being unable directly to assimilate the elements of the soil. Some naturalists even hold that no animals were originally carnivorous, but that the evolution of this class of animals was brought about by scarcity of plant-food in a later geological period, and that still later, probably for the same reason, man was forced by fierce hunger to live on flesh-foods. The glacial period or age of ice, which according to geologists occurred some twenty-five or thirty thousand years ago, subjected organic life to entirely new conditions, and may, therefore, have caused man's deviation from his original and natural diet, after he had subsisted on the products of fruit trees during many thousands of generations. Man may thus have acquired certain carnivorous characteristics; yet his anatomical structure and physiological functions remained unchanged, clearly showing that nature had not destined him to be a flesh-eating animal, and that sooner or later he had to return to the products of the soil.

Plato, who wrote in the fourth century before Christ, in his famous dialogue "The Republic" represents Socrates as describing a model city, and prescribing for its inhabitants a dietary consisting simply of fruits, grains, nuts, and vegetables. Replying to some one who objected that the fare was too simple, Socrates brings forward arguments, tracing the origin of both war and disease and all human ills to the use of flesh-food.

Thinking, reasoning man is not naturally carnivorous. The teeth, the stomach, the structure of the alimentary canal, and the entire organism, all show beyond a reasonable doubt that man is not to be

4 *The Art of Living in Good Health*

classed, either in his conscious and moral make-up or in his foods, with wolves and other wild beasts. Whether our forefathers were savage, semi-savage, or civilized, it remains for us to be civilized in this day and generation. Frugivorism (or vegetarianism) has been taught and practised from time immemorial, since the days of Adam.

In the animal kingdom we find that the massive elephant is a frugivorist (vegetarian); that the dromedary and reindeer, the most enduring of animals, are also strict frugivorists; that the antelope and the horse, the fleetest of beasts, belong to the same category. The frugivorist gorilla is the real monarch of the forest, for he has been known to kill the lion with a club. Beyond a doubt the frugivorist animals rank among the kings of the animal world from every point of view, — in strength, intelligence, endurance, and agility.

When we come to man we find that the hardy Scotchman, frugally fed on porridge, oat-cake, kale brose, and bannocks, possesses an inherited constitution which places him in the front rank as a man of muscle and mind. Any one who has viewed the Highland Scotch regiments on parade will not question their courage or their hardiness. So, too, the Japanese have for centuries been storing up vitality chiefly upon a grain (rice) dietary, and developing nerves and power to such an extent that they have challenged universal admiration with their prodigious feats. In fact, the question is now often raised, whether the Japanese are not physically and mentally the most advanced nation in the world. And the Japanese are frugivorists in nearly every sense of the word. Then again there is the Irishman, who lives on a diet consisting largely of potatoes, porridge, milk, seaweed (Irish-moss), and occasionally fish; he may justly be called a frugiv-

**Vegetarian-
ism Increases
Strength**

orist, certainly to the extent that vegetable products form the larger part of his diet. There can be no question as to the fighting and energetic qualities of the Irishman, whether it be in peace or in war. We know that the Roman armies were fed on corn and wheat; that the Roman gladiators subsisted upon a diet of barley, figs and olives; that the athletes of ancient Greece were trained upon an entirely frugivorous diet; and that the Turkish armies of the Middle Ages, fed upon a diet of figs, corn, beans, and onions, were able to conquer one half of Europe. A study of frugivorists, therefore, both among men and animals, provides ample proof that they have been quite equal, if not superior, to the carnivorists or flesh-eaters.

Additional evidence, if any be needed, of the strength-giving powers of a vegetarian diet may be drawn from one of the latest and most authoritative works on dietetics, "*L'Alimentation et les Régimes*" (Diet and Dietetics), by Gautier, an eminent French authority: — †

"It would be wrong to maintain that a non-flesh diet will compromise physical energy, although heredity and habit play an important part.

"According to J. Sinclair, the Hindu messengers who carry despatches for long distances eat only rice, while covering each day in running from one village to another a distance of at least twenty leagues (sixty miles), and doing this not for a single day only, but every day consecutively, week after week.

"The Russian peasants, who live upon vegetables, black bread, milk, and leeks, work from sixteen to eighteen hours a day, and their strength often exceeds that of American sailors.

"The Norwegian peasants scarcely know the taste of animal food. They cover on a continuous run, however, in accompanying the carriages of tourists, a distance of three or four leagues without stopping.

6 *The Art of Living in Good Health*

“The modern Egyptian laborers and sailors, a class who, from time immemorial, have lived almost exclusively upon melons, onions, beans, lentils, dates, and corn, are remarkable for their muscular strength.

“The miners of South America, very temperate laborers, who never eat meat, carry on their shoulders burdens of two hundred pounds, with which they climb, twelve miles a day on the average, vertical ladders sixty to eighty meters (196 to 262 feet).

“The lumbermen of the Haute-Bavière, who live almost exclusively upon meal cooked with a little fat, without either eggs or cheese, do an enormous amount of work. On Sunday only they take a little meat.

“The Turkish soldier is surprisingly frugal. He drinks only water or lemonade, and lives upon a diet of rice and figs, scarcely ever touching flesh. It is well known that the vigor of the Turk is remarkable and his courage indisputable. The porters of Salonica and Constantinople, who live upon the same diet, are proverbially strong; hence the saying, ‘Strong as a Turk.’”

The peasants of Europe, the laboring or hard-working classes, subsist almost entirely upon cereals, fruits, and vegetables. As they cannot afford flesh-meats they are compelled from principles of economy to live upon a frugivorous diet. Such conditions of living add materially to the health and longevity of the people. On the other hand the higher classes—the crowned heads, the nobility, and the aristocrats who feast upon meats and the other luxuries of the land—have indifferent health and are proverbially short-lived.

At a certain period in the history of Greece and Rome the laborer ate little or no breakfast (at the most it was but a bunch of grapes). At noon he partook of a little black bread, a few ripe olives, or a bunch of grapes; and at five o'clock or a later hour he completed the diet of the day with a very moder-

ate luncheon. This is in marked contrast to the present-day conditions of living.

It is interesting to note what the Hebrew Scriptures say about the relative merits of the frugivorous diet as opposed to the carnivorous.

“ ‘ Prove thy servants, I beseech thee, ten days; and let them give us pulse to eat, and water to drink.

“ ‘ Then let our countenances be looked upon before thee, and the countenance of the children that eat of the portions of the king’s meat; and as thou seest, deal with thy servants.’

“ So he consented to them in this matter, and proved them ten days.

“ And at the end of ten days their countenances appeared fairer and fatter in flesh than all the children which did eat the portion of the king’s meat.

“ Thus Melzar took away the portion of their meat, and the wine that they should drink; and gave them pulse.”¹

The frugivorous diet is undoubtedly the natural one for man. A cleaner, sweeter and more nutritious diet does not exist than nuts, fruits, and cereals. It is claimed that meats tend to fill the blood with elements that cannot readily be eliminated by the depurating organs; that their use produces unnatural heat in the system, inflames the passions and appetites, and ultimately leads to the nervous debility which affects so many meat-eaters. Why, then, is meat eaten, and why has no fitting approach been made by the race towards the model of natural man as we like to think of him? The old evils continue, and the old errors are handed down from generation to generation because we have ourselves been educated in the old traditions, are working

The Ill Effects of Meat Eating

¹ Daniel i. 12-15.

8 *The Art of Living in Good Health*

under the same conditions, and are surrounded by the same influences as our ancestors.

As a result of such hereditary conditions we are prejudiced in favor of flesh-foods to the exclusion of any other form or kind of diet which is at all likely to displace them. In short we are jealous of the supremacy of meat as an article of diet, and we do not wish to give up the worship of our idol. This condition of affairs will always continue until the work of reformation begins within ourselves.

II

THE SCIENCE OF BREATH—BREATHING

“Breath is Life.”

LIFE is absolutely dependent upon the act of breathing: “Breath is Life.” To breathe is to live, and without breath there is no life. Not only the higher animals, but even the lower forms of animal life must breathe to live, and plant life is likewise dependent upon the air for continued existence. Life is but a series of breaths. Breathing is unquestionably the most important of all the functions of the body, all other functions depending upon it. Not only is man dependent upon breath for life, but he is largely dependent upon correct habits of breathing for continued vitality and freedom from disease. Primarily we live on air, for one can go without water or food for days and weeks, but **Air is Food** not without air for more than a few minutes. Air, although not generally so regarded, is really a food, and a food of a highly important character. This is a fact rarely recognized. In a gross way the composition of air we breathe is four parts of nitrogen and one part of oxygen, by measure. In breathing we abstract some principles from the air far more readily than we can do so from food. It has been asserted that the required amount of proteid or nitrogenous food can be reduced greatly, our supply being largely procurable from the air, through deep breathing.¹ The more air one breathes the less food one requires.¹ Deep breathing as a fine art has to be taught. The majority of people are half alive,

¹ Theories requiring verification.

for they breathe just about enough to sustain life — effortless and nearly lifeless. For this reason we should breathe pure air, and in the greatest possible quantity. The benefits of breathing, deep vigorous breathing, must be obvious to every individual, yet the percentage of those who breathe correctly is very small. Pure cold air is one of the things of which we cannot get too much. It is the greatest tonic in the world. Shallow breathing is as much a peculiarity of highly civilized man as is overeating. The natural conditions should be — much breathing, little eating, instead of the reverse — little breathing, much eating.

The diaphragm is a large, thin, flat, muscular septum or partition muscle, separating the chest cavity from the abdomen. In natural breathing the diaphragm squeezes or presses down upon the abdominal contents, stomach, spleen, liver, small intestines, etc., pressing out their contents as one might squeeze a sponge. The pressing or kneading movements of the diaphragm upon the stomach, liver, and small intestines is of the greatest importance, stimulating these organs to increased activity, and hence beneficial in a great many ways. Of the different types of breathing, costal, abdominal and diaphragmatic, the latter is the natural and essential method. Diaphragmatic breathing massages or kneads the internal organs, and when systematically carried out is one of the most powerful influences for increasing physical and mental vitality.

Many systems and practices have been devised to teach the science of breathing, the most important in this respect being that taught and practised by the Hindu or Yogi science.

The underlying principle of breathing of any kind is full and complete chest expansion, with partial or complete, rapid or slow, exhalation. The position may be standing, sitting, or lying down, and the

The Science of Breath—Breathing 11

exercises may be varied by rocking, or side-to-side movements of the trunk, raising the body on the toes, or any one of a number of other exercises as the fancy may suggest. It is needless to point out that deep, full breathing is an impossibility with women wearing corsets, or other tight-fitting clothing.

As a rule houses are built without the slightest regard for ventilation, and are really closed boxes. We cannot live in them under such conditions and retain health. It is not to be wondered at that individuals living in poorly ventilated and overheated houses, breathing and re-breathing impure and foul air, are rendered extremely susceptible to disease, particularly to disease of the lungs. Impure air must undoubtedly be an important factor in the production of consumption and many other of the mal-assimilation diseases.

As far as is consistent with comfort, our houses should be wide open at all times to the influences of pure and fresh air, the most invigorating and essential of all health foods, the most powerful tonic in the world. The windows of our sleeping apartments, both in winter and summer, should always be open, for without pure air one can no more retain good health than live without eating. Draughts of cold air will not hurt any one. The dangers of draughts like those of the night air, exist purely in the imagination. A simple method of ventilating rooms without undue exposure is to raise the bottom sash several inches high, filling the space at the bottom with a suitable sized board. This will allow an indirect and constant current of air, without allowing any entrance of rain or snow into the room. If you would have good health, breathe freely and deeply of pure air, always and regularly; particularly as a routine practice for a few minutes — morning, noon, and night.

Open Windows

BREATHING EXERCISES

1. *The Complete Breath.*—Stand or sit erect, breathe through the nostrils, inhale steadily, first filling the lower part of the lungs, which is accomplished by bringing into play the diaphragm, exerting as it does a gentle pressure on the abdominal organs, pushing forward the front walls of the abdomen. Then fill the middle part of the lungs, pushing out the lower ribs, breast-bone and chest. Then fill the higher portion of the lungs, thus lifting the chest. This procedure entirely inflates the chest cavity and breathing system. Retain the breath a few seconds; exhale quite slowly. Practice of this kind is more beneficial if performed, at first, before a mirror.

2. Inhale a full, deep, complete breath; in a second or two try to inhale a little more air, and yet again in another second or so. When chest is completely filled with air, press the hands upon the abdomen, manipulating it with gentle pressure; or the abdomen may be drawn in by the (abdominal) muscular effort alone, still retaining the breath. Now gently exhale a part of the air, a little at a time, pressure being kept up upon the abdomen until the chest cavity is exhausted of air as far as possible.

3. (1) Stand erect; inhale a complete breath and retain it. (2) Extend the arms straight in front of you, letting them be somewhat limp and relaxed, with only sufficient nerve force to hold them out. (3) Slowly draw the hands back toward the shoulders, gradually contracting the muscles and putting force into them, so that when they reach the shoulders the fists will be so tightly clenched that a tremulous motion is felt. (4) Then keep the muscles tense, push the fists slowly out, and draw them back rapidly (still tense) several times. (5) Exhale vigorously through the mouth. These are but a few of the more important vibratory exercises.

III

WATER DRINKING

"A cup of water to quench my feverish lips."

IN Japan the belief is general that a liberal internal and external use of water is an infallible protection against disease. The system of gymnastics called jiu-jitsu includes the drinking of at least a gallon of water a day. During the ascendancy of the Samau-rai, the supposed value of this free use of water in maintaining great physical superiority was kept a secret from the common people.

The practice of water-drinking is both underdone and overdone. In general it may be stated that the free use of water as a drink is of the highest importance, and an absolute necessity for the best interests of health. The sense of thirst should be, to a normal person, a sufficient guide as to the amount of water necessary for the requirements of the system. This, however, is not always the case, probably as a result of our unnatural methods of eating and drinking at the same time, so that the sense of thirst becomes more or less perverted, or comes into play only in a haphazard manner.

Some people drink too much, others drink too little, while very few individuals have any intelligent idea of when and how much to drink. Unquestionably every person should drink *freely* of pure water. For obvious reasons, we should not drink at meal times; none at all is best, but under no circumstances should it exceed half a pint. The drinking of fluid of any kind at meal times is not only abso-

**Underdrink-
ing and
overdrink-
ing**

14 *The Art of Living in Good Health*

lutely unnecessary, but positively harmful in many instances, the necessary amount of gastric fluid for the digestion of food being readily supplied by the stomach. For this precise purpose the stomach will have been watered some hours previously. For a lesson we have but to turn to the animals grazing in the fields beside a water course; it is not a munch of grass, then a drink of water, but grass continuously; and of water, "not a drop." Just as we can overeat, so we can overdrink, and for this reason it is well to have some system, or special period, for drinking. Water should never be taken when the stomach is engaged in the act of digestion, and already full, or half full, of food; such a procedure only embarrasses and overweights the stomach. Whenever water is taken it should never be drunk in too large quantities, one half glassful or a glassful at a time being quite sufficient. If the weather is warm, and the person has been perspiring freely, a second glass may be taken within five or ten minutes. Ice water should never be taken under any circumstances, unless first warmed in the mouth before swallowing.

The sense of thirst can be trained in drinking, precisely as the sense of taste can be educated, or better to say re-educated, after it has been perverted. For this purpose it is well to have stated times for drinking. Water is absorbed much more quickly by the system when the stomach is empty, and its flushing effects are far more efficacious when taken in this manner than in any other way. Hence a glass of water taken, on rising, the first thing in the morning, and another glassful two or three hours after breakfast and after dinner, make three stated times for regular drinking, which in no way interfere with meals or digestion. The quantity of water to be drunk during a day will depend largely upon the season of the year, the occupation of the individual, and other un-named circumstances. In general it

may be said that a quantity varying from two to four pints a day is an average daily quantity of water for an individual. Persons using fresh fruit do not require the same amount of water as would otherwise be necessary. My experience has been that in order to be able to drink any considerable quantity of water with comfort one must eat *very moderately* of solid food or dispense with its use almost entirely for the time being. Many individuals find that a pint and a half to a quart of fluid is quite sufficient for their daily requirements. If we go to the animal kingdom we shall find that many animals are extremely moderate drinkers. This is noticeable in the domestic sheep, cat, and rabbit — while it is said of a species of antelope which roams in thousands upon the pampas or arid plains of South America (where it rarely rains) that they never get water to drink.

The ability of animals to go for lengthened periods of time with but little fluid nourishment or water has many notable illustrations, among which the camel of the deserts of Egypt and Arabia figures very prominently, being able to undergo long and arduous journeys in the heat of the burning sun, for periods of as much as five days, without a drop of water to quench its thirst. The peccaries, a miniature species of wild hog, live in the dry hills of North Mexico, where they cannot find water for months at a time. Again the sheep of the deserts, like the antelope of South America, go from fifty to sixty days without water at certain times of the year. There are several other animals who are able to live with even much less fluid than any of those above mentioned, and for much longer periods of time and to such an extent as to almost surpass belief. Unquestionably the necessary moisture for these animals is obtained from the atmosphere, the roots, the grasses and the various other forms of vegetable life which form their food supply.

16 *The Art of Living in Good Health*

The question of the drinking of water is one which in many instances must be individualized. It has been very much overdone and moderation is just as necessary and desirable in the matter of drinking as in the matter of eating. It may be well to drink all the water that the system will tolerate with comfort, natural thirst being the best guide. More water is required in summer than in winter. Unquestionably individuals with dilated stomachs, dilated hearts, and Bright's kidney disease, have been made very uncomfortable by drinking too much. In fact, in many instances they have been advised to drink largely to excess, and many of them have had their lives made miserable, so thoroughly "waterlogged" have they become with overdrinking. All the fluid taken into the body has to be passed through the arteries and the heart before it can leave the body, hence an excess of fluid may, and does, overtax the heart and kidneys.

It is interesting to notice the manner in which the body disposes of the water taken into it. Fluid is absorbed in two ways by the human body: through the capillary system of blood-vessels (portal capillaries), and the lymphatic vessels or lacteals (villi). Under ordinary circumstances when fluid is taken into the mouth and swallowed, a part of it is absorbed by the blood-vessels of the stomach, especially if the stomach is not filled with food, the remaining portion of the fluid passing along and down into the small intestines, where it is absorbed by the villi — the miniature pumps or sucker-like glandular (absorbing) structures of the mucous membranes of the small intestines, which gather up all the fluid as well as the semi-fluid material which is presented to them, and convey it by means of the thoracic duct upwards towards the root of the neck, where the duct empties itself into a large blood-vessel; thus the fluid reaches the heart, whose contractions or beatings propel the

arterial fluid or blood to every part of the body. When the blood reaches the secretory glands of the mouth it is transformed and appears as the saliva; when it reaches the stomach it appears as the gastric fluid or juice, and when it reaches the pancreas, the liver, the intestines, or in fact any other organ of the body it becomes either a secretion (into the body) or an excretion to be cast out of the body, according to the nature of the organ or membrane to which the blood is supplied. It is interesting to notice that the saliva, the gastric juice, the pancreatic juice, and the intestinal fluids, as well as the greater part of the mucous secretions of the body are absorbed time and again by the villi above referred to, and that it is not possible for fluid or solid food of any kind to get past these portals or gateways of the body without being subjected to the searching or suction-like process whereby every part of the absorbable material is taken up and poured into the blood-vessels. In further explanation it means that the processes of absorption and secretion, as they occur in the body, are being repeated through life, with material that has been used countless times before. Though a small part of the fluid taken as water goes through this round and round process, carrying in solution the products of digestion, the larger part of it is excreted, as urine, by the kidneys, to the extent of fifty-two per cent; by the skin as perspiration, twenty-eight per cent; by the lungs as the breath, eighteen per cent, and by the bowels as moisture, two per cent. The foregoing percentages are subject to variation depending upon the season of the year and other unnamed factors. It is evident that within certain limits the more water (or for that matter solid food) supplied to the system, the greater is the tax which is imposed upon it—a matter which should receive the recognition which its importance demands.

Distilled water is undoubtedly the safest water to

drink; next to this comes water which has been boiled for fifteen or twenty minutes. Filtered water cannot be depended upon, the filter itself in many instances being a hotbed of germs. Too much care cannot be exercised in assuring a supply of pure water. Safety lies in boiling or distilling it. Water may be used at a temperature ranging from moderately hot to 110° F. or 120° F., or it may be taken moderately cool. Nursing infants, particularly, cry for water, and in most cases it should be given to them freely in place of milk. Where ice water is used, under no circumstances should ordinary ice be put into the water, since in this way the water may become contaminated with sewage or other poisonous material. Lemon juice, lime juice, or any other acid fruit juices, are valuable as water purifiers.

Mineral waters have no special advantages over plain, pure water. Pure water may be easily medicated by the addition of a little common salt, with or without the addition of some sulphate and phosphate of soda. The better class of mineral waters is represented by Vichy and Seltzer.

Pure, cool water, is man's natural drink. In every case, drinking, like eating, should be in moderation.

IV

THE MOUTH-TREATMENT OF FOOD: MASTICATION OR CHEWING

"Food well chewed is half digested."

MASTICATION (chewing of food) is an art which has become well-nigh extinct among civilized people. In the rush and excitement of the age, people with the "rush-hurry" habit believe they cannot spare the time to chew, and accordingly bolt their meals like sharks, afterwards swallowing nauseous doses of medicines, "after-dinner" pills, liqueurs, etc., in the effort to compel the stomach to do the grinding which belongs to the mouth. They forget that the stomach has no teeth.

Every book of physiology has made some reference to the value of chewing one's food, but it was not until Mr. Horace Fletcher had rediscovered, only a few years ago, the supreme importance of thorough mastication, that it was widely recognized as essential to health and well-being. As a result of Mr. Fletcher's efforts, which have made him one of our greatest benefactors, experiments conducted at the leading laboratories of American and foreign universities have proved beyond a doubt that thorough chewing is of prime importance in the welfare of the individual and the community. It has been shown that thorough chewing not only secures perfect digestion and prevents most diseases, but increases the

**Mr. Fletcher's
Discovery**

20 *The Art of Living in Good Health*

enjoyment of eating, reduces the amount of food needed, brings a large saving in expenses, and adds greatly to strength and working power.

It cannot be insisted on too strongly that thorough chewing — mastication, or grinding with the teeth, and insalivation, or mixing with the saliva — of both solid and liquid foods is essential to perfect digestion and good health. Whether the digestion shall be good or bad depends largely, so far as our voluntary powers are concerned, on the attention we give to the food while it is in the mouth. If it is not properly chewed, the rest of the digestive and assimilative process will be deranged. Food bolted at a "white heat" acts as a poison. It must go through certain digestive processes in regular order; otherwise it cannot and will not be assimilated by the blood, as Nature intended it should be. Hastily eaten food ferments, putrefies or rots in varying degrees in some part of the alimentary tract, and this destructive fermentation contributes towards making impure blood, which produces the one main, general Disease to which all local diseases or symptoms are traceable. This mal-assimilation of food may show itself in any one of a hundred different forms of disease, to wit: rheumatism, salt-rheum, gout, asthma, bronchitis, chronic invalidism, general weakness, premature old age, decline and decay of the vital powers, — all the result of a "poisoned" system from wrong habits of eating. Nor will the good quality of a food prevent these ill-effects if the food is hastily eaten.

Thorough mastication is not easily accomplished with soft foods. For this reason hard foods are preferable, for tough and dry foods are those which compel mastication. Thorough chewing promotes the flow of saliva, and saliva digests starch and sugar and probably other compounds. Food thoroughly insali-

vated is half digested. It should be understood clearly that with thorough insalivation few, if any, foods are indigestible, including even new potatoes.

Mastication acts reflexly upon the stomach, promoting the flow of gastric juice and thus preparing the stomach for receiving the food. The excessive *thirst* of chronic dyspepsia will disappear, almost as if by magic, after complete chewing.

The instinct to masticate is universal. Babies suck their thumbs, fingers, or even any hard substance they can lay hold of. Insufficient mastication is a result of the modern system of feeding children on a liquid, or semi-liquid diet — pappy foods — so that very little opportunity of exercising the masticatory instinct is given and it soon dies out. This is the beginning of the “bolting” of food which usually remains through life. The masticatory habit should be developed in children by giving them hard, coarse, and dry foods instead of soft bread, butter, sugar, “sopped” and pultaceous foods.

If we masticate, or thoroughly chew food with vigorous jaw action — a grinding process — everything that we take into the mouth, liquid as well as solid, until the nutritive part of it disappears into the stomach through compulsory or involuntary swallowing, and remove from the mouth all fibrous, insoluble, and tasteless residue, we shall take into the body only that which is good for it.

Sip and taste milk and all other liquids that have taste, as the wine tasters do. Thorough insalivation of liquids soon becomes a pleasure like the thorough chewing of solid food. Sipping develops the sense of taste. Drinking or gulping down fluid eludes it. On the Continent coffee and tea are always sipped slowly. In America most people swallow their tea or coffee in two or three gulps. An American gulps down the entire contents of a cup of cof-

**Liquids
should be
Sipped**

22 *The Art of Living in Good Health*

fee before the European has sipped more than a teaspoonful.

As one result of the thorough mastication of food, there is no necessity for taking medicine of any kind—the whole machinery of medicine disappears. There is no occasion for fountain syringes, “internal baths,” pile cures, or the hundred and one other medical devices which are brought into use as a result of our improper living. In short, man becomes clean and wholesome, internally and externally.

Learn to chew. Learn to sip. Practice chewing and sipping until they become habitual; then nothing will induce you to bolt food again, either liquid or solid. If your time for eating is limited, do not try to eat more than your time will allow you. One cannot masticate twenty minutes' food in five minutes' time. One will get more nourishment out of food properly eaten in three minutes, than out of five times that amount improperly eaten. Never pack your stomach like a steamer trunk. The tissues of the stomach are just as delicate as those of the eye. No one would think of putting pepper, vinegar, and spices in an eye without experiencing pain and plenty of it. The same applies to the stomach; in its way it rebels quite as much as the eye.

Insufficient mastication produces craving, a craving for drink, whether water or liquors. The thirst of chronic dyspeptics is for a simple fluid, as tea, coffee, or water. The individual who uses liquor, however, craves for a “bracer,” the stomach being overloaded with food that has not been sufficiently chewed. The stomach aims to rid itself of the load, doing its best by writhing and twisting to tear to pieces the undigested morsels and pass them along.

Complete mastication prepares the food mechanically and chemically in the mouth; increases the degree of pleasure in eating; prolongs that pleasure; limits the quantity of food without the necessity

of practising self-denial; educates the sense of taste to discriminate between wholesome and unwholesome foods, and finally selects the proper foods.

**The Benefits
of Chewing**

Thorough chewing satisfies the appetite with one half or even less than half the food usually eaten, and thus prevents over-eating, which is the soil in which nearly all diseases have their root. It promotes the secretion and admixture of saliva with the foods, and thus makes a chemical change in many foods which is essential to perfect digestion and assimilation. By breaking up solid food into minute particles, it relieves the stomach of the avoidable and enervating task of mechanically disintegrating the food, and thus contributes largely toward the chemical disintegration necessary to digestion.

Every voluntary chew intended to reach the point where the swallowing is an involuntary act of the muscles of deglutition, saves unnecessary involuntary or peristaltic muscular action of the stomach and intestines. Our sense of taste cannot be relied upon to determine the quantity of food we should eat, unless we masticate the food completely, and our sense of taste is thus made normal, in which case it will not only select the right foods, but will reject the unwholesome.

The mere chewing of food is sufficient to cause an abundant flow of gastric juice. The longer the food is held in the mouth, the greater the impression made on the nerves of taste. Through these nerves the appetite centre is stimulated, and from this centre are sent out to the stomach powerful nervous impulses which excite the glands to activity whereby powerful appetite juice is produced. When food is swallowed quickly, its various flavors are little appreciated. The excitation produced is of no consequence, and the amount of juice secreted within the

**The Flow of
Gastric
Juice**

24 *The Art of Living in Good Health*

mouth will be very small; whereas if the food is retained in the mouth and masticated until every particle of sapid substance is extracted from it, there is an abundant flow of juice and the greatest good is derived from it. When food is eaten in the ordinary hasty manner, the taste is swallowed with it, the palate is stimulated only to a moderate extent, very little appetite juice is produced, and digestion fails in consequence.

The stomach muscles which operate the glands that secrete the gastric juice are involuntary muscles over which we have no direct control, and consequently we cannot produce gastric juice at will by introducing food into the stomach, as we can saliva in the mouth by chewing food. The secretion of gastric juice is dependent upon involuntary muscular excitation of the stomach and real hunger. It is evident, therefore, that by using the powerful voluntary muscles of the jaws we can save the involuntary muscles of the stomach.

Despite the commonly accepted idea, conversation is apt to interfere seriously with the proper mastication of food, and to diminish the pleasure of eating, which should be all-absorbing for the time. The Hindoo sages of antiquity considered eating a kind of sacrament, to be engaged in abstemiously and silently. The Pythagorean sect ate in profound silence. Shakers never speak at the table, except in receiving or in passing food. At all events, whether the meal is eaten with merry conversation, or with Quaker-like silence, the essential thing is complete mastication of the food. Throughout one should be intent upon the pleasure of eating, and the gratification of the sense of taste. This is first and foremost. In fact if one would enjoy food to its fullest possible extent it is accomplished to perfection *by a concentration of the mind upon the tip and sides of the tongue* and thinking and feeling — fully appreciating

at the time how extraordinarily good the food tastes. This is a pleasure few people experience, because they are in too much of a hurry to give the time to what should be the first and foremost consideration of their lives, — their digestion, upon which depends their health. When an individual is a rapid eater, conversation may act as a “brake” on him, and accordingly may be helpful. An individual should have his mind on the food before him, and not on business affairs in his office. Until business is finished or business cares can be thrown aside entirely, one should not eat. Many a man eats his noonday meal when his brain is busily occupied. A brain full of ideas and a stomach full of food do not go well together; one or the other should be empty.

If the food is bolted and the sense of taste is continually outraged, its power for discerning the limits of appetite becomes dulled and the sensitive guide is destroyed which indicates the time when the appetite is satisfied. A feeling of fulness in the stomach means an over-satiated appetite, and it cannot be relied upon as a guide. Correct habits of diet will alone restore all the “wrecks,” and there are thousands of them, broken down by alcoholic and other excesses, suffering from skin, intestinal, kidney, liver, and other bodily diseases. These can be cured of the craving for drink, and put in possession of natural manhood and vitality without the use of medicines, provided faithful attention is given to mastication and diet, and all within a few months. We have yet to realize the wonderful possibilities of natural processes of living in restoring degraded humanity.

Those who have never learned to chew food cannot begin too soon. The learner is advised to begin with any dry food. Some of the best foods for this purpose are stale or dry bread, crackers or salted wafers, in both

**Chewing as
a Cure**

**Dry Food
Preferable**

26 *The Art of Living in Good Health*

cases lightly buttered, English walnuts, dried currants and dried prunes (discarding the seeds). These foods are not too hard and will do well for a beginner. The ideal food, however, to begin with is "zweiback" (a German word meaning twice-baked), equivalent in a way to our toast. This can be made at home or may be had from the grocer or the baker. It is best made from whole wheat bread, the bread being cut into slices, dried in an oven, and toasted or baked through and through. When properly made it is crisp and hard, of a golden yellowish or brownish color, and as an article of diet is unsurpassed. Whatever food is used, it should be chewed until it is in a fluid or semi-fluid condition. This will mean about seventy movements of the jaws, before "zweiback" is ready to be swallowed. Probably fifty chews for stale bread, fifty to seventy-five chews for nuts, at least thirty chews for meat. This practice of munching may seem like child's play, but it will be found time well spent. With a little practice one will frequently chew with pleasure many articles of food one hundred or more times in order to become perfect in the art of mastication. There should, however, be no serious attempt to count the chews mechanically, as this takes away from the pleasure of eating. The more we chew the less we eat. When one acquires the habit of chewing, the sensation of taste is so highly developed that there is no disposition to swallow the food until it is reduced to a pulp, thoroughly insalivated. No one should have any difficulty about learning to chew food. Like everything else of merit, the chewing of food, because of its importance, has been reduced almost to a fad, resulting in the formation of "munching" parties and societies, whose object apparently has been to reduce mastication to a fine art.

Thorough chewing will make it necessary to give more time and more care to one's meals than is cus-

tomary. Many a man will spend two or three hours at a theatre or concert, and think nothing of the time lost; yet he believes he cannot spend a few extra minutes in eating his food, as Nature intended he should, with plenty of leisure. Good digestion is the most powerful health factor in a man's life, and the only way to have good digestion is to eat properly. Irrespective of the character of the food, — raw, cooked, or health foods, meat, nuts, fruits, or vegetables, plain, mixed, or complex diet, — remember that the secret of good digestion, first, last, and always, is thorough chewing, with complete insalivation. ✓

The majority of persons do not seem to realize *the close dependence of perfect teeth upon mastication*. Perfect teeth are a direct outcome of the proper assimilation of lime-containing foods, and proper assimilation can be brought about only by thorough mastication. Imperfect or diseased teeth are always an index of mal-nutrition, and not of germs. The growth of teeth is the counterpart of the growth of plants. Unless the tissues and soil, the human body, upon which the teeth thrive are properly nourished with pure blood, healthy teeth cannot exist. Healthy teeth grow on healthy soil, diseased or decayed teeth grow on diseased or impoverished soil. The function of the teeth is maintained by mastication.

The Digestive Action of Saliva

Saliva has long been recognized as one of the principal factors in the process of digestion, on account of its action upon the stomach. It has also been known that in common with **Saliva Kills Germs** ✓ other secretions of the mucous membrane, it possessed decided germicidal attributes, but the isolation of the particular element possessing this bactericidal quality has hitherto defied the chemists. Lately, however, Edinger has discovered that this ac-

28 *The Art of Living in Good Health*

tive principle is potassium rhodanate, and highly fatal to bacilli, but harmless to the individual. The germicidal properties of saliva as exhibited during recent experiments were remarkable, for in a solution of three parts to the thousand the bacilli of cholera morbus were destroyed in a minute, while the diphtheria bacillus was destroyed in the same time by a solution of three times that strength. The provision made by nature for the protection of the human organism by generating within it the means of destroying these foes to physical well-being is admirable to contemplate.

The saliva is the first digestive juice to come in contact with the food. Seemingly so simple in composition, it has been until recently one of the least known of the secretions of the body. There are three forms of saliva, all of which combined give to saliva its wonderful digestive properties. Ptyalin, the active principle of saliva, has the power of converting starch into dextrin and maltose. It is also effective in digesting raw starch, the digestion of which by the saliva was until quite recently considered impossible. Thorough and prolonged mastication, however, conquers the digestion of starchy foods. Vegetable diastase, a principle existing in grains, also acts upon raw starch. These facts have an important bearing upon the hygiene of digestion.

The action of saliva begins in the mouth, and continues while the food substances are retained in the mouth, and may proceed for thirty to forty minutes after the food is swallowed into the stomach, or until a considerable quantity of acid gastric juice is formed.

The saliva being a naturally alkaline fluid, its activity is checked by the presence of acid substances; hence the digestive action of the saliva in the stomach ceases as soon as the gastric juice is secreted in sufficient quantity to render the saliva acid.

The Value of Saliva in Digestion

The amount of saliva formed depends upon the character of the food. Dry and highly flavored foods cause the salivary glands to pour out an abundance of saliva, whereas moist and liquid foods excite the activity of the salivary glands very slightly or not at all.

To insure an abundant flow of saliva, it is then highly important that food containing starch shall be eaten dry, and thoroughly chewed, being retained in the mouth for a sufficient length of time to secure the secretion and the admixture of a sufficient amount of saliva to do the work required of this important digestive fluid. If the mastication continues long enough, some portion of the starch is converted into sugar while it is still in the mouth.

It is important that the food should be retained in the mouth for a sufficient length of time to make the proper impression upon the nerves of taste, so that the entire digestive apparatus shall be thoroughly prepared to carry the food substances through the successive steps of the digestive process. Food should remain in the mouth, being constantly chewed, until reduced to a fluid that will mix readily with the gastric juice and other digestive fluids. The stomach is not capable of grinding and reducing the food. Mouth digestion is the first of a series of changes which constitute the digestive process. If the first of the series of changes is performed in an imperfect manner, all the succeeding changes are likewise more or less defective; that is, stomach digestion cannot be rightly performed unless mouth digestion has been well done.

The use of dry food in increasing the flow of saliva is very marked. This is an experiment which any one may try for himself. In doing so one is surprised to notice how the dry toast or dry bread will make the saliva, literally, flow; while if the toast or bread be first sopped and then chewed, one cannot

fail to notice the absence of any marked secretion of the saliva. Nature is not only economical, but even

“stingy.” When the food is already moist, saliva is not needed to moisten it, and the impression of dryness not being made in the mouth, the salivary glands are not stimulated to pour out the fluid that is necessary not only to moisten it, but to digest the food.

It will be specially noted, then, that *dry* food stimulates the salivary glands to powerful secretion, and that this effect is immediately nullified the moment fluid in any shape, water, milk, tea, coffee, or cocoa, is introduced with the food. It is for this reason that drinking at meal-time is so objectionable.

Full understanding of the principles of insalivation has greatly modified the views of dietists as to the digestibility of food — a relative or individual matter at best. Food in itself is not indigestible, generally speaking, but it may become so in persons of lowered vitality and in those who persistently violate Nature's laws of digestion.

Thorough insalivation reduces all foods practically to a common digestive level.

This is a favorable place for setting forth principles that might almost be called The Laws of Digestion.

They are: 1. The Law of Moderation. 2. The Law of Mastication. 3. The Law of Insalivation. 4. The Law of Attention.

Mastication is necessarily an antecedent of insalivation, and moderation is a sequence of thorough insalivation; hence the law of mastication and the law of moderation may be regarded as parts of the first supreme law — that of insalivation (v. page 21).

Food should always be taken with expectation, with interest — an interest equal to that of the ball-game or the opera — and, finally, with attention.

An observance of these two supreme laws is a life-equipment for humanity.

V

THE CHEMISTRY OF FOOD

FOODS may be divided into four classes: 1. *Nitrogenous*, also called *Albuminates*, or *Proteids* (albumen being taken as the typical member of the group); 2. *Starches* and *Sugar*; 3. *Fats*; 4. *Water* and the various mineral substances termed *Salts*. The albuminates, albumins, or proteids, it may be explained, are highly complex compounds of nitrogen 17 per cent, carbon 52 per cent, oxygen 22 per cent, hydrogen 7 per cent, sulphur 2 per cent, phosphorus, a trace, and are the most important substances in animal and vegetable organisms, as none of the phenomena of life occur without their presence. Without them life would cease. The principal function of the albumins is to repair the wear and tear of tissues, and hence they are called muscle builders. Albumin or proteid material is found chiefly in nuts, meats, eggs, milk, cream, cheese, and legumes, such as peas, beans, and lentils, and to a lesser extent in the grains. The carbo-hydrates contain precisely the same chemical elements, carbon, hydrogen, and oxygen, as the fats, but in a less concentrated form.

The starches and sugars may be taken as types of carbohydrates. They exist in cereals or grains, fruits, and vegetables.

Fats furnish heat and energy to the body, and consist of carbon 79 per cent, hydrogen 11 per cent, oxygen 10 per cent. Nuts, containing as they do from 50 to 60 per cent of emulsified fats (miscible with water), furnish force in a way unapproached by

32 *The Art of Living in Good Health*

any other food. Fats occur in most of the proteid foods.

Water, composed of hydrogen and oxygen, forms about 65 per cent of the weight of the human body, and is an essential constituent of our food. Indeed, there is no vital action possible without water.

The mineral salts which are indispensable for nutritive processes, are found in greatest quantities and purest state in fruits and fresh vegetables.

Proteids — Composition

	Water	Proteids	Fat	Carbo- hy- drates	Mineral Matter	Food Value per lb. in Calories
Nuts { Peanuts	3.	33.	50.	12.	2.	2750
{ English Walnuts	2.	28.	56.	12.	2.	3100
Meat—Beefsteak (lean)	72.	21.	6.	—	1.	550
" (mod. fat)	54.	16.5	16.	—	1.	975
Peas (dried)	9.5	24.6	1.	62.	2.9	1665
Beans (dried)	12.6	22.5	1.8	59.6	3.5	1620
Lentils (dried)	11.6	26.	1.	59.	2.9	1620
Eggs	65.5	13.1	9.3	—	1.	635
Milk	87.	3.3	4.	5.	.7	310
Cream Cheese	34.2	25.9	33.7	2.4	3.8	1885
"Grains"—Wheat, etc.	13.5	13.	1.7	68.	1.8	1650

Few persons without previous consideration would be likely to consider that the various food elements in meat, nuts, eggs, peas, etc., would have any marked points of similarity, yet this is just exactly what we find to be the case. Chemistry teaches us that the differences in foods are not so much differences in the material of which they are composed, as differences in the arrangement of this material. The albumins or proteids are the same wherever we find them, whether in the animal or the vegetable kingdom. The practical import of this is that nuts, peas, beans, meats, eggs, milk, cheese, are all exactly alike, in so far as their albumin or proteid material is concerned. And the carbohydrates are like the fats in their com-

position, so that when resolved down to its simplest form, food is a matter of very few elements.

Each of the four elements, albumins or proteids, carbohydrates, fats, and salts, contributes a definite part to the growth and repair of the body; and each undergoes in the body a special set of changes before it becomes a part of that body, to be burned up and used in the production of heat and work. It is interesting to notice that while the normal physiological conditions are maintained, there is exactly the same amount of new material absorbed and assimilated as there is of effete matter, the products of the retrogressive tissue changes being removed by the organs of excretion.

Normal Assimilation

When the body is in this state of physiological equilibrium or natural balance, the proteids, containing the nitrogen of the blood, are excreted in the form of urea and carbonic acid within twenty-four hours. Of all the carbon taken in the food, about 90 per cent is excreted in the form of carbonic acid by the lungs and skin, and about 10 per cent in the urinary excreta and faeces. The hydrogen is eliminated chiefly in the form of carbonic acid and water. The soluble salts are mostly discharged in the urine, though some pass off in the perspiration. The sulphur which is contained in albumin is, in part, excreted in the form of urinary sulphates, and in part, in the faeces, and a small proportion by the skin.

We have seen what takes place with food when taken into the body under normal or natural conditions — a perfect condition of health. Under abnormal conditions, however, we have quite a different condition of affairs. An excess of food of any kind results in the mal-assimilation or perversion of food. An excess of albuminous foods, as occurs in the overeating of meats, nuts, eggs, etc., owing to the inability of the system to oxidize or properly burn them out, results

Effects of Overeating

34 *The Art of Living in Good Health*

in the deposition of uric acid within the tissues of the body. Uric acid diminishes the alkalinity of the blood, and hence lessens resistance to disease; it also produces disease of the blood vessels, and hardening of the arteries. Moreover, it is one cause of calculi or stone in the kidney or liver. Uric acid irritates the nerves and tissues, producing rheumatism, as seen in the various forms of sciatica, neuritis, neuralgia, lumbago, and gout; and owing to its action on the arteries it is often responsible for paralysis, apoplexy, etc.

It is interesting to notice that uric acid, the "acid in the blood," when obtained by the chemist in a state of purity, is a white, fluffy, crystalline solid, without odor and taste, and difficult of solution in water, 1-15,000, which explains its ready deposition from the blood, seen in uric acid as calculi or stones, in the liver or kidneys, or in the cartilages of the joints. The excessive use of albuminous foods of whatever character, meat, eggs, nuts, peas, beans, cheese, etc., may give rise to this excessive formation of uric acid, leading to the development of the uric-acid diathesis or constitution, with its accompanying train of ills, sick headache, neuralgia, rheumatism, gout, nervousness, nervous prostration in its many forms, neurasthenia, and a host of other ill-defined symptoms, the true cause of which in many cases is but little suspected.

The decomposition, or after-digestion products of an excess of albuminous, nitrogenous, or proteid foods, end, therefore, in the formation of uric acid, as well as ptomaines and their toxins, or other poisonous products. It is interesting to notice that an excess of fats likewise produces harmful effects, ending in the production of oxybutyric acid, acetone bodies, and other degradation products more or less allied to the fatty acids of rancid butter. Likewise an excess of carbo-hydrates,

**Food Per-
version**

as occurs from the too free use of starches, may end in the deposition of fat within the tissues, striking evidence of which is to be observed, on every hand, in fat people. ✓

Two eminent German physiologists, Bureau and Schur, have demonstrated that in man the liver destroys only about one half of the uric acid circulating in the blood, whether derived from external sources, as a meat diet, or generated within the body by ordinary tissue changes.

When it is considered that under the usual conditions the body is actively engaged in disposing of the urea and uric acid, regularly produced by a proper diet, no one should expect to be free from uric-acid poisoning when he takes into his system foods containing these compounds already formed, thus producing practically a double quantity of uric acid.

Speaking generally, meat may be said to contain uric acid to the extent of from 5 to 15 grains to the pound, and their viscera (liver, kidneys, etc.) from 6 to 12 grains to the pound. These quantities are introduced into the bodies of those who swallow them. Then the alkaloids of tea, coffee, and cocoa are, as is well known, xanthines, and these, for disease purposes, are equivalent to uric acid; while several vegetable substances contain considerable quantities of xanthines, some of them probably as much as meat. Thus their administration produces just the same effects as the administration of uric acid, into which xanthin is easily converted.

One other fact which we have to bear in mind is that the introduction of uric acid interferes with the solubility, and so with the excretion, of the uric acid that is formed in the body. Uric acid is formed every day in about the relation of 35 grains of urea and one grain of uric acid for each ten pounds of body weight. ✓

36 *The Art of Living in Good Health*

A person's liver and kidneys may be able to destroy and eliminate the uric acid produced in his own body, while not at all prepared to deal with ten or twenty times this quantity.

Uric acid is known to play a very important role in the production of disease. Many eminent English and French physicians have shown that **Uric Acid** uric acid is responsible for the greater number of diseases with which humanity is afflicted. This is undoubtedly true; hence the importance of a thorough understanding of the conditions which bring about the formation of uric acid. The body is always producing uric acid and must of necessity do so. This arises from the fact that we must have nitrogenous food in order to exist. The ingestion or taking in of such food results always in the production of urea. Uric acid is a compound of urea, and is often regarded as imperfectly oxidized urea. When nitrogenous food is perfectly oxidized or burned, within the body, it is carried off through the kidneys, but an excess cannot be burned for the reason that the supply of oxygen is insufficient; hence uric acid is left in the blood, as a result of this deoxidation. So we perceive that uric acid is an excrementitious substance, resulting from the metabolism or ingestion of nitrogenous food. The principal nitrogenous foods, also known under the names of albumins or proteids, are nuts, peas, beans, meat, eggs, milk, cheese, and the various grains to a lesser extent. An increase of uric acid results first of all from an excess of diet, containing more or less nitrogenous food, whether of animal or vegetable origin; secondly from disturbed digestion as well as generally insufficient nutrition. Moreover, it is found to be increased in all febrile conditions, and especially in affections of the respiratory organs and disturbances of the circulation. Uric acid appears constantly in the blood in gout and rheumatism. It has further been found

in the spleen, kidneys, lung tissue, heart, pancreas, brain, and liver. If uric acid is taken into the body it is decomposed normally into carbonic acid and urea, but yields also oxalic acid, a powerful poison, whenever the process of oxidation has undergone a retardation in any way. The uric acid diathesis or constitution is a common accompaniment of most chronic diseases, — an evidence of the mal-assimilation of food. Food has a decided and powerful influence on the quantity of uric acid excreted; so, too, has violent bodily exercise, as wheeling or athletic games, fatiguing work, a night of revelry, etc. More uric acid is passed with a purely animal diet than with a mixed diet; and more with a mixed diet than with a vegetable diet; least of all is passed during complete abstinence from food.

One of the most prolific causes of uric acid formation in the body, and one which has been overlooked on account of the greater prominence given to the other sources of this compound, is disturbed or perverted digestion, produced from overeating and overdrinking — surfeiting.

**Overeating
Produces
Uric Acid**

This uric acid formation may follow from a general excess of food, or from the excess of one particular kind of food — the nitrogenous, otherwise known as the albumins or proteids. Nature builds up the body with whatever products are furnished her, building up and tearing down within the body as well as outside of the body. The imperfect oxidation of food, especially of nitrogenous food, is an exceedingly intricate problem for physiologists to work out. Attention has been called in another chapter to what takes place in the imperfect oxidation of sugar, starch, and salts of the vegetable acids, in which they are, under certain conditions, transformed into oxalates and oxalic acid; that is, made to act as poison. In other words food, harmless in

38 *The Art of Living in Good Health*

itself, is made to become poisonous through conditions of excess.

If one wishes to be free of uric acid, the most important matter of all is to eat food in moderation and never to excess; secondly to eat those foods which either do not contain uric acid at all, or from which uric acid cannot be made. The foods which answer to these requirements are the fruits, cereals, and some vegetables. The foods which should be used sparingly at all times are the nitrogenous or proteid; these are the foods which are more likely to become dangerous under conditions of excess than foods of any other kind.

The human body may be aptly compared to a furnace. If the draught of air is free, if the fuel is dry, and its quality and quantity properly adapted, the resulting combustion is almost ashless, and the fire is perfection itself. So with the body when fed with the right quantity and kind of food, and properly aerated and exercised. The result is a man without disease — the perfect man. Life has been well compared to a flame, a consuming fire. The flame is a consummation of the vital and chemical processes in the body, resulting in a genial glow of warmth, which quickens and vitalizes every nerve and fibre.

“Life is a pure flame, and we live by an invisible sun within us.”

VI

CEREAL DIETETICS

*“ The golden secret of the sheathed seed—
with bent head drooping.”*

THE seeds of the cereals are, of all the products of the vegetable kingdom, those best adapted for the food of the human race, and we accordingly find them spread over the surface of almost the entire globe. **The Cereals or Grains**

They contain a large quantity of nutritious substances condensed into a small space, and they are, therefore, convenient both for storage and for transportation, and being dry can be preserved for a long period without deterioration.

They are rich in nitrogenous substances, the various grains containing from 5 to 14 per cent. They are rich also in starch and cellulose, and contain small and varying amounts of gum, sugar, and fat.

They also contain a considerable proportion of mineral substances, chiefly in the form of phosphates of lime, magnesia, potash and soda, together with small amounts of iron and silica.

The seeds of the cereals, before being used for human food, are usually ground into meal. This process has for its object not only the reduction of the hard seeds to powder, but also the separation and removal of the outer indigestible tunic, composed of woody cellulose, in which the seed is enclosed. That portion of the seed, however, which is richest in gluten

lies directly beneath the outer coat of cellulose; it is therefore practically impossible completely to remove this outer coat without at the same time removing a portion of the highly nutritious gluten-containing layers.

Oats, it will be noticed, are especially rich in fatty and mineral substances, and also in indigestible cellulose. Rice is seen to be rich in starch, but defective in nitrogenous and, indeed, in all the other solid constituents.

Of all the various cereal grains commonly used as food, wheat is the most largely consumed. It presents much nutriment in small bulk, and contains within itself all the elements necessary to sustain the body, in almost perfect proportions. The proportion of nitrogenous substances contained in it is large, as much as 14 to 15 per cent in the hard wheats of Italy and Sicily. These consist of soluble albumin and gluten. Wheat contains an abundance of carbohydrates, from 60 to 90 per cent, consisting chiefly of starch, dextrin, and sugar. It is rich in phosphates, especially in potassium and magnesium phosphate.

In order to produce a "superfine" flour, modern milling methods have deprived wheat of considerable of its food value, discarding the outer coats of the grain which contain certain elements necessary to properly nourish the bones and the teeth. From a health standpoint, whole wheat flour should be always used in preference to impoverished (superfine) white flour. The ancients always used unbolted meal. Unleavened bread, the original of all "health foods," was made from the grain properly cleaned, ground, and mixed with a little water, and baked over an open fire, on a flat stone. Bread of this character is truly the staff of life. The hoe-cakes made by the negro woman of the South cannot be surpassed as a high-grade health food; they are made by grinding corn into a meal, mixing it with water and a little salt, and

baking upon a board before an open fire. Unleavened bread made from the entire wheat possesses all the nutritive constituents required by the human body, and is one of the most perfectly balanced foods for man.

It is only after the most thorough mastication that the starch of raw grains can be digested by the saliva, and under ordinary circumstances more or less of the raw starch would escape into the stomach without complete digestion; hence it cannot be digested in the stomach without preparation of some kind. However, a process which obviates all this is that of cooking, which performs a preliminary digestion. Starch, in undergoing digestion, passes through several stages: First, it is converted into dextrin, of which there are at least three forms, dependent upon the degree of temperature used in their production; second, the dextrin compounds are converted into maltose; and third, the maltose into levulose, or fruit sugar. We attempt to imitate this process in the making of toast. Baking, or the proper kind of "toasting," with a temperature of 300 to 320° F. will carry starch digestion to the point of maltose, so that when the food, in this condition, comes in contact with the saliva, it is readily digested in the mouth and the stomach.

The idea of cooking oatmeal, cracked wheat, etc., is to convert the raw starch of the grain into a soluble form, so that the saliva will be able to act upon it; but in the ordinary process of cooking cereals, the degree of heat employed and the length of time are quite insufficient to produce this effect.

The use of imperfectly cooked cereals is without doubt responsible for a great share of the prevailing dyspepsia among civilized people. Oatmeal porridge, cracked wheat, and similar preparations are not the most wholesome foods, and can be digested only by very sound stomachs. **Dry Diet** When milk or cream or sugar are added, there

42 *The Art of Living in Good Health*

is a combination well calculated to create a superb dyspepsia.

Cereals must be cooked dry in order to be thoroughly cooked. It is often necessary that they be first cooked moist, and afterwards subjected to dry cooking. Dry cooking or toasting is essential to produce what is called the dextrinization of starch, which practically amounts to converting starch into a pre-digested food. When prepared in this way cereals are well adapted to the human stomach, are easily digested, and in combination with fruits and nuts constitute an ideal dietary.

Cereals must not only be cooked dry in order to be promptly digested, but must also be eaten dry. Experiments have shown that one ounce of dry, well-cooked cereal food, as "zweiback," or toast, well masticated, produces at least two ounces of saliva; whereas porridge, gruel, and other moist foods cause the secretion of only a very small quantity of saliva, less than one-fourth the amount produced by the same food in a dry state.

The use of a dry diet is a necessity with those who have weak digestive powers, and it is one which should be rigidly adhered to by those who wish to retain them.

Rice is a valuable food when mixed with other alimentary substances that are richer in fats and albuminates. As it is, rice is too poor in nitrogenous, fatty, and mineral substances to be a suitable food by itself, and for this reason it should be used in connection with nuts, lentils, peas, etc. Its starch is in a form suitable for digestion by those persons having an irritable intestinal mucous membrane. "Popped," or puffed, rice with nut-butter makes a most digestible, wholesome, and nutritious article of diet—a complete food combination. Rice should be steamed, and not boiled, when cooked by itself.

Composition of Cereals

	Water	Proteids (Nitrogen)	Fat	Starch, Sugar, Gum, etc.	Fibre	Ash	Fuel Value in Calories
Wheat	13.5	12.5	1.7	68.	2.7	1.8	1650
Rye	15.25	11.5	1.7	68.	2.	1.8	1600
Barley	13.8	11.	2.1	65.5	4.8	2.6	1600
Oats	12.7	11.75	6.04	55.4	10.8	3.	1800
Corn	14.	10.	4.75	66.8	2.8	1.7	1635
Rice.....	13.2	7.8	0.70	76.40	0.78	1.1	1650

Meat, Fish, and Fowl

	Water	Proteids	Fat	Mineral Matter	Fuel Value per lb. in Calories
Rump of Beef, flesh alone .	74.	22.	2.2	1.5	550
Beef, moderately fat.....	72.	21.	5.	1.5	650
Beef, very fat	55.	17.	17.	1.	1000
Veal, lean	79.	20.	1.	1.	500
Mutton, moderately fat ...	76.	18.	8.	1.3	750
Pork, lean	73.	20.	7.	1.2	1600
Pork, fat.....	47.	15.	38.	1.1	3000
Venison.....	75.	19.	1.5	1.	500
Chicken, fat	70.	24.	3.	—	} 1000
Partridge	72.	25.5	1.5	—	
Turkey, fat	56.	20.5	20.	1.	
Salmon	75.	15.	6.5	—	} 200-450
Herring, fresh	81.	10.	7.5	—	
Sole	86.	12.	0.3	—	
White Fish	70.	22.	6.	1.5	} 100-200
Clams	86.	8.5	3.	2.5	
Crabs	77.	16.5	3.2	3.	
Lobster (flesh).....	77.	19.	1.	2.	
Oysters	90.	5.	0.4	2.5	Extractives

44 *The Art of Living in Good Health*

Miscellaneous Food Products

	Water	Proteids	Fat	Starch (Carbo- hydrates)	Non-Ni- trogenous Material	Fuel Value
Bread, Graham	38.	9.5	1.4	53.4	48.	1090
Bread, Whole-Wheat	38.5	8.7	1.6	64.	45.	1120
White Bread ¹	37.	5.3	0.8	48.	41.	910
Graham Crackers ..	—	10.	13.6	70.	—	1810
Whole Wheat Wafers	—	9.8	13.5	70.	—	1800
Zweiback	1%	13.6	2.	70.	—	1480
Corn, "popped"	10.3	9.6	1.5	79.	—	1700
Cornmeal	12.5	9.2	2.	75.4	1.	1635
Oatmeal	16.	14.	6.	62.	2.2	1800
Whole Wheat	10.	14.	2.2	72.	1.8	1650
White Flour	14.	9.2	1.	75.	0.5	1635
Farina	11.	11.	—	77.	0.3	—
Hominy	11.8	8.3	—	78.	0.2	—
Macaroni	10.2	13.5	—	75.	1.3	—
Sugar	1-2	—	—	96-98	—	—
Vermicelli	11.	11.	—	74.	4.	Mineral
Gelatine	13.6	84.2	—	—	—	2.1
Honey	18.2	0.4	—	81.2	—	0.2
Molasses	20-30	2.5	—	50-70	—	3.

Arrowroot, Sago, and Tapioca are practically pure Starches.

¹ White bread has about two-thirds the nutritive value of whole-wheat bread.

VII

MEAT DIETETICS

*“ Though we eat little flesh and drink
no wine, yet let us be merry.”*

PROBABLY very few of the readers of this book have taken much time to consider what their food contains, how it nourishes them, and whether it is rightly fitted to the demands of the body. Fifty years ago hardly any one knew what foods were composed of, and how the different ingredients of food served their purposes in nutrition, and even in this day the majority of people are wofully ignorant in this vital matter.

There was a time in our history when meat was thought to be the “mainstay” of the race; meat was believed to be necessary for existence, or at least essential to good health. In recent years scientific researches into the character and composition of the different kinds of foods have very much modified the current views of diet.

If we look into the question without bias, casting aside all preconceived ideas, we shall learn some very interesting facts. Flesh foods, though commonly regarded as essential to physical and mental vigor, have been proved distinctly inferior in nutritive value to many plant foods. Modern science as well as practical experience has dethroned flesh and its strong-man idea from its position of supposed superiority. Even if the meat is taken from perfectly healthy animals and under the most favorable conditions, it is contaminated by the effete and poisonous

46 *The Art of Living in Good Health*

matters (urea, uric acid, creatin, creatinin, leuko-
main, etc.), which result from the chemical changes
of nutrition, and which are constantly generated in
the various organs and tissues of the body. After
the death of the animal a certain amount of these
poisons naturally remains in the body. Beef, per-
haps the most extensively consumed and most nutri-
tious of all animal foods, varies considerably in
composition, especially in regard to fat. In round
numbers it may be said that it contains from 6 to 20
per cent of fat, from 60 to 75 per cent of water, and
about 1 per cent of mineral matter.

By reference to the accompanying table, it will be
observed that lean meat really contains about one-
fourth as many food units as cereals and nuts. In
short, the value of beef as a source of energy is only
from one-sixth to one-third that of the best foods of
purely vegetable origin.

	Water	Proteids	Fat %	Carbo- hydrate	Min- eral	Fuel Value in Calories
Beefsteak, lean .	72	22	6	0	1	550
" fat ..	54	16	16	0	1	975
Nuts	4	20-25	50-60	—	1	3000-3300
Wheat	10	14	2	72	1.5	1600-1800

The calorific or food value of lean meat, as in beef,
compared with other food stuffs, is as follows: —

Beef (lean)	550	Potatoes	450	Nuts	2800-3600
Wheat	1700	Peas.....	1620	Beans	1620
Corn	1620	Rice	1650	Eggs	635
Bread	1100	Milk	340	Lentils.....	1620

The comparison shows meat to be considerably in-
ferior in food value to many other foodstuffs.

The vegetable kingdom is unquestionably the origi-
nal source of all the energy manifested by animals.
Muscular energy is the result of the oxidation of gly-
cogen, which is derived from the saccharine and fari-

naceous elements of the food. It must be evident that whatever strength is imparted to animals by the products of the vegetable kingdom can be equally imparted to the human organism directly from these vegetable products themselves.

As has been stated under "Chemistry of Food," the various proteid substances exist principally in nuts, peas, beans, and lentils, meats, eggs, and milk. Carbon, hydrogen, oxygen, nitrogen, and sulphur are the same the world **Meat like Nuts** over, whether we find them in animal or in vegetable matter. Proteids, containing as they do the above elements, cannot differ wherever they are found, whether in the animal or the vegetable kingdom. Obviously, then, meat possessing less albumin and fat than nuts, peas, beans, etc., notwithstanding all that has been claimed for it, has a food value much below these vegetable products.

Nuts, peas, and in fact all the other proteids belonging to the vegetable kingdom are exactly like meat. The substance or solid portion of meat is called *fibrin*. The gluten of the various "grains" is identical with the fibrin of meat, while the albumin contained in vegetables is likewise practically identical with animal albumin. The principle called casein, found both in the animal and vegetable kingdom, also belongs to the same class — proteids. However foods may differ in appearance, yet they have a much greater degree of similarity than is generally supposed.

The composition of the fats, albumin, and salts, derived from the animal kingdom, is practically the same as that of the corresponding elements obtained from the vegetable kingdom. **All Food Alike** It cannot be otherwise unless chemistry be at fault. Up to a certain point meat, nuts, and all the other proteid compounds are exactly alike.

But meat differs from nuts and the other proteids in one very important respect in that it contains

48 *The Art of Living in Good Health*

urea, uric acid, creatin, creatinin, leukomain, etc. With every piece of meat, therefore, we must of necessity take into our system urea, uric acid, and the several other undesirable poisonous compounds which overtax our excretory organs, especially the liver and kidneys.

Meat is not alone in containing uric acid. Certain food stuffs of vegetable origin also contain uric acid, as well as xanthin (an allied compound).

Speaking generally it may be said the muscles of animals (meat) contain uric acid to the extent of from 5 to 15 grains to the pound, and sweetbreads 60 grains per pound, while the liver and kidneys contain from 6 to 15 grains to the pound, and these quantities are introduced into the bodies of individuals who swallow food containing them. Tea, coffee, and cocoa also contain these uric acid or xanthin compounds, while several other vegetable substances such as peas, beans, and lentils, mushrooms, asparagus, etc., contain considerable quantities of uric acid, or xanthin compounds, which are removed but a degree from uric acid itself. It is interesting to notice that while fresh eggs do not contain uric acid as such, yet immediately the process of incubation commences, uric acid at once appears, evidently formed out of the xanthin compounds already existing in the eggs.

The great difference between meat and the other food elements furnished by the vegetable kingdom in the form of nuts, fruits, and cereals, is that the latter are in a state of absolute purity. There is no admixture of poisonous or deleterious substances, and it is exceedingly rare that any of the regular vegetable food products through decay, or otherwise, ever become dangerous for use as food, — the very opposite of which is true of flesh foods. This is a matter of the highest importance, and is a point wherein nuts and other products

Meat vs.

Nuts

the form of nuts, fruits, and cereals, is that the latter are in a state of absolute purity. There is no admixture of poi-

sonous or deleterious substances, and it is exceedingly rare that any of the regular vegetable food products through decay, or otherwise, ever become dangerous for use as food, — the very opposite of which is true of flesh foods. This is a matter of the highest importance, and is a point wherein nuts and other products

of the vegetable kingdom are far superior to meats. This in itself recommends nuts in preference to meats. You can readily prove the truth of this for yourself by placing a piece of beef-steak, venison, or mutton in a jar, and keeping it in a warm place for a day or two; and next to it a potato or an apple kept under similar conditions. The one will be "bad," loathsome and repulsive; the other, at the worst, will be scarcely at all offensive, possibly a little "musty." On the surface, all the difference between the two would seem to be the odor. But a little investigation will prove that the meat is undergoing a putrefactive change. It is known that meat begins to undergo this putrefactive process immediately on the death of the animal.

Decomposition of animal or vegetable substances is never spontaneous, but is due to microscopic organisms, microbes, in a complex series of processes. In the putrefaction of meat, no less than eight kinds of organic life, differing in form, activity, and chemical results, succeed each other in an order which is rarely reversed before decomposition is complete, the processes being analogous to those in the decomposition of vegetable matter,—alcoholic fermentation, where the alcoholic plant is succeeded by the acetic acid plant.

Even if meat is kept in a refrigerator and under the best possible conditions, putrescence is always incipient. If not evident, it is only in abeyance, certain to progress whenever conditions of warmth or atmospheric exposure are favorable.

Meat may contain dangerous putrescent compounds, ptomaines, and toxins; and yet neither taste nor smell will give any warning of their presence.

**Meat-
Poisons**

The common practice of keeping flesh until it is tender is simply waiting for decomposition to advance to such a stage that the muscular tissues have

lost their natural tenacity; that is, until they are softened by the process of decay. The so-called maturing of beef is simply reducing it to a state of putrefaction.

Game, such as rabbits, partridges, and other small animals, is generally sent to market without being "drawn." As a result of this, decomposition sets in earlier, and progresses much more rapidly than when the animal is dressed. The extent to which decomposition has advanced is generally indicated by its "gamey" flavor and discoloration.

Fish and oysters, when dead, decompose much more readily than do the bodies of other animals. On this account a large proportion of cases of poisoning from the use of animal food is directly traceable to the eating of fish and shell-fish. The poisonous effects resulting from the eating of oysters and canned meats, in which decay has begun, are such that often the most alarming symptoms occur, and in some cases death may follow in a few hours in spite of the most efficient medical aid.

The so-called "ripe," or seasoned, game, — duck, snipe, plover, partridges, etc., — as well as much of the codfish, finnan-haddock, and other products of fish, cannot be recommended as a fit dietary for human beings.

The ptomaines and toxins of putrescent bodies are so intensely poisonous that even the smallest doses are fatal to small animals. It must be remembered that these ptomaines are deadly poisons, similar in their action to strychnine, morphine, nicotine, and other powerful alkaloidal poisons.

The idea that these poisons may be destroyed by cooking is wholly erroneous. Cooking will destroy the germs that produce the poisons, provided it is continued for a sufficient length of time, and at a sufficiently high temperature, but *the poisons themselves are not destroyed by cooking.*

The appalling frequency with which appendicitis now occurs is largely the result of an excess of flesh foods, and particularly of fish, shell-fish, and cheese. A famous French physician, who has made a study of the subject for some years, gives it as his opinion that nearly all cases of appendicitis are traceable to the use of meat as food. In the many cases of acute appendicitis which I have observed, overeating of food has always been the cause of attack; and as meat constituted the larger portion of the meal, it comes in for most of the blame. The system, becoming overtaxed with food, is unable to pass the food along the colon. As a result of the germs which are always swarming in the colon, decomposition of the food products takes place, with subsequent inflammation of the surrounding parts, and the absorption of toxin or other poisonous products produces the attack of appendicitis.

It is a well-known fact that those persons who do not use flesh foods as a diet are immune from cancer. Cancer is unknown among vegetarians. For years doctors have been sedulously looking for the microbe of cancer, but despite all the thorough and painstaking experiments carried on at Yale, Cambridge, and other universities by cancer commissions, no microbe has yet been found.

Several French physicians have announced the theory that the use of pork is the cause of cancer. Championnier, of Paris, has recently stated that his observations have convinced him that the use of meat as a regular food is one of the most likely causes of cancer. Dr. Williams, an English physician, says in regard to cancer: "Many indications point to the gluttonous consumption of meat, which is such a characteristic feature of this age as likely to be especially harmful in this respect. When excessive quantities of such high y stimulating forms of nutriment are in-

52 *The Art of Living in Good Health*

gested by persons whose cellular metabolism is defective, it seems probable that there may thus be excited in those parts of the body where vital processes are still active, such excessive and disorderly cellular proliferation as may eventuate in cancer. No doubt other factors co-operate, and among these, I should be especially inclined to name deficient exercise, and probably, also, deficiency in fresh vegetable food."

The excessive use of flesh food must have a decided influence in opening the way for cancer. Everything points to it as a causative factor in this dreaded and incurable disease. If a dietary of meat is the cause of cancer a microbe will never be found.

Dr. Haig, an English physician, whose connection with some of the largest hospitals in London has given him exceptional opportunities for studying such subjects, and who for twenty years has been engaged in a series of elaborate researches concerning the effect of flesh foods upon the human body, has definitely declared himself in opposition to flesh eating. Whether we are prepared to accept all his views or not, there can be no question whatever but that the excessive use of meat is productive of an untold amount of disease and misery; it is also responsible for enormously reducing the longevity of the race. The list of diseases or ailments which are given as a result of flesh-eating is very extensive, and these are but a few of the more important ones: Bright's disease, gout, rheumatism, epilepsy, nervousness, asthma, sleeplessness, gravel, neuralgia, sciatica, bronchitis, diseases of the liver, blood, and blood vessels; skin diseases, general catarrh, pneumonia, and inflammation of all the fibrous tissues of the body. The relation of meat-eating to constipation is dealt with in the chapter on Fruit Dietetics.

Meat has been charged up with a great many diseases, including practically all the uric acid diseases.

The elucidation of this question is not easy, the various factors being so inter-dependent upon each other that it is almost impossible to sift the wheat from the chaff. The question individuals are asking themselves is, shall we eat meat? In the main it may be said that meat, in itself, is no more productive in the formation of uric acid than an excess of any other nitrogenous food. The excessive use of any other nitrogenous food, nuts, peas, beans, or eggs, animal or vegetable, brings about precisely the same condition—uric acid formation—as is produced by the excessive use of meat. It is not, therefore, meat so much used as an excess of meat which is the factor. Indeed, there are many nitrogenous foods which, if used in the same excessive proportion as meat, would produce far more uric acid than meat.

Several other factors in the production and causation of uric acid, aside from the excessive use of nitrogenous foods, are mentioned in the section on Uric Acid.

The excessive use of meat is almost a national vice, and accordingly meat is charged up, rightly or wrongly, with the majority of the diseases resulting from uric-acid formation.

**Overeating
Meat a National Vice**

Excess of food, or overeating, in its general aspects, undoubtedly contributes to the same results as does the excessive use of meat or other nitrogenous foods. Meat, clean meat, if there is such a thing, *used in moderation*, is no more likely to produce harmful effects than any other nitrogenous element. It should be borne in mind, however, while trying to make the best of a bad case, that few people use meat in moderation, the tendency being to excess. Moreover, clean meat is a rarity, and we are allowing for a condition of things which rarely exists. Washed meats are certainly more wholesome than the ordinary meat. It should always be remembered, however, that nitrogenous food

54 *The Art of Living in Good Health*

of every description, animal or vegetable, must be used in great moderation, or uric-acid or ptomaine poisoning will result.

u/ In this connection it may be interesting to call attention to the Talmudic health-ritual of the Jews, which has had a powerful influence in preserving the vitality of the Jewish race under the most adverse conditions, providing a relative immunity from tuberculosis as well as from the infection of animal parasites, trichinæ, etc. According to Hebrew legislation the taking of animal life is always a sacrificial act, which is not to be performed heedlessly or wantonly. Its purpose is either an offering to God or the provision of needful support (food), but never for man's sport or for his luxury. The slaughterer (*shochet*) must be a man of piety and of good moral character, and must pass an examination to prove his knowledge and skill. In small communities the *shochet* is also teacher of the religious school, or even *hazan* (reader) in the synagogue; so it will be observed that the office carried distinction. Wholesale butchering by machine methods, or by brutal, ungodly, or even unlearned men is clearly not permissible. Even to-day if the *shochet* follows the strict letter of the rabbis, he must recite a blessing and a prayer when he performs his duty, and must cover the spilled blood with earth; and his method of killing must be such that all extraneous matter must be removed from the animal by drawing, salting, and washing (*koshering*) before such meat is used in a law-abiding Jewish household. The Hebrew word *kosher* means "fit," "lawful," "correct" (clean), and meat is *kosher* only when it is derived from a healthy animal — of the order of ruminants, "they that both divide the hoof and chew the cud" — which has been slaughtered according to Talmudic ritual law. An animal that has died of disease or of old age, or that has been "torn" by a wild beast or otherwise fatally injured is

unfit for food. Animals killed in the chase are likewise declared unfit for food. Fatigue and suffering produce "toxins" or poisons dangerous to the human economy, — a fact, established by modern science, the significance of which seems to have been well known to the rabbis in the proscription of such food.

After *schechitah*, or ritual slaughter, there followed *bedikah*, — a minute, searching, and precise examination of the dead body to discover any trace of disease. If the carcass passed the inspection of the *shochet*, or slaughterer, he affixed a dated tag — a "seal" — to it. At the expiration of three days from the affixing of the seal its validity ceased and the meat could not be sold as *kosher*; thus putrid meat could not be disposed of. The food-laws of the Jews forbade eating the flesh of swine, rabbits, and hares, beasts and birds of prey, all shellfish and "creeping things," and many other animals now used for food by both savage and civilized men. The law-abiding Jew was restricted not only in his choice of meats but he was also compelled to follow out certain prescribed laws and regulations in the preparation of these meats as a food before he was allowed to partake of them, all of which is in marked contrast to present-day conditions.

The only "seal" or guarantee which the public in America has had regarding meat has been the "seal" of the canned "meats," which, unfortunately, in the past has been only too often the hermetical "seal" of putridity. The law or no law which permits of the promiscuous sale of pig's-heads, livers, kidneys, sweetbreads, tripe, sausages, "ripe," or seasoned game, stale fish, etc., is one that cannot be said to redound to the credit of the sanitary authorities of the State.

A strict observance of the Jewish ritual law regarding meats could well and profitably be enforced by

governmental regulations in this country, or for that matter wherever else meat is used; in fact regulations even more stringent than the Jewish laws are demanded if we would prevent the spread of disease.

There are some factors in the question of flesh-eating to which we cannot shut our eyes, and they are as follows:

Flesh foods, unless washed, always contain poisons, and we can never be certain of their being wholesome, because *meats may be putrescent and yet give no odor or other sign of putrescence*. These two facts of themselves should make us seriously consider the risks we run in eating meats. We have no means of knowing whether animals are diseased, or otherwise, before being put on the market for sale. We do know that tuberculosis, trichinæ, hog cholera, tapeworm, and a great many other diseases are prevalent among animals, and that these diseases easily escape inspection. Hence the great danger to those who eat meat.

The objections to meat are not due so much to its being a uric acid producer, as to the fact that even the best meat is unclean, with putrescence merely retarded by refrigeratory methods, and liable at any time to become a nidus or focus for microbes and their toxins. An unclean thing cannot be said to be fit to eat. Secondly, meat, from a dietetic standpoint, is much inferior in food value to many other food stuffs (reference may be made to some of the food tables indicating the exact proportions).

Lastly there is one argument against meat eating which should commend itself to every right thinking individual, namely, the humanitarian objection. As already pointed out, Socrates traced the origin of both war and disease, and all the human ills growing out of these gigantic evils, to the use of flesh food. The slaughter of animals is unworthy of any nation

Meat
Unclean

the best meat is unclean, with putrescence merely retarded by refrigeratory methods, and liable at any time to be-

which calls itself Christian. When we consider the question of meat dietetics we should ask, not "shall we eat meat?" but rather "why do we eat meat?"

In view of these and other facts I cannot recommend meat as an article of diet under any circumstances, notwithstanding that I feel quite free to state that, theoretically, *clean meats in moderation* may be eaten for a lifetime without producing any harmful effects, though I believe this to be an impossibility under actual circumstances. Every one should be able to decide for himself, with the facts before him, as to the advisability of using meat as an article of diet. Whether an individual does, or does not, eat meat is a matter which concerns himself, and he has to work out his own salvation in this as in other matters. It seems, however, that only when a man is sick almost unto death can any change be effected in his habits of living. Even when the arguments for following out a certain plan calculated for his own benefit are unanswerable, yet either from force of habit or from unwillingness, he will still obstinately hang on to his "flesh-pots," whether it be meat eating, overeating, or dietetic errors of any kind, — a corroboration of

"A man confirmed against his will,
Is of the same opinion still."

Undoubtedly overeating is the greatest known factor in the causation of disease. My personal experience and observation convinces me that *overeating overshadows all other factors in the cause and production of disease*. And in America, practically every instance of overeating means overeating of meat.

There are many phases of the use of flesh foods as a diet which have necessarily been omitted. A consideration of the objections here given should lead every one to the legitimate conclusion *that meat is wholly unfit for the human body as an article of food.* ✓

58 *The Art of Living in Good Health*

The relative merits of a meat or a non-meat diet never had a more powerful illustration than in the great Russo-Japanese War of 1903-1905, the history of which shows that the meat-eating and vodka-drinking Russians were defeated by the rice-eating, vegetarian, abstemious Japanese, in a series of the most sanguinary battles which the world has ever witnessed. Unquestionably the habits of living of the Japs had much to do with their success. What is true of a race is true of its individuals. It should be evident from this that the cultivation of good habits of living should be the aim of every individual who would be successful in life.

To comprehend fully the reasons why meat as an article of diet has obtained such a strong foothold among the English-speaking people of the world, we must go back to the time of the Normans and the Anglo-Saxons, when feudalism reigned supreme. It was then that the products of the chase replaced to a very great extent the products of the soil as articles of food, the tilling of the soil being necessarily imperfect and neglected, from causes which do not enter the present discussion. So that it will be observed that meat-eating is a legacy of our ancestors.

VIII

MILK DIETETICS

MILK is commonly regarded as one of the most wholesome and perfect foods. This is true only in a limited sense, in so far as it applies to the young or new born mammal, for which it is exactly adapted. In this particular sense, milk may be truly regarded as one of the most wholesome and digestible of foods. But it will be noticed that only the infant's digestive apparatus is adapted for the proper digestion of milk. Milk is the natural food of the infant, but not of the adult. In fact, milk may be said to be the *un-natural* food of the adult, thousands of human beings being wholly unable to use cow's-milk without producing serious stomach and intestinal disturbances, as evidenced by biliousness, sick headache, flatulence, and a diversity of other ills which disappear on abstaining from milk.

Long use and custom have placed milk as an article of diet on a much higher plane than it is entitled to occupy. Milk is, notoriously, a germ fluid, literally teeming with germs. It is one of the most filthy articles served upon our table. It is difficult to procure it clean, and equally as difficult to keep it so.

Any one who has had to do with cows must be aware of certain glaring facts. The conditions under which milk is collected cannot always be ideal, and in the majority of cases they are not even clean. Milk always partakes of the nature of the food used by the animal, from which it is obtained. Cows suffer from diseases the same as humanity; indigestion, enteritis,

60 *The Art of Living in Good Health*

tuberculosis, etc. For these and other reasons, obviously, milk cannot be considered an ideal food.

Milk is not an essential food by any means. Hundreds and thousands of persons entirely dispense with it as an article of diet, without missing it. Thousands of children die annually as a result of the use of milk. And yet this state of affairs will continue until people get to know with what to feed themselves. It seems strange that the feeding of infants by artificial methods should be confined to milk, which is especially unstable during the summer season, liable to undergo fermentative changes, and certain to prove under such conditions a serious menace to the life of any child. Cow's-milk may well be replaced at such times — the danger period — by the milk of the various nuts, brazil, almond, filbert, etc., or by fruit juices which are sterilized and absolutely safe; anything, or even nothing is better than milk under such unhealthy conditions. Sterilized water is always of value.

Milk contains:

1. *Proteids* in the form of casein as well as some other nitrogenous substances in small quantity: albumin and whey proteids.
2. *Oil or fat* in the form of cream or butter.
3. A form of sugar, namely, lactose or *milk-sugar*.
4. *Water*, holding in solution various mineral constituents or salts, chiefly chlorides, phosphate and sulphate of magnesium, calcium, potassium, sodium, and iron.

As an article of food milk is best sterilized, as outlined elsewhere. Milk becomes a jelly-like mass almost as soon as it is taken into the stomach. For this reason milk should be taken slowly, in sips, thoroughly insalivated and preferably diluted with water, to which a little salt has been added, all to make it more easily absorbable.

Nut-milks are practically the same as cow's-milk in composition. They are more easily digested, equally

as nourishing, and have the advantage of being clean and free from germs, or contamination of any other kind.

No elaborate apparatus is necessary for sterilizing milk or cream, but where this has to be repeated frequently, and especially for purposes of feeding infants in the hot summer months, it is desirable to have a special sterilizing apparatus for constant use. Ordinarily all that is necessary is to have the milk or cream subjected to a temperature of 160° to 170° F., or somewhat below the boiling-point of water, for fifteen to thirty minutes, so that a slight scum is produced. The milk or cream should then be quickly cooled on ice and securely bottled.

BUTTERMILK is the milk left after the manufacture of butter, and as such is more easily digested than ordinary milk. It is an acid or sour-tasting fluid, in which the casein or cheese of the milk exists in a finely divided coagulated state. Buttermilk has been largely advocated by German physicians in feeble states of the digestive organs. If used, buttermilk should be fresh.

KOUMISS, KEFYR, GALAZYME, are fermented milks, more or less like buttermilk.

The **NUT-MILKS** (mentioned under "Nut Dietetics"), made from nuts or nut-butter, are far preferable to buttermilk or any of the other sour milks. Milk, cream, and butter can well be replaced by nuts in all essentials.

The milk made from almonds or Brazil nuts contains all the elements of nutrition of cow's-milk, and can be taken by individuals who cannot take cow's-milk or cream. The fat or butter of nuts is miscible with water; hence its ready assimilation by the human stomach.

BUTTER. Fresh butter is usually considered one of the most easily digested forms of fatty matter, and it is on this account a very valuable food. When

rancid, or when its fatty acids have been set free from exposure to heat, as in cooking, it is hardly tolerated by the stomach. Butter, like milk, is liable to be contaminated with germs. For this reason sterilized butter, made from sterilized cream, is a much cleaner and more wholesome preparation than the ordinary butter. The nut-butters, made from the various nuts, peanuts, brazils, etc., are a perfect substitute for the ordinary butter made from the milk of the cow, and they are invariably clean.

CREAM varies somewhat in composition. Cream should always be sweet and clean, and to this end may be sterilized.

CHEESE is generally considered an exceedingly valuable, nutritive, and economical food. It contains twice as much nitrogenous substance as meat. Cheeses vary considerably in composition, from the rich Stilton, down through Dutch, Cheshire, Roquefort, to the poorer classes.

Cheese is popularly regarded as a food difficult of digestion, but this has undoubtedly been exaggerated. Cheese is a very rich food and **Ripe Cheese** must not be used in excess. It should be used fresh, if at all. As it is usually consumed at the end of a meal, when the stomach is already filled with food, its good digestion can hardly be expected. There is one important point to be remembered by those who eat cheese. Cheese undergoes what is termed the *ripening* process. This ripening or fermentative process may go on to actual putrefaction, and even poisonous ptomaines may be developed.

Vegetable organisms of mould may also appear in cheese as well as the *cheese mite* or *skipper*. Skippers are the larvae, or maggots, of a species of fly, which deposits its eggs in the cheese, where they find a home until they are matured. The skippers, or cheese maggots, are certainly not so dangerous to life as the ptomaines and toxins. Cheese is a question-

able article of diet. Fresh cheese in moderate quantity is permissible under certain circumstances; but never old cheese, unless one is willing to run the risk of an attack of appendicitis, enteritis, or ptomaine poisoning.

In general it may be said that cheese as an article of food is best left alone by the majority of individuals.

Milk Products

	Water	Proteids Nitrogenous	Fat	Mineral	Fuel Value
Butter	11.0	1.0	85.0	3.0	3400
Buttermilk	91.0	3.0	0.7	0.7	160
Cheese, American ..	31.6	28.8	36.2	3.4	} 1900-2000
" Cheshire	37.1	26.9	31.6	4.4	
" Dutch	35.2	37.1	17.7	10.0	
" Limburger ..	42.1	23.0	29.8	5.1	
" Neuchatel ...	50.0	18.7	28.9	2.4	
" Roquefort ...	34.5	26.5	30.0	5.0	
" Swiss	31.4	27.6	36.2	4.8	
Cream	66.0	2.7	26.7	0.8	1070
Koumiss	89.2	3.7	3.6	0.4	280
Kefyr	90.0	3.8	2.0	0.4	265
Milk	84.7	3.75	3.6	0.7	310

IX

MILK DIETETICS ; INFANT FEEDING)

*"Oh, Milk and Water ;
Ye happy mixture of more happy days."*

THE feeding of infants is a matter of supreme importance, yet one which is little understood. Every mother should nurse her own baby, and where circumstances prevent it, the best substitute is undoubtedly a wet nurse. A mother should not nurse her child when she is pregnant, when her supply of milk is poor and scanty, or when her health is impaired. A mother suffering from indigestion, nervousness, or any one of a dozen other minor ailments is likely to have a fretful child. Nor is the hysteric milk of an overworked society bride calculated to produce an athletic baby.

Mothers generally do not seem to be aware of the fact that breast milk conveys through its serum a certain immunity from disease, so that it is a rarity for the breast-fed infant to take an infectious disease. First, last, and always, the mother's milk, if the mother is healthy, is the food to give the child. Artificial food can never quite replace Nature's supply.

The mother, when nursing, should be careful of her own diet, and should avoid anything that is indigestible or that disagrees with her. Immoderate tea-drinking on the part of the mother is always a cause of "wind colic" in the child. Late hours and heated

rooms, worry and other mental influences will injuriously affect the milk. A constipated mother means a constipated child, and treatment should be directed to the mother rather than to the child. Fresh air, sunshine, a good nutritious diet of brown bread, zweiback, eggs, nuts, fruits, cereals, and — if meat is included in the dietary — chicken or turkey, all combined with a calm and even life, will place the mother in a proper position to nourish her offspring, and rear healthy children.

Most people live on two or three meals a day; many mothers think babies should have twenty or thirty meals a day. No wonder babies have indigestion and wind colic, do not thrive well, and keep everybody awake during the night hours.

An infant's stomach is very small, and can contain only a small quantity of food at a time. One portion of milk must be digested before another is given, so as to allow the stomach to get a little rest. If it becomes overcrowded the contents are rejected and the child vomits; or, if the food is not disposed of in this way, the stomach becomes distended, the food lies undigested and the bowels become disordered. A new-born baby, unless very delicate, does not require to be fed oftener than every two hours. As it gets older the time should be extended to two and a half, and then to three hours or longer. As few meals as possible should be the rule. *Overfeeding must be avoided*, for the oftener the baby gets the bottle or breast, the oftener it cries for it, owing to the fact that the child is uncomfortable and in pain from indigestion; not that it is hungry, though it may appear quite ravenous. Overfed babies often seem almost starved to death. It is the quantity assimilated that nourishes the child, and not the quantity swallowed. Children are notoriously, in fact, atrociously, over-fed, proof of which is afforded when it is remembered that one-fifth of the number of children born die before

66 *The Art of Living in Good Health*

the age of one year, and one half die before the age of five years. Truly a slaughter of the innocents!

Another apparent result of overfeeding is to be seen in the eruptions, boils, pimples, scald head, etc., so commonly observed in children. This is the plainest evidence of overfeeding. Contrast the skin of the young of animals, sleek and without a pimple; while the young child in many instances is literally a mass of pimples and sores.

The rule should be: Let the infant take almost as much as it can at one time, and let then a proper interval elapse before another draught is given. It is surprising how knowing babies become if fed every half-hour or so, and it is almost impossible to break them off the habit; while on the other hand, if the child is fed every two hours it will become, after a short time, quite contented to wait the accustomed time, say every two hours, and during the night every three hours for the first two or three months of its life; after that feed it every three hours in the day, and every four hours at night. A few teaspoonfuls of boiled water, cooled, should be given to an infant several times a day. A child often cries from thirst instead of hunger. A little attention from the mother will often quiet the child, and so tide it over until its proper feeding time. Never give a newborn child castor oil or butter and sugar or other material as a purgative. The mother's first milk will do all that is required.

"Bringing up children by hand" is always fraught with more or less peril to the infant and it demands the closest and most anxious consideration. Cow's-milk is the nearest approach to that of the mother's, but cow's-milk is only intended for calves, with their four-stomach apparatus, and cannot be used for infants without modification of some kind, in order to make it more nearly approach the mother's milk.

Milk in itself is a perfect and complete food, upon

which the young of all mammalian animals are fed for a time during their babyhood. It contains all that is necessary for supporting and maintaining the growth, development, and activity of the animal body in its highest form. While milk is usually considered a perfect food *it is more essentially adapted for the new-born mammal.* Adults do not require it at all; or if they do, it must be modified to suit their requirements.

Only the infant's digestive apparatus is adapted to the proper digestion of milk. This will be the more readily understood when it is known that its alimentary canal is almost a straight tube, quite different from that of the adult. Besides, the salivary and other glands in an infant are in a more or less undeveloped state.

In earlier infant life there is comparatively little gastric juice secreted by the stomach, which is simply a little bulb in the tube. When milk enters the stomach of an infant it goes easily into the stomach and down into the intestines where it can be digested. In the adult's stomach, the shape of which may be said to be bag-like, milk forms large tough curds, undergoing what is called rennet digestion, converting the milk into a cheese-like mass; in fact it is nothing more or less than cheese diluted.

In approximate figures,

	Fat	Sugar	Proteids	Water
Cow's-milk contains	4	4	4	87
High average breast-milk contains	4	7	3	87

Breast-milk thus contains the same amount of fat, more sugar, and half as much proteids as is contained in cow's-milk.

The natural food supply of the infant — mother's-milk — forms very small, soft curds, which are easily broken up and digested, differing entirely in this respect from cow's-milk, which, owing to its containing a large amount of casein, forms curds which are tough, and only adapted to the four-stomach appar-

atus of the calf. In order that cow's-milk may approximate human milk, it must be treated so that it shall contain one half its usual amount of proteids, and twice its usual amount of sugar. In readjusting these proportions it is found practicable to remove all the fat, dilute the proteids, and then put back the fats in proper proportion, adding the necessary amount of sugar. This is performed by removing the fat, or butter, from fresh new milk by a centrifuge, or churn-separator. This, the proper modification of milk, is carried out in the laboratories of large cities on a large scale. Practically the same results are obtainable at home, as will be described.

To have milk clean, the following essentials should be observed. The cows should be kept in clean stables, well groomed, and the teats and udders washed before milking; the milker's clothing should be clean; the milk pails should be scoured, steamed, and sterilized. The perils in the life of milk are in the first ten minutes of the milking. Milk as soon as drawn should be filtered through surgical cotton into clean, air-tight glass jars, and then put on ice or in a cool place.

Milk not only absorbs bacterial poisons from the air, but also undergoes other changes, which invalidate it for the purpose of human consumption. This is a very important point, not to be lost sight of.

**Milk Absorbs
Poisons**

Milk must always be clean and pure, or it is certain to become a dangerous food to infants. In the warmer weather particularly, to be absolutely sure of good milk, it is safest to sterilize it. Sterilizing is quite different from boiling, as will be explained. Sterilizing undoubtedly impoverishes and entirely changes the character of milk. It seems to be trying to make the best of a bad condition of affairs. Notwithstanding that milk has been known from time immemorial, it is only recently that its constituents have been fully recognized.

It is well known that milk changes rapidly on exposure to the air; germs enter it from the atmosphere and warmth favors their development. The object of sterilization is to destroy any morbid germs that are likely to gain access to milk. Besides the lactic acid or "souring ferment," the following microbes may get into milk: the bacillus of the green diarrhoea of infants, a bacterium which is abundant and especially virulent, and sets up infectious diarrhoea; the filamentous germ of infantile cholera; the bacillus of typhoid fever, from dilution with impure water, or from the milk of an animal suffering with the disease; and finally the bacillus of tubercle.

In addition to its other constituents — casein, fat, sugar, salts, etc. — milk consists of a multitude of cells suspended in serum. The cells are fat cells which form the cream; the remaining cells are nucleated, and of the nature of white blood corpuscles. The serum consists of water, in which are dissolved milk, sugar, and serum albumin, with various salts, and chief of all, casein or cheese. The cells, with the exception of the fat corpuscles, are all living cells, and they retain their vitality for a considerable time after the milk is drawn from the mammary gland.

Milk kept a few days may be perfectly sweet — that is, unsoured — but it has a different taste and appearance, and shows a tendency to separate into serum and the more solid portions, which tend to sink to the bottom of the vessel. This change in taste and emulsification is due to the death of the white, blood-corpuscle-like bodies contained in the milk.

There is reason for supposing that when fresh milk is ingested, the living cells are at once absorbed without any process of digestion, enter the blood stream, and are utilized in building up the tissues. The casein, or cheese, of the milk is digested in the usual way by the gastric juice.

**Sterilizing
Impoverishes
Milk**

The chemical result of boiling milk is to kill all the living cells, and to coagulate all the albuminoid constituents. Milk after boiling is thicker than it was before.

The physical results of boiling milk are that all the constituents must be digested before it can be absorbed into the system; therefore there is a distinct loss of utility in the milk, because the living cells of fresh milk do not enter into the circulation direct as living protoplasm, and build up the tissues direct, as they would do in fresh, unboiled milk.

Infants do better on unboiled than on boiled cow's-milk, provided it be sterile. For nutritive value, unquestionably, milk is best drawn by clean hands, from clean and healthy animals, into sterilized bottles; and it need not be further treated, except under special conditions. Milk must be specially clean and pure for infants in hot weather; this ideal is more or less difficult to attain, so that, to be absolutely sure of this, it is safest to sterilize it by raising

**Milk
Sterilizing**

the temperature to 160° or 170° F., and keeping it at this point for twenty to thirty minutes. One of the simplest and best means for sterilizing milk is with an apparatus more or less



CATHCART'S STERILIZER.

like the accompanying figure. This sterilizer consists of a tin can six inches deep, six inches broad at the top, and five inches broad at the bottom, and rests on three low studs or feet. It is provided with a nickel-plated top, soldered in just above the bottom, and it has a stout handle attached to each side. The lid fits on to an inner rim, which ensures that the outer surfaces of the lid and can are fresh; over this juncture a rubber band (R) is slipped to ensure against the entrance of air. In the centre of the lid is a funnel-shaped aper-

ture three-fourths inch in diameter. The "stirrer" is a rectangular piece of tin bent into the form of a ship's screw, with a long tinned-wire handle, which rests below in a depression in the bottom of the can, and projects above through the aperture. It is used as follows: the quantity of food (which may be a mixture of cream, milk, milk sugar and water, or even milk diluted or undiluted with water) required for twenty-four hours, usually three or four pints or less, is poured into it, and the lid pressed on with the stirrer in position. The sterilizer is then put into a pot, one quarter full of hot water. It is kept in this pot of boiling water for about twenty minutes with occasional agitation. The sterilizer is then removed, the broad rubber band is slipped over the junction of lid and can, and pure, clean absorbent cotton packed around the projecting end of the stirrer to prevent the entrance of germs, as the milk is withdrawn from time to time from the sterilizer (a temperature of 160° to 170° is the ideal one for sterilizing). The temperature of the hot water bath as above described is about 206° F. This could be attained by using water heated almost to the boiling-point.

The sterilizer must be put in a cool place. Before each feeding the mixture is agitated by the stirrer, and the quantity required drawn off into the feeding bottle in which it is warmed by placing it in hot water. The sterilizer may be used for milk, cream, or for the modified-milk mixture, and is capable of holding about four pints. A sterilizer capable of holding about a quart is sufficiently large for a small family. For domestic use where no sterilizing apparatus is at hand, an extemporaneous sterilizer can easily be made from good stout bottles or jars.

After sterilizing the milk the next step is to separate the milk and cream, and then re-combine them in the same proportions as are found in human milk.

72 *The Art of Living in Good Health*

The top of the milk, or cream, may be taken off after it has stood for ten or twelve hours in the refrigerator, or other cool place. Average cream contains ten per cent fat. Assuming this as an average, the following formulas for milk modification for artificial infant-feeding are recommended.

**Modified
Cow's Milk**

For feeding infants *one week old*, first week: sterilized cream, two ounces, or four tablespoonfuls; fat-free or skimmed milk, the same amount; lime-water, one ounce, or two tablespoonfuls; water, fifteen ounces; seven even teaspoonfuls, or seven drams, of milk sugar. Dissolve the sugar of milk in the fifteen ounces of sterilized or clean water. Mix the milk, cream, and water with the sugar of milk. Divide half of this mixture into ten bottles, two tablespoonfuls in each, equivalent to one ounce, thus making the ten meals required for each day till the baby is a week old, feeding once in two hours during the day, and once in the night between 9 P. M. and 5 A. M.

When *four weeks old* the baby's stomach will hold twice as much food, or two ounces for a feeding. The whole twenty ounces of food should then be divided into the ten bottles, putting two ounces, or four tablespoonfuls, into each bottle. It may be made somewhat richer in solids and with less water; as, cream, four ounces; lime-water, two tablespoonfuls; clean or sterilized water, thirteen and one-half ounces; sugar of milk, seven teaspoonfuls, or drams.

For the *six-months-old* baby, eight ounces, or sixteen tablespoonfuls of cream; no milk; lime-water, two tablespoonfuls; water, eleven ounces; sugar, seven teaspoonfuls, or drams.

At *eight or nine months old*, eight-ounce meals may be taken.

The infant should now be fed once in three hours during the day, and not at all at night. The number

of meals should be six; each meal to consist of six ounces, or twelve tablespoonfuls, which should be put up as before in separate bottles.

There should be a gradual increase in the amount of cream and milk, and lessening of the amount of water with an increase in the size of meals.

After mixing the cream, milk, sugar, and water together, sterilize for thirty minutes in a sterilizer, or a boiler with false perforated bottom.

A simple way to remember the amount of food necessary for feeding an infant is to give approximately the same amount of food in ounces as the infant is months old; that is, one-ounce feeding for the first month; two-ounce feeding for the second month, three-ounce feeding for the third month, and so on.

In order that this milk modification may be perfectly plain, the process, simplified, means that cow's-milk can be made to correspond in general with human milk, by taking: cream, sterilized, 8 ounces; lime-water, 1 ounce; sugar of milk, $\frac{3}{4}$ ounce; water, boiled or sterilized, 11 ounces; making 20 ounces, in all, when mixed. Let it be sterilized, kept cool and air-tight, and divided into suitable doses as required. The entire amount for the day may be sterilized as in the Cathcart sterilizer, or a separate and distinct bottle may be used for each feeding. In this case put from six to ten bottles on a perforated or false bottom of a boiler, fill boiler up to neck of the bottle with cold water, and have the heat to 170° F. Keep at this point half an hour, each bottle being stoppered with absorbent cotton; cool at once, and cover with glass covers or stoppers. Keep on ice until used. For feeding the baby, heat the food to 100° F., by setting the bottle in warm water, take out stopper, and put on an aseptic or clean nipple without tube attachment, either glass or rubber. Hold the baby while it nurses, taking the bottle away and al-

74 *The Art of Living in Good Health*

lowing it to rest between times. When it has had sufficient, take away the bottle and empty it at once. Wash both bottle and nipple with cold, sterilized water, then with boiling water. Lay the bottle away in sterilized water, in which there is a teaspoonful of soda to the pint. Keep the nipple in sterilized water in some glass vessel and turn the nipple inside out. Before using again, rinse it in hot sterile water.

It is best to add the lime-water, which should always be fresh, a teaspoonful or two to a meal, just before feeding. All the other materials should be sterilized together.

When the food can be kept on ice, a day's food can be prepared and sterilized at once, and kept in original bottles, each containing enough for a meal, until fed to the baby. Every handling of the milk means risk from germ infection.

These formulas need modification to meet special needs. Some will need more water, weaker food; some more fat and others less; and some more or less proteids.

Cholera infantum is an acute milk poisoning from infected milk. The only hope of saving an infant so attacked is to stop the use of all milk or milk food at once. The regimen should be sterilized water, fruit juices, and barley water for food, hot water enemas and an active cathartic to cleanse out the alimentary system, consisting say of calomel 1-10 grain every hour for six to ten doses, followed by a sweeping dose of castor oil, and repeated in two or three days if necessary.

Weaning takes place naturally at the age of eight to ten months. If the mother is not strong it is advisable to wean the child early. Weaning should never be done suddenly, but should be extended over a period of four, six, or even eight weeks. A baby should be taught early in life to suck water daily from a bottle, as this will save

much trouble when the weaning process is commenced. At first the bottle-food is to be given but once a day in place of the breast, a little later twice a day, and so on until the breast milk is entirely replaced.

The food between the ages of nine and twelve months should be mainly sterilized milk. Ideal foods for the one-year-old baby are whole-wheat bread (preferably stale) and milk, or milk with crushed zweiback or browned rice and cream, corn flour or oatmeal gruel made thin, to which sterilized milk or cream may be added. Fruit juices and sterilized water are included in the list.

Mastication should begin early in the life of the infant, and should be inculcated by giving it hard and dry foods to chew. The sooner the child is off sloppy foods the better. This will allow the division of food into fluids and solids as in adult use, so that fruit juices and water may be given as drink separate from the usual food, without producing digestive disturbances. A child requires few foods. From birth to one year of age, milk and water are practically all that is necessary, although it is customary and advisable at about the age of ten months to add starchy foods to the milk in the form of gruels or porridges. These with milk and bread, zweiback, browned rice, malted nuts, and nut-milks, usually suffice until two years of age. Fresh raw or soft poached eggs, beaten up with milk, are sometimes given to infants one year old, but this is perhaps too early. Besides, it must be remembered that eggs are not agreeable to some children; for this reason eggs are better omitted as food until about three years of age. A child should never be given meat; in fact, it is a question if a child is not better off without meat, eggs, and cow's milk — not because these are animal foods, but solely in consideration of the child's future health and welfare; and cane-sugar or any of its manufactures

76 *The Art of Living in Good Health*

(candy in any form) should likewise be excluded from the child's diet; broths can always be replaced to advantage by nut-milks. Baked potatoes, slightly buttered with nut-butter, also bread and butter, may be given to a child at about a year and a half to two years of age. Between two and three years of age is the foundation period for laying correct dietetic habits in the child. At about three years of age the child's diet approaches that of the adult. At five years of age, or thereabouts, a child may be put on an adult diet.

The essential point in feeding children is never to overfeed them at any one time. They should not be fed too often; they should be given stale bread or soft zweiback to stimulate the masticatory instinct. Selected fruits, peaches, pears, grapes, stewed prunes, without sugar, may be given children at about two years of age. Milk is essentially the diet of the first year of an infant; bread and milk, including the cereals, for the second year; after this the adult diet more or less modified.

No candies, cakes, or other such articles should be given children. No food whatever should be allowed between meals; the child's request for it is usually a matter of habit. In such cases the child should be given a glass of water or fruit juice.

It may be remarked that there is considerable difference between the activity of the glandular apparatus of the infant and of the adult; this applies also to the "ferments," the infant possessing certain milk-digestive ferments which are absent in the adult man. It is for this reason that the adult, in many instances, is unable to take milk without producing acid fermentation, flatulence, or other gastric disturbances.

Milk, both in the adult and in the infant, can be tolerated, where it does not usually agree with one, by taking it plain and hot, nothing else to be taken with it, not even biscuit or bread, the first thing in

the morning, an hour before the usual breakfast. The milk should be hot but not boiled, and may be diluted with an equal quantity of water to which a pinch of salt has been added. In exceptional cases one or two tablespoonfuls of lime-water may be added to it. The secret of the assimilation of milk lies in its being taken without admixture of any kind, other than water. In this way the living cells are absorbed by the stomach, and the digestion of the milk is much more rapid and thorough than in any other way. Theoretically the laboratory product, or what is called modified cow's-milk, would seem to be an ideal substitute for mother's-milk, but it remains to be seen whether experience will bear out the theory. Its use in any case should be temporary. Infants are born anatomically and physiologically built for the mother breast and vitalizing milk.

Any other method and product in the dietary appointment of the infant child must be classed as abnormal and unnatural. Every infant deprived of its normal diet is distinctly a law unto itself. *The natural food of the infant child is the milk of its mother — nothing else.* Cow's-milk under any circumstances, modified or otherwise, is not the diet for a human being. In fact it is well known that the milk of one species of mammal cannot be substituted for that of another without injury to the offspring. Six times as many artificially fed infants die as those who are fed from the breast. Parents who desire healthy children have the solution of the question in their own hands. All the artificial methods of feeding, whether by cow's milk or by the so-called infant foods, are merely substitutes which enable those who are either too indolent or too preoccupied with social duties to escape what should be the delight of every healthy-minded woman and mother. The woman who refuses to nurse her infant is attempting to escape from laws which are as unchangeable as life itself. To nurse

her child should be a mother's pride. Unfortunately some women seem to think it is a disgrace. This reaps its own reward.

In America we are apt to think that milk is indispensable, and yet there are thousands of people in this country as well as in Europe who never use milk. It is interesting to notice that heretofore the Japanese have not used milk, possessing very few cows or domestic animals of any kind. This applies equally well to nearly all the Orientals; while the wild or semi-wild tribes use milk only after it has been fermented, forming what is called koumyss. Milk that has undergone the fermentation process forms softer and more digestible curds than when taken in its natural state, producing less digestive disturbances on this account. In Turkey, sour milk, or matzoon, is a common article of sale upon the streets of the larger cities.

In Germany and many other European countries, sour milk and buttermilk are largely and variously dispensed at milk restaurants. To suggest the advisability of dispensing entirely with milk would subject one to ridicule, yet the glaring fact remains that the use of cow's milk amongst children, especially during the summer months, is responsible for the enormous amount of disease and death, reaching almost untold proportions, — hundreds and thousands of young children dying annually of what is termed milk poisoning.

Under such circumstances no sane man or woman should for a moment question the advisability of immediately discontinuing the use of a food which is so fraught with danger.

Nuts possess remarkable keeping qualities and are always procurable. Nut-milks can be readily prepared in a moment's notice either from the nuts themselves or from the nut-butters. One reason why cow's-milk is so extensively in use is because it has

been used from time immemorial. The conditions of living in the present age are materially different from those of years ago, when it was easy to obtain the pure milk of the prairie-fed cows. But even in the olden days mothers nursed their children in the natural way, and did not hand them over to the tender mercies of a wet nurse or allow them to be fed upon milk foods or other artificial "paps" as is so much the custom at the present day. Is it not time that people rose above the custom or force of habit which binds them down to any system which endangers the lives of their offspring? Infants should be fed upon the mother's milk and never upon a substitute of any kind, except under very special conditions. Secondly, other sources of supply should be considered when there is occasion to use the milk of the cow or goat. Nut-milks have practically the same chemical composition as cow's-milk, are equally nutritious, never dangerous, and always pure and wholesome. Unquestionably in a great many instances nut-milks replace cow's-milk to a great advantage, and hence merit the consideration of individuals who use milk.

X

DIETETICS OF EGGS

"As an egg is full of meat."

EGGS may be regarded as a complete or almost complete food, resembling nuts in composition. Eggs are a perfect substitute for meat, and are, seemingly, not so likely to produce impurities, notwithstanding that they contain xanthin compounds, which are more or less allied to uric acid. The food value of eggs is great; their digestibility in the raw or natural state is almost perfect. When perfectly fresh they do not contain uric acid. Of all the animal foods, eggs are undoubtedly the best. Eggs begin a slow process of deterioration, probably within one or two days after being laid, and therefore eggs administered to invalids should always be fresh.

An average egg weighs $1\frac{1}{2}$ ounces, composed of one ounce of white and $\frac{1}{2}$ ounce of yolk; the white of egg is about six-sevenths water, one-seventh albumen; while the yolk contains one-sixth albumin, one-third fat, and one-half water. Eggs contain sulphur, sodium, iron, lime, and phosphoric acid in quantities. Some persons seem unable to take eggs in any form without unpleasant effects. This must be the result of taking them in excess, or together with other forms of proteid or albuminous foods. It must be remembered that eggs are a highly concentrated albuminous food, and hence one or at most two eggs are quite a sufficient number to take at one

time. Moreover, they require thorough insalivation and mastication. Eggs should be used sparingly when taken together with any of the other proteid foods, and are best used with cereals and fruits, or fruits and some of the green vegetables. One can easily make a breakfast or luncheon on one or two eggs thoroughly beaten up, a pinch of salt and a little lemon juice added, thus making a delightful and nourishing fluid meal.

The well-known *lait de poule* is made by beating up the yolk of egg in hot water, adding orange flower water, or sometimes a little rum or cognac flavor, with or without sugar. Egg-nogg is made by whipping or beating an egg very lightly, and adding half a pint or more of sterilized milk, flavored with nutmeg or other aromatic to suit. All these semi-fluid egg preparations should be slowly and thoroughly insalivated before swallowing.

Eggs are best preserved or kept, by packing *fresh* eggs only, and placing them always upon their small ends in dry whole oats or slaked lime and bran, in a cool dry place where the temperature is regular. Eggs are easily affected by extremes of heat and cold. A fresh egg is a live young animal in embryo; a stale, decayed, or dead egg is poisonous and unfit for food, decomposition having set in. As an article of diet, fresh eggs should be used or none at all.

Eggs are most digestible in their raw or natural state, best well beaten up or whipped; soft poached eggs are next in the order of digestibility, while fried eggs, omelets, and hard-boiled eggs are usually extremely difficult of digestion. Hard-boiled eggs, if first finely divided and then eaten with some dry article of food, zweiback, salted wafers or stale bread, become fairly digestible as a result of the thorough mastication. In this way they are permissible. The yolk of egg is deemed unsuitable in the uric acid diathesis, Bright's or other kidney diseases.

XI

FRUIT DIETETICS

*"The juicy golden fruit
Lies, in a soft profusion scattered round."*

RIPE and wholesome fruits form a delicious and valuable addition to our diet. Though of low nutritive value, they possess principles of great importance, consisting of fruit-sugar, absolutely pure water, organic acids, and peptogenic substances. In fact fruits are predigested foods, ready for immediate absorption by the system.

There are many erroneous ideas prevailing in the mind of the public regarding the dietetic use of fruits. It is frequently remarked that fruits are provocative of bowel disorders, that they are liable to produce digestive or other disturbances, or do not agree with certain people for some other unknown or fancied cause. This idea is entirely incorrect, and is the exact opposite of the facts. Many individuals lose sight of the fact that fruit, like any other kind of food, should be thoroughly masticated. As a rule it is bolted or half-bolted, eaten in too large a quantity, between meals, or at other periods when the stomach is already full of half-digested food, or it is mixed with improper combinations of food. As a matter of fact an exclusive diet of ripe fruit is one of the best for chronic bowel disorders. I believe it may be stated as a general truth that ripe fruits agree with everybody; very acid fruits being a possible exception with a few individuals.

Fruits, then, when taken by themselves are among the most easily digested and wholesome of all foods; but when mixed with vegetables, fat, meats, milk, cream, sugar, and the various messes with which they are generally combined, undoubtedly the conditions arising from their use seem to add fuel to the flame, "the consuming fire that is the chronic dyspeptic's internal purgatory." Fruit of itself is not responsible for this condition. Coming, as fruit does, so seasonably and withal so appetizing, there is much surfeiting or overeating of it. And it is just here that mastication plays such an important part. There is a great tendency to bolt or eat fruit too rapidly.

Fruits, more particularly those containing large quantities of acid, require to be thoroughly masticated so that the alkaline saliva shall neutralize the acid of the fruit, in order that it may be readily accepted by the stomach. This applies particularly to apples, an exceedingly valuable fruit, whose disagreement with many individuals arises from a lack of thorough mastication. When fruit does not seem to agree with the stomach, one should try eating fruit alone, without any other food whatever, for a single meal or day. This is preferable to fasting.

The acids of fruits are of infinite value as a means of purifying the alimentary canal. Germs cannot thrive in fruit juice.

In typhoid or other low forms of fever, fruit juices or fruit soups are especially indicated, assuaging thirst and destroying germs. Fruit preparations so administered, as above **Fruit Soups** mentioned, entirely supplant the useless, unwholesome, and decidedly dangerous beef-tea.

Fruits are rich in that choicest of all sugars, levulose, fruit-sugar, which represents starch in a state of almost complete digestion, ready for rapid absorption by the body. It is this quality that renders fruits and fruit-juices so refreshing to a person

greatly fatigued. Fruits are invaluable for the fruit-sugar, the acids, and the water they contain.

Fruit is good at all times, irrespective of the adage that fruit is gold for breakfast, silver for dinner, and lead for supper. If some food must be taken at night, let it be a little ripe fruit, a baked apple, or stewed raisins, without cream or sugar, in preference to anything else.

Fresh fruits are, on the whole, preferable in most instances. The juices of fresh fruits are more effective than those of cooked fruits in destroying germs, or preventing their development in the stomach. To be wholesome, fresh fruits should be perfectly ripe, otherwise they are apt to set up gastro-intestinal irritation, often of a very severe type. Fruits which are not quite ripe, and which have firm flesh, are improved by cooking. Peaches, grapes, and berries are most wholesome raw. The digestibility of apples, pears, plums, cherries, and dried figs is improved by cooking. Fresh figs are very easily digested.

Cooked fruits should have but little, if any, cane sugar added to them, otherwise they produce stomach disturbances. Of the dried fruits those specially recommended are raisins, currants, prunes, dates, and figs.

Many of the tropical fruits, notably the banana and the pineapple, as they arrive in the northern markets

**Tropical
Fruits**

of the United States and Canada, are not only unwholesome, but most indigestible in character. As they exist in their native condition, both of these fruits are extremely luscious and digestible, but for export shipment they are picked green and immature. On this account there is little comparison between these fruits as ripened artificially and as ripened naturally. Any one who has ever hand-picked and eaten the pineapple or banana appreciates these marked differences, — so great, indeed, that one would hardly recognize them as the same fruits.

The BANANA, containing twenty to twenty-five per cent of fruit-sugar, proteids, and other extractive material, is one of the most nourishing of all the fresh fruits, almost equalling the dried fruits, such as the date, fig, prune, and the raisin. A pound of bananas contain almost as much nutriment as a pound of lean meat. When well and properly ripe the banana may be eaten by the most delicate invalid. Banana flour, which is now a regular article of sale, is a highly nutritious food, and a gruel or soup made from it is tolerated when the ordinary farinaceous or starchy preparations would be rejected by a weak stomach. Bananas, in their native state, are one thing; but as we frequently find them, they are half-green, over-ripe or otherwise unfit to eat. For this reason, and in order to overcome many of the objections attendant upon their use, bananas are best baked, like apples.

The PINEAPPLE should be ripe, before being used for food. A really ripe pineapple is seldom seen outside of the sections where it grows. When a pineapple is ripe the "eyes" can be removed by pinching them between the fingers. The juice—strictly *the juice*—of the pineapple is one of the choicest of fruit juices, possessing decided peptogenic or digestive properties. The fibrous or woody portion of the pineapple is the most indigestible substance with which I am familiar. For obvious reasons our native fruits, the peach, pear, grape, sweet apple, etc., are far superior to the tropical fruits, as we find them.

The APPLE should always be eaten ripe and peeled, and may be either raw, steamed, or baked. If eaten raw, apples must be thoroughly masticated to a pulp, otherwise undigested pieces will be regurgitated, and there will be fermentation and other disagreeable conditions develop in the stomach. With thorough mastication and insalivation of apples to a semi-fluid

86 *The Art of Living in Good Health*

consistence or pulp, they will be found to agree with individuals in whom, heretofore, stomach disturbances have resulted from their use.

Ripe sweet apples are the most easily and quickly digested raw food substance which exists. Sour apples especially require very thorough mastication. In some individuals suffering with chronic stomach trouble, sour apples may be replaced to advantage by other fruits, or they may be toned down by an admixture of sweet apples or even of raisins. Baked sweet apples are usually well tolerated by delicate stomachs. Apples require to be peeled and cored.

The *unfermented juice* of the apple makes a valuable drink and one highly recommended. In its use it should be well insalivated, especially by those who are inclined to have acidity of the stomach. The juice is cooling and acts as a slight laxative.

APPLES when cooked without much sugar and of good quality are easy of digestion, cooling, and slightly laxative.

The APRICOT is a fruit somewhat intermediate between the peach and the plum. Its flesh is commonly less juicy than that of the peach, though as a rule, perhaps of a higher quality. It is a delicious fruit, answering the same purpose as the peach.

The DATE is a highly nutritious fruit, and forms an important food for the Arabs; the best dates, only, should be used, and not those made sugary with molasses or glucose.

FIGS both in the green and dry state contain much sugar, and also a rather large proportion of nitrogenous matter, so that they are more nutritious than most fruits: in large quantities they are apt to prove aperient.

The GRAPE is a very important fruit, on account of its richness in sugar, both in the fresh and dried form (raisins). It is very digestible when fully ripe, and most acceptable to invalids. The seeds in some

of these fruits are very hard, and where one has sensitive teeth or gums, there is an inclination to bolt or half masticate the fruit. This of itself provokes intestinal trouble.

GRAPE-FRUIT is a fruit akin to the orange, but somewhat larger, grown in Jamaica and other West India Islands, in Florida and elsewhere, having a bitter-sweet flavor, and a juice considered wholesome and refreshing. It is also known as *pomelo* and *forbidden-fruit*. Grape-fruit is usually prepared by slicing the fruit and sugaring it some hours before it is required for use, and serving it with or without grape juice or native wine.

ORANGES are especially valuable for invalids, who should use only the juice; when ripe and well selected they are pleasant and refreshing, and well adapted for allaying thirst in feverish conditions. The skin and indigestible white fibre should always be discarded.

PEACHES and **NECTARINES** are particularly delicate-flavored, and they are well suited to the gouty and diabetic.

PLUMS should be avoided in the unripe and over-ripe states, as they are more apt than other fruits to prove indigestible and irritating and to cause diarrhœa. Dried plums (prunes) are often judiciously added to the daily dietary to remedy habitual constipation.

PRUNES are among the very best of fruits, nutritious and easily digested whether in their dried and uncooked form or slightly cooked, preferably without cane-sugar. The new sugar-prune is sufficiently sweet without requiring the addition of sugar to make it tasty.

RHUBARB, that known as garden rhubarb, is one of the very acceptable vegetable products. The newer varieties recently introduced by the horticulturists have given us a rhubarb fruit-like in its aroma

and other features, and above all its aperient or gently laxative qualities make it one of the most desirable additions to the diet of individuals whose occupation is of a sedentary kind or those who are inclined to constipation. Rhubarb is placed under the category of fruits in this work because similar to fruits in its effects, though it is usually classed as a vegetable.

The STRAWBERRY is very wholesome when taken in moderation. It is considered to be a useful food for the gouty on account of its richness in alkaline salts.

Fruit should be eaten at all meals, a daily part of every individual's diet. Some fruits, notably raspberries, strawberries, and blackberries, have a reputation for disagreeing with some individuals. This is more likely to be a result of imperfect mastication or of other conditions, attention to which will show the idea is not well founded. Many fruits contain laxative or purgative principles, some fruits containing more than others, and this is probably a reason why different individuals are variously affected by fruits. On this account individuals with whom fruits do not agree should not condemn all fruits, but should select those specific fruits which agree with them. In some particular instances it may be that fruits are best eaten with a cereal and not alone. The laxative principles of some of the fruits are very much like those contained in senna and rhubarb. Obviously fruits of this character when eaten in any considerable quantity produce intestinal disturbances, very much as does a laxative pill. Fruit must not be over-ripe nor under-ripe, *but just ripe*; and should not be eaten in excess. If there be any special reason for it, those fruits only should be selected which agree with the individual. Owing to the rush to get fresh fruits into the market, many of the fruits are ripe only exteriorly, the inner or central portion being sour, green, and unripe. Just as green apples

sicken children, green fruits sicken adults. Avoid all immature fruits. A little patience in waiting until the fruit is quite ripe will well repay every one who uses it. Fruits should always be eaten in their natural condition, that is, without the addition of cane sugar, or certainly with the minutest quantity deemed necessary.

Owing to their extreme lusciousness, the tendency in the use of fruits is to swallow them rather hurriedly. The flavor and aroma are entirely lost by so doing. For this reason, if you would appreciate and enjoy fruits to their fullest value, see to it that they are thoroughly masticated and insalivated before swallowing.

The *juice*, not the fruit, of sweet grapes, sweet apples and other sweet fruits may be used freely for infants, replacing, to advantage in many instances, milk, beef tea, etc.

Fruits taken in excess, or when unripe, or over-ripe, are apt to set up gastro-intestinal irritation, often of a severe form.

Nuts, in combination with fruits, constitute a perfect dietary, the fat of the nuts and the sugar of the fruit supplying all the need for energy and heat-producing substances.

The TOMATO is a fruit, consisting of about ninety-five per cent of water, and five per cent of acids, of which citric, malic, and oxalic acids are a part, the latter in such a small quantity as to be negligible. Gouty subjects are sometimes advised to refrain from eating tomatoes on this account. There is no occasion for the advice. Properly prepared tomatoes are refreshing and appetizing. There is an idea abroad that tomatoes are responsible for cancers. This is too silly for serious consideration. Tomatoes never cause cancer. Excessive use of meat is also given as a cause of cancer. Probably this is one of the true causes of this disease, yet not the only one. Un-

90 *The Art of Living in Good Health*

doubtedly *the excessive use of food-stuffs in general, or the excessive use of any one particular food-stuff*, extended over a period of years, is the cause of cancer, just as it may be productive of diseases other than cancer. It is a fair inference, which stands until proved to the contrary, that internal cancer is an auto-toxæmia, or "self-poisoning," resulting from errors in diet and perversion of food.

Unquestionably an exclusive diet for a period of three to seven days and upwards has a marked and distinct effect upon the metabolism or **Fruit-Cures** tissue change of the human body. The "grape cure" has become famous throughout the world, diseases of all kinds having been cured, or relieved by the use of grapes, as an exclusive diet, used for a period of four to six weeks. One of the very best means of reducing flesh is through the use of an exclusive fruit diet, which produces a rapid loss of flesh without discomfort. Fruit fills the stomach and stays the craving for food, yet furnishes very little nutritive material. In these reduction cures, one, or more, of the regular meals of the day may be exclusively of fruit. Where an exclusive fruit diet is followed, fruit may be taken three or four times a day, owing to its ready and rapid absorption by the system.

Fruit-cures are used with marked success in chronic kidney or Bright's disease, liver diseases, rheumatic and gouty ailments, chronic constipation, and many other diseased conditions. The free acids of fruits are especially valuable in assisting the digestive process, and where there is a tendency to a bilious or gouty diathesis.

Juicy fruits are best eaten at the end of a meal, otherwise they interfere with the mastication of the other food stuffs, inviting a tendency to wash down the food, in the same manner as is performed by water, tea, or other fluids.

It must be noticed that fruits and coarse vegetables are not a good combination, and should not be eaten together. Fruits may be eaten at any time during the meal: before, during, or after, but not between meals.

No other article of diet is of such pronounced value in the treatment of constipation, as fruits. For this purpose fruit must be eaten freely, preferably in the form of a *fruit breakfast*, **Constipation** best taken without admixture of any other food. Stewed prunes, sour apples, blueberries, peaches, and tamarinds are the fruits best adapted for this purpose. It is needless to say that grape seeds do not produce appendicitis; so that the seeds of grapes may be swallowed with impunity with the fruit, so far as appendicitis is concerned. This must not be construed as countenancing the swallowing of grape seeds; quite the reverse. Grape seeds and all other material which cannot be reduced to the state of a liquid or semi-liquid condition by mastication are best discarded as so much refuse or rubbish, of which the system has to dispose. This applies to the skin and seeds of fruit, the outer coating and woody fibre of vegetables, and to all other insoluble and waste material, whether it be cereal, fruit, vegetable, or any other product not furnishing nutriment to the body. The seeds of raisins, also, are best rejected, as they cannot be swallowed whole as is the case with grapes, and crushing of the seeds allows their astringent principles entrance into the system, which is not desirable. The less refuse material one swallows, the better. Constipation, as has been explained elsewhere, is a common result of overeating. The method of cure is, obviously, not to overeat.

It is a matter of comment among physicians who make a study of such questions that a large majority of the persons who are afflicted with the extremely common functional disease *constipation* — the bane of

92 *The Art of Living in Good Health*

the people of England and America — are those who are given to eating flesh-meats to excess. To prove the direct connection which exists between meat-eating and constipation we have but to go the animal kingdom. Almost every person knows that the dog is notoriously constipated, and also that his diet is essentially that of flesh-meats. The same holds true regarding other flesh-eating animals. What is true of animals is equally true of man in so far as the consumption of meat is concerned in its effects upon the human system.

	Water	Fruit Sugar	Pro- teids	Fruit Acid	Pectose (Jelly)	Salts	Fibre Waste	Fuel Value per lb. in Cal- ories
Apple	85.	8.	0.5	0.84	5.	0.5	1.2	230
Apple (dried)....	28.	43.5	1.25	3.5	18.	1.5	5.	700
Apricot	81.	4.5	0.5	1.2	6.5	0.8	—	375
Banana	77.	20.	1.5	—	—	0.8	1.	380
Blackberry	86.	4.	0.5	0.2	1.4	0.4	2.5	260
Cherry	80.	10.	0.7	1.	1.8	0.7	0.2	375
Cherry (dried) ..	50.	31.	2.	1.5	3.	1.5	1.	1050
Currant	85.	6.5	0.5	2.2	1.	0.7	—	240
Cranberry	90.	1.5	0.1	2.3	0.2	0.2	1.5	110
Date (stoneless) .	38.	57.	3.	—	0.2	0.8	—	1140
Fig (fresh)	79.	18.	1.5	—	0.5	0.5	—	375
Fig (dried)	31.	50.	4.	1.25	2.	1.	5.	1400
Grape	78.	14.	0.6	0.8	0.2	0.5	4.	360
Lemon	89.	2.	1.	7.5	—	0.5	—	275
Musk Melon	90.	8.	0.5	—	—	—	2.	150
Water Melon ...	92.	7.	1.	—	—	—	—	135
Orange	87.	4.5	0.8	2.5	—	0.5	—	225
Peach	80.	4.5	0.7	1.	7.	0.7	—	225
Pear	83.	8.2	0.4	0.2	3.3	0.3	2.7	325
Pineapple	89.	8.9	0.4	—	0.2	0.2	0.4	200
Plum	85.	3.6	0.4	1.5	4.6	0.7	—	285
Prune (dried) ...	29.	65.	2.5	2.5	13.	1.5	—	1170
Raisin	32.	55.	2.5	—	0.7	0.5	4.5	1200
Raspberry	86.	4.	0.4	1.4	0.7	0.5	—	240
Strawberry	88.	6.	1.	1.	0.5	0.8	1.5	180
		Carbo- hydrates		Fat		Mineral Matter		
Olive	67.	3.4	2.5	22.7	—	4.4	7.	810

A calory represents the amount of heat which would raise the temperature of one kilogram of water (about 2.2 lbs.), 1° Cent., or, what is nearly the same, of one pound of water, 4° Fahrenheit; just as hard and soft wood, or coal, have a different heating power, so do the different foods.

XII

NUT DIETETICS

*"And close at hand the basket stood,
With nuts from brown October's wood."*

AS with fruits, so with nuts, there are many erroneous ideas and impressions prevalent regarding their dietetic usefulness.

For four or five thousand years the choicest, most healthful and most nutritious article of food assigned by the Creator for man's diet, has been but little used by the civilized portion of the world.

This non-use of nuts is all the more surprising when it is considered that they are the most nutritious and the most valuable of all the natural foods, taking *first place* in this respect. Nuts, fruits, and cereals form a perfect and ideal combination of foods; leaving both meat and vegetables entirely out of the bill of fare.

Nuts are the vegetable counterpart of flesh-meats, and are meat in the proper sense of the word, the original meat referred to in Gen. i. 29: "To you they shall be for meat."

A gross error exists in the minds of the public regarding the *digestibility* of nuts. This has probably arisen from two causes: First, that nuts are nearly always eaten under improper conditions, — as a dessert at the end of a meal, when quite sufficient food of this character has already been taken in the form of meat, eggs, peas, beans, and cheese, thus adding a double

quantity, or excess, of proteid or albuminous food for the system to dispose of; or they are eaten as tid-bits between meals. In either case, if indigestion follows (which it almost invariably does) the nuts get the credit; secondly, nuts are usually insufficiently masticated. The truth of the whole matter is that nuts are the most easily digested of all foods when properly prepared and properly eaten.

All nuts are digestible or may readily be made so. Nuts of all kinds, almonds, filberts, hickory nuts, English walnuts, Brazils and pecans, by simple preparation may be made exceedingly digestible and acceptable.

In order that nuts may be thoroughly masticated, it is essential that they should be eaten at *the beginning of a meal*, replacing meat entirely or in part. The mastication of nuts must be thorough, so that they are reduced to a smooth creamy pulp before swallowing. Where the teeth are at fault and one is unable to do the necessary grinding for himself, nuts may be used in the form of any of the nut-butters, which are simply nuts freed from skins, then crushed or ground into a paste by means of a mill. Unless nuts are thoroughly masticated, a large part of their nutritive properties is lost, passing through the system unabsorbed. One or two ounces of nuts are quite a sufficient quantity at each meal. The peanut, which belongs to the pea and bean family, and the chestnut, are preferably cooked or roasted, because of the large amount of raw starch they contain.

Nuts are a complete and most wholesome substitute for meat of all descriptions, presenting the choicest and most concentrated nutriment of all food substances. They are a natural source of fat, affording it in great abundance and in a most assimilable form. In nuts, fats are presented in an emulsified form, that is, as in cream. It is for this reason that nut-fat is so readily absorbed by the system. Cream

96 *The Art of Living in Good Health*

and milk can be made from nuts, forming an exceedingly agreeable and wholesome food, agreeing perfectly with persons who cannot take cow's milk or cream to advantage.

Nuts contain on an average about 60 per cent of soluble fat, 25 per cent of proteids, and about 12 per cent of carbohydrates, thus having more than double the fuel-value or energy-power of meat. Protein and fat are the two most essential food substances for building fat and blood. Meat also supplies these principles, and it is for this reason that it occupies so high a place with the populace, as a food; *but nuts supply these elements in far greater abundance and in a more nourishing form than meats.* Nuts may be deemed the vegetable counterpart of meat. Besides, nuts have this advantage over meat, that they need no further special preparation. A walnut or an almond, if thoroughly masticated, is converted into the mouth into a creamy substance, not unlike in taste and consistency to the cream of milk. Considering that meat is three-fourths water, it will be noticed that nuts, pound for pound, are about one-fourth the price of meat.

The shells and skins of nuts should be removed. The almonds should be blanched and dried, or very slightly roasted. Shelled peanuts may be bought from fruit vendors, and gently roasted at home, as occasion requires. The roasting must be very gentle. Too much heat decomposes the fat in nuts the same as it does the free fat of meats, converting it into fatty acids, which are irritating, thus destroying their food properties. Of the various nuts the English and Californian walnut, the hickory, the almond, filbert, the pecan, and the Brazil nut, are the most serviceable.

The PEANUT is, strictly speaking, a legume, after the manner of the pea and bean, and not of the nut family. Its composition is nearer that of nuts than legumes, containing as it does about 50 per cent or

one half its weight in emulsified fat, besides 33 per cent of nitrogenous or muscle-making food.

Peanuts, when cooked, steamed and dried, or very slightly browned in an oven, are an exceedingly wholesome and palatable food, easily procurable, and above all decidedly inexpensive.

PEANUT BUTTER. The first step is to brown lightly but not roast, the peanuts; being careful not to overbrown or scorch them. This can be done in the ordinary stove oven. If the raw peanuts are obtained shelled, much time and labor will be saved. As soon as they are roasted and cool, place the nuts between two coarse towels, or in a coarse bag; or with the bare hands alone, rub them gently and blow off the brown skins. Lightly dust salt over the nuts, and grind at once in a nut mill. Pack the butter into sealed jars, or cans, cover well and keep in a cool place. It may be used plain or diluted with water.

Peanuts may be cooked by boiling them in water, first blanching them, then baking them in a slow oven for several hours until almost dry, when the nuts can be run through a fine sieve. This makes a coarser-grained butter than that made with the nut-mill.

ALMOND BUTTER. Blanch the shelled almonds by covering them with boiling water for two or three minutes, then remove the skins with the fingers. Gently dry the nuts in baking pans in an oven until quite crisp, but not brown in color. Then run them through a loosely adjusted mill or a sausage grinder, and place them on a cloth, stretched over the stove until perfectly dry, then grind in a tightly adjusted nut-butter mill. This preparation, almond cream, or butter, freshly prepared, is a delicious substitute for cow's-milk and does not produce gastric disturbances of any kind.

BRAZIL-NUT BUTTER. The brown skin of the shelled nuts should be removed with a sharp knife,

the nuts then cut into pieces, a little salt added if desired, ground in a nut mill, packed in jars, and kept in a cool place.

CHESTNUTS contain a very large percentage of starch, 75 per cent, which requires exceptionally thorough mastication, or cooking, in order that the raw starch may be digested. They may be boiled and then finished by gentle roasting.

The COCOANUT. This tropical product, like the banana and pineapple, as it exists in its native state is one food, and as it is found here it is quite another. In the tropics, in the green stage, the nut provides a cool, effervescing drink, while the nut meat is a most tender and palatable food, suitable for a little child, and may be eaten with a spoon, so jelly-like in consistency is its meat. In the matured state it is little used as an article of food, except that the natives make lolo, or milk, from it.

Raw cocoanut is difficult of digestion under ordinary circumstances, and at once it may be said the best and most useful thing to do with it is to make cocoanut milk or cream, which is an excellent substitute for butter. This is made as follows: —

Break the nut, take out the meat, pare off the outer skin as thinly as possible, as most of the oil is next to the skin, and put the nut meat through an ordinary fine grater or vegetable shredder. Pour boiling water over the grated cocoanut, two parts of water to one of the nut; let it stand half an hour or so, till cool; strain through a fine cloth and let stand for several hours until the cream rises.

To make cocoanut butter the process is the same as the foregoing, the quantity of water being one cupful of hot water for three cocoanuts, the straining of the milk and the wringings of the gratings being accompanied with pressure, finishing with a cream rich in proteids. Wring or squeeze out all the milk possible, then empty the cloth into a stew pan, pour

boiling water, work well with the hands again, and squeeze through the cloth a second time. Pour the product so obtained into a flat enamel dish, gently heat on a stove to a simmer; when it has slightly thickened, remove the dish and cool it quickly. No oil will separate if the milk is heated quickly and not too long. A little salt may be added. Packed in a close vessel and kept cool, the butter will be found a valuable food, and a perfect substitute for dairy butter.

The water or milk usually found in the cocoanut may be used for diluting the cocoanut milk, or added to a soup or other dish.

Nut Preparations

While it is a common practice to eat nuts, as they are usually brought upon the market, with their rinds or skins upon them, yet for digestibility's sake, if for no other reason, the rind or cortex-matter should be removed from all nuts before eating them. Aside from this, nuts require no special preparation, though in some instances a very gentle roasting is practised with some of them, notably chestnuts, almonds, and peanuts.

Nuts — to Blanch

The nuts must, first, be cracked and shelled. Almonds are easily blanched with hot water, so are walnuts, a teaspoonful of baking soda being added to each pint of water to facilitate the removal of the skins; but the removal of the walnut skins is a very tedious process; worth the time, however, in that a white nut-meat with decided improvement in taste over the un-blanched nut, results. Brazils are also best blanched; the removal of the chocolate colored skin, leaving a creamy white nut-meat, which can readily be ground into a nut-butter or cream. Brazils are blanched by a very gentle drying in an oven, or

on a slow fire for a few minutes, then cracking, and when cool rubbing or scraping off the skins with a blunt knife, or they may be blanched the same as walnuts. Butternuts are easily blanched with hot water, the same as almonds.

All nuts require to be dry before grinding, so that after blanching nuts one must be certain they are thoroughly dried before grinding, provided it is intended to make nut-butters or nut-creams of them. Peanuts are readily ground into nut-butter after being gently roasted and the skins removed.

Nut-Butters

Nut-butters are simply nuts of any kind ground to a nut powder in a nut mill; or, in the absence of a nut mill, the shelled nuts may be grated on the ordinary tin nutmeg-grater. A nut mill makes a much finer-grained butter than it is possible to make using a grater.

Nut-Creams

Nut-creams are made from any of the nut-butters by taking one or more tablespoonfuls of nut-butter, peanut, walnut, hickory or pecan, and whipping it up with a fork or other beater, with a small quantity of tepid water, to which a pinch of salt may be added if desired, making, in all, about half a pint of nut-cream. Nut-creams or nut-milks must be kept in closed vessels and in a cool place, otherwise they will sour in a day or two.

Nut-Milks

Nut-milks may be made in the same general manner as Brazil-nut-milk.

Almond, Cocoanut and Peanut Butter

See pages 97 and 98.

Malted Grain—Malted Flour

Malted flour, which is practically ground malted grain, or brewer's malt, can be obtained from most bakers. With such a preparation of grain, itself one of the most digestible and nutritious substances, very many excellent food-combinations may be made with the various nut-butters.

Malted Nuts

Malted nuts are made by mixing malted flour with nut-meal of the kind desired, whether Brazil, walnut, pecan, peanut, or hickory. The nut-meal or nut-butter, made from the blanched nuts, is mixed with the malted flour, in proportions varying from equal quantities to those in which the malt-flour predominates to the extent of one to four, up to one to ten parts. The proportion of one of nut to ten of the malt is the better from a dietary stand-point.

Malted-nuts must be bottled and kept in a cool place.

Malted Nuts (for Infants' Food)

Brazil Nut Butter, $\frac{1}{2}$ to 1 part.

Malted Flour, 1 part.

These quantities may be varied according to the age of the child. Two tablespoonfuls of the nut and malt mixture are put into a tea cup and made into a paste with hot water. Then fill the cup with hot water, to make about one half-pint. The mixture is to be well beaten with a fork or in a beater. A pinch of salt may be added. The food should be always made fresh and kept cool. Hickory, pecan, walnut, or peanut butter may be used in place of Brazil-nut butter. Malted nuts replace the ordinary milk foods to advantage, especially during the hot summer months.

Malted Brazil-Nuts

The Brazil nuts should be blanched first, by very gentle heating in an oven, when the rinds can be rubbed off with the thumb or with a knife. If preferred, the blanching may be done by boiling the shelled nuts from two to five minutes in water to which a small quantity of baking soda, say a teaspoonful to the pint, is added. In this case, before grinding them to a meal, it is necessary that the nuts be thoroughly dry. Grind the nuts in a nut mill. To one cup of this nut-meal add one cupful, more or less, of the malt-flour; mix well, dry, and bottle.

The malted nuts thus made may be served dry or made into a creamy paste with a little water.

Malted Almonds

Take one cup of almond meal, made from blanched almonds, and one half or one cup of malt-flour, mix well and dry on tins, in a warm oven or suspended over a stove.

Malted Peanuts

Take one cup of peanut butter, one half to one cup of malt-flour, a small pinch of salt; rub all together, and dry in the oven or where it is warm, being careful not to scorch it. Malt scorches very easily. When perfectly dry, grind through the mill to a meal. May be served dry or made into a creamy paste with a little water.

Malted Walnuts

Take walnut meal that has been made from the blanched walnuts, using one and a half cups of the meal to half a cup of malt. A little salt improves the taste. Mix well, and dry in tins in a warm oven. When perfectly dry, grind to a meal.

Malted Filberts, Hickory and Butternuts

May be made in the same manner as malted walnuts.

Nut Butter Sandwiches

Make a cream of any of the nut-butters, peanut, Brazil, or walnut. Spread this cream upon thin slices of whole-wheat bread or zweiback.

Peanut Cream

In making cream, the peanuts should not be roasted more than to a light straw color; or they may be prepared according to the Chinese method, by boiling them in water like beans, first blanching them, then baking in a slow oven until almost dry, then ground very fine in a nut-mill. To one tablespoonful of nut-butter add one and a half cups of tepid water and whip up with a beater until a smooth cream results. Keep in a cool place and in a closed vessel.

Brazil-Nut Butter

The chocolate-colored skin or rind of the nut should first be removed. In thoroughly seasoned nuts frequently this rind drops off when the nut is cracked, but in the absence of this the nuts should be blanched, boiling the shelled nuts from two to five minutes in water, to which a small quantity of baking soda, say a teaspoonful to the pint, is added. In this case, before grinding in a nut-mill, it is necessary that the nuts be thoroughly dry. The nuts are then cut into pieces, a little salt added if desired, ground in a nut-mill, packed in jars and kept in a cool place.

Brazil-Nut Cream

Brazil-nut cream is made by whipping Brazil-nut butter into a creamy paste with a sufficient quantity

of water to suit. This nut-cream should only be made as required, and kept in a cool place, otherwise it spoils.

Brazil-Nut Milk

Brazil-nut milk is made by whipping up one tablespoonful, more or less, of nut-butter, in an ordinary sized teacupful of tepid water. A pinch of salt may be added if necessary. A cup of hot Brazil nut-milk will replace tea, coffee, or milk, either in the morning or on retiring for the night.

The amount of nut-butter to be used to make nut-milks depends upon the richness of the milk desired. This also applies to the nut-creams.

Nut-Meato

Take one cup of nut-butter, one cup of stewed tomatoes, one half-cup of water, one half-cup of sifted rolled oats, salted to taste. Mix all together. Steam two hours in a steamer, then cool. May be sliced and served as cheese or meat. Use a lentil or other sauce with the nut-meato when serving.

Nut-Meato Roast

Take one pint of zweiback or toasted bread crumbs, one pint of water, one half-pint of strained tomatoes, and one half-pound of nut-meato, made fine by putting through a colander or meat chopper. Flavor with sage, celery, or other condiment. Mix all thoroughly together, add salt to taste, and bake in shallow pans until brown.

Mock Turkey

Take four cups of sifted rolled oats, one pound of zweiback or toasted bread, well moistened with water, one cup of walnut-butter made from black walnuts (peanut-butter will answer), one tablespoonful of

powdered sage, and two teaspoonfuls of salt. Mix thoroughly, adding two eggs, previously well beaten. Add sufficient water to make into a stiff loaf or turkey. Bake a short time in moderate oven. May be served with the necessary dressing.

Nut-Prune Confection

Take sugar prunes and cook them until they are tender and quite dry. Rub them through a colander. To one cup of sifted prunes add one cup of peanut-butter, one and a half cups of water, one cup of corn-starch, a teacupful of seedless raisins, a little salt and sugar to suit the taste. Mix the ingredients by first dissolving the butter and starch in the water, and adding the rest. Beat for five minutes and steam in a baker.

Tomato Nutora

Take two cups of raw peanut-butter, one cup of corn-starch or flour, two cups of tomato juice, two teaspoonfuls of salt. Dissolve the butter and starch in the tomato juice, add the salt and beat for five minutes, then pour into cans and steam for two or three hours or longer.

Nut-Grano No. 1

Take three cups of rolled oats, one cup of almond meal, three and one half cups of water, and one teaspoonful of salt. Mix well and bake one half-hour in a slow oven.

Nut-Meato Steak

Cut slices one half inch thick of nut-meato which has been cooked in cans of about three inch diameter. Toast the slices on tins in an oven, or gently fry on top of stove. Remove from the stove, and when cooling, pour over this a nut gravy, tomato catsup, or salad dressing as desired.

Nut-Fruit Confection

Take one cup of peanut meal, add one quarter cup of ground sugar prunes, mix thoroughly and grind through a mill. Shape and cut into caramels and wrap in waxed paper if desired.

Nut-Butter for Table Use

Nut-butter for table use is best diluted with an equal quantity of water sufficient to make it spread nicely, beating up the mixture to a smooth consistency with a fork or other beater; a little salt may be added if desired. The nut-butter must be made fresh every day when prepared as above.

Nut-Grano No. 2

Take two cups of rolled wheat, corn meal or rolled oats, one cup of roasted almond butter, made by roasting blanched almonds until they are of a very light color, and when cold, grinding them to a paste, adding one or two teaspoonfuls of salt. Mix all thoroughly with about one quart of water, then bake in a moderate oven for half an hour. May be served with nut or salad dressing.

Nut-Cheese

Take one cup of nut-butter, two cups of water, half cup of whole-wheat flour. Rub the butter perfectly smooth by adding the water slowly, then add the flour, and lastly the salt. Pour into tin cans with a tight-fitting cover, and steam in a steam cooker or in a kettle with perforated bottom. Cook one hour, more or less. This recipe can be varied by adding sage, celery salt, or caraway seeds ground fine.

Nut-Banana Confection

Take good ripe bananas, peel them, and mash them with a silver fork. Then to the two cups of mashed

bananas, add one cup of peanut-butter, one cup of water, half cup of sugar, half cup of corn starch and a little salt. Mix well together and beat for five or ten minutes. Pour into a baker and steam for an hour or more. Keep well covered until needed.

Nuttose

One cup of split peas (put through a colander), one cup rolled oats, sifted, one fourth cup nut-butter, made into a paste with water; one tablespoonful of corn-starch; one cup of water. Salt to suit taste, and sage added if desired. Steam two hours or more. May be served in slices with tomato catsup.

An Emergency Nut-Milk (with or without Malt)

Without a nut mill or even any nut-butter at hand, a cup of nut-milk may be easily and quickly prepared by grating with an ordinary tin nutmeg grater, say half a dozen or so of blanched or unblanched Brazil nuts, adding a pinch of salt if desired, and sufficient hot water to form a thick paste, whipping it up with a fork. If a malted milk is desired, add about one tablespoonful of malted flour; finally add sufficient hot water to make about one half-pint of milk.

Cocoanut-Milk

Cocoanut-milk may be made by diluting with water the cocoanut-cream as described on page 98 of this book. The water or milk usually found in the cocoanut may be used for diluting the cocoanut milk, or added to a soup or other dish.

Cream of Chestnuts

Remove the shells and skins of chestnuts by boiling the nuts for five or ten minutes in a kettle of water. Have ready an agate or porcelain saucepan containing a sufficient quantity of fresh milk, into

108 *The Art of Living in Good Health*

which place the blanched nuts. Gently simmer or cook the nuts with the milk until thoroughly dry, being careful to avoid scorching at the latter part of the process. When dry, rub the nuts through a fine colander, when a beautiful snowy mass will result. Over this pour a frosting as usually made for cakes, making a mountain of snow, delicious to the taste.

The combinations which may be made of nuts in their various forms, either alone or with vegetables, fruits, and cereals, in the form of salads and other nut make-ups are sufficient to form a volume on Nut Cookery.

Composition of Nuts

	Water	Pro- teids	Fat	Carbo- hydrate	Mineral Matter	Fuel Value per lb. in Calories
Almonds	4.8	21.0	54.9	17.3	2.0	3030
Brazil Nuts	5.0	17.0	67.0	7.0	4.0	3329
Butternuts	4.5	28.0	61.0	3.4	3.0	3371
Chestnuts, dried	6.0	10.7	7.0	74.0	2.2	1875
Cocoanuts	14.0	6.0	51.0	28.0	1.7	2986
Filberts	3.7	15.6	65.0	13.0	2.4	3432
Hickory Nuts	3.7	15.4	67.4	11.4	2.1	3500
Peanuts, raw	5.0	32.6	47.3	12.6	2.6	2735
Pecans	3.0	11.0	71.0	13.3	1.5	3633
Pine Nuts, Pignolias	3.4	14.6	62.0	17.3	2.8	3364
Pistachios	4.2	22.3	54.0	16.0	3.2	2800
Walnuts, English ...	2.5	27.6	56.3	11.7	2.0	3105

XIII

VEGETABLE DIETETICS

A GLANCE at the annexed table shows a considerable similarity existing between green vegetables and fruits, vegetables containing a very large amount of water, often 90 per cent or more, a small quantity of important inorganic salts, and lastly a varying amount, one to four per cent, of nitrogenous substances.

Vegetables also contain a variety of non-nitrogenous substances, including cellulose, chlorophyll (the green coloring matter), small quantities of sugar, gum, pectin, fat, and vegetable acids. Many also contain essential oils or other flavoring matters, imparting to them certain tastes and flavors, which may be agreeable or otherwise.

There exists in the minds of the public, as well as in the minds of many of the medical profession, an idea that the indigestible residue, left by all green vegetables, affords a useful and wholesome stimulus to intestinal contraction, and promotes regular action of the bowels. This is an exploded idea. Experiments have demonstrated that food, properly masticated, is in itself quite a sufficient and natural stimulus without the aid of mechanical irritation through the use of coarse and insoluble material — equivalent to so much rubbish.

The value of vegetables is very much over-rated. They possess but little nutritive matter, and frequently contain considerable highly indigestible cellulose or woody fibre, making them very indigestible to many individuals.

The only vegetables which possess any value for *nutritive* purposes are the Irish and sweet potato, peas, beans, lentils, and corn. These are vegetables of undoubted value: there are many others which are wholly unfit for human consumption. To this latter class belong the cruciferous, or cabbage tribe, which is remarkable for the number of edible plants it con-

Vegetables' Composition

	Water	Proteids (Nitrogen)	Extractives,		Fibre Waste	Mineral Matter	Fuel Value
			Sugar, Starch, Fat, etc.				
Asparagus	93.0	2.0	3.5	1.0	0.5	125	
Beans (French)	88.0	3.0	7.5	1.0	0.5	200	
Beans (dried) ..	12.5	22.5	57.0	4.5	3.5	1620	
Beans, Lima ...	10.5	18.0	67.5	—	4.0	1500	
Beets	87.0	1.5	10.0	0.5	1.0	350	
Cabbage	90.0	2.0	5.0	2.0	1.0	145	
Carrots	88.0	1.0	9.0	1.0	1.0	300	
Cauliflower	90.5	2.5	5.0	1.0	1.0	130	
Celery	84.0	1.5	12.0	1.5	1.0	175	
Cucumbers	95.4	1.0	2.6	1.0	0.5	75	
Egg Plant.....	93.0	1.2	4.6	0.8	0.5	110	
Lentils	8.4	26.0	60.0	—	6.0	1620	
Lettuce	94.0	1.5	2.5	1.0	1.0	85	
Mushrooms	90.0	2.5	6.0	0.5	1.0	100	
Onions	86.0	1.7	11.0	1.0	0.5	325	
Parsnips	83.0	1.5	11.5	2.5	1.5	350	
Peas (green) ..	75.0	7.0	15.5	1.5	1.0	250	
Peas (dried) ...	9.5	24.5	58.5	4.5	3.0	1665	
Potatoes (raw) ..	78.5	2.2	18.0	0.5	1.0	350	
Potatoes (sweet)	69.0	1.8	27.0	1.0	1.0	450	
Pumpkins	93.0	1.0	4.0	1.0	0.5	90	
Radish	92.0	1.0	5.0	1.0	1.0	110	
Rhubarb	94.0	1.0	3.0	1.0	1.0	85	
Sauer Kraut....	89.0	2.0	4.0	—	5.0	100	
Spinach.....	92.0	2.0	3.0	1.0	2.0	160	
Sprouts	86.0	5.0	6.6	1.5	1.0	180	
Squash	88.0	1.5	8.5	1.0	1.0	90	
Tomatoes	94.0	1.0	4.0	0.5	0.5	90	
Turnips	90.0	1.0	7.0	1.0	1.0	200	

The calorific value of green vegetables, as of fruits, must be a variable quantity, depending upon the time of collection. In some instances the values are approximate.

tains: white and red cabbage, greens, savoy, broccoli, etc. They contain a large proportion of sulphur, and tend to occasion flatulence. The *food value* of cabbage, lettuce, spinach, celery, greens, etc., is *very small*, notwithstanding that a number of them are reputed to possess wonderful properties of one sort or another.

The digestibility of vegetables will depend largely upon the manner of their preparation — raw, steamed, or long boiled. If vegetables be cooked with water in the usual way, the inorganic salts are dissolved and thrown away, thus depriving them of their most valuable elements. Many of them are best used in the form of salads.

ASPARAGUS is a popular and delicate vegetable, containing uric acid, or its xanthin equivalent, to the extent of one to two grains per pound, — a quantity not likely to be of any considerable moment.

BETROOT is a valuable vegetable, preferably boiled or baked.

CABBAGE in the raw state is much more easily digested than when cooked.

CARROTS when young form a useful and wholesome food, and are, at Vichy, regularly served at breakfast to the invalids who take a course of the waters.

CELERY is esteemed for its agreeable aromatic flavor, and is eaten both raw and cooked; in the latter form it is wholesome and digestible.

CORN. Green corn, in the milk stage, is more easily digested than is ripened corn. If corn is put through a strainer or colander, and deprived of its outer coat, it is made more acceptable and digestible. Green corn carefully roasted is also a popular and desirable form.

CUCUMBERS, eaten raw, are liable to cause gastric disturbances in persons of feeble digestion.

LETTUCE, ENDIVE, WATERCRESS, MUSTARD, and

CRESS, are salad vegetables, and are generally eaten raw. They are cooling and wholesome. The digestibility of lettuce is uncertain. It usually requires sound and vigorous digestive organs. Lettuce is best used in the form of a salad with an equal quantity of lemon juice and olive oil and salt to taste.

MUSHROOMS have the property of causing toxic symptoms, in certain persons, in the form of severe gastro-intestinal disturbance. Mushrooms contain uric acid or its xanthin compound. If used in moderation this is probably not a serious factor, but great care should be taken to use only true mushrooms. This uncertainty makes it a question as to the advisability of using them at all.

ONIONS. Raw onions are generally supposed to be wholesome and appetizing, by those who like them. Though onions have some nutritive value, yet to the great majority of persons they are decidedly indigestible, their repeated eructations making them unpleasant to use as food. Thoroughly cooked onions are better tolerated, though their use requires caution, otherwise disturbances of digestion are sure to ensue. As an article of diet onions are best left alone by persons having weak digestion.

RHUBARB. See under "Fruits."

PARSNIPS are more or less like carrots.

TURNIPS belong to the cabbage tribe. They have a tendency to cause flatulence.

POTATOES are remarkable for the large percentage of starch — they contain 20 per cent. This starch has the advantage of being very digestible. Potatoes are best boiled in their skins, and steaming is one of the best methods of cooking them. Baking potatoes is one of the most commendable ways of preparing them. In whatever manner prepared, they should always be "mealy" or "floury," and never close and watery, otherwise an easily digestible food is made a very indigestible one. Fried potatoes are very indigestible,

owing to their being cooked in fat. Potatoes sliced and slightly toasted are very digestible. Potatoes should never be eaten alone, but with some other form of food. The sweet potato, containing 16 per cent starch, and sugar 10 per cent, becomes mealy when boiled, and is a wholesome and useful food, but is too sweet to be eaten alone as a vegetable.

THE PULSES.—The ripe seeds of many of the Leguminosæ, such as beans, peas, and lentils, surpass all other farinaceous seeds in the large amount of nitrogenous substances they contain. This occurs chiefly in the form of vegetable casein or legumin; but they also contain, in addition, a little albumin and other proteids, together with much starch. By their richness in albuminates they greatly excel the cereals in actual nutritive constituents. Lentils, for example, contain about double the amount of nitrogenous substances that ordinary wheat contains. These leguminous seeds are therefore the best suited by their composition to replace animal food.

Peas and beans contain much sulphur and phosphorus, in combination with legumin. Together with rice they form the staple food of many Indian races. Eaten with animal fat (bacon and beans) they constitute a highly nourishing food, especially useful under conditions of heavy manual labor.

Beans, peas, and lentils contain a very large percentage of nitrogenous or muscle-making elements, in a far greater degree and purer form than lean meat, to which they are superior in every way. Peas contain in their hulls, 2 to 3 per cent of uric acid; beans contain also in their hulls, 4 to 5 per cent of uric acid. The use of these vegetables in the hull-less form removes this compound. They are the most valuable of the proteid foods. Lentils have of late years become a very popular food, and are now largely imported from Egypt.

The lentil is the most nutritious of all the pulses,

and contains the largest proportion of nitrogenous substances. It has the further advantage of being remarkably rich in iron — its ash containing as much as 2 per cent of the oxide — and also in phosphate of lime; it has a further advantage, especially over peas, in the absence of sulphur, thus avoiding the objectionable tendency of flatulence which occurs with the use of peas and beans, unless these are used in the hull-less form, which obviates the difficulty. New varieties of beans are being introduced which are devoid of the objectionable features of the ordinary bean. This will have the effect of making this valuable food doubly popular as one of the most nourishing foods in existence, replacing meats, and at a decided saving in cost.

Undoubtedly many individuals, especially those suffering with weak and dilated stomachs, do not tolerate vegetables at all well. *All coarse vegetables are certainly indigestible.* Individuals differ as to the manner in which they are affected by vegetables. In many instances vegetables, owing to their soft and sapid nature, are bolted or insufficiently masticated, which in itself produces disturbance. Thorough mastication of them is an essential, otherwise digestive disturbances are certain to follow their use. The structure of coarse vegetables is such that they do not go well with fruits, and this is a common combination of diet for many individuals. In such instances practically all vegetables, excepting potatoes and peas, should be excluded from the dietary; in other cases, it may be, the exclusion of such as lettuce, corn, cabbage, etc., will be required.

My experience is that many of the ideas advanced about vegetables are diametrically opposed to the actual facts as we find them in practice. There are comparatively few vegetables which can be recommended from a health stand-point. *In many instances they alone are a source of serious digestive disturbance.*

Vegetables and fruits are not a good food combination. This may arise from a number of circumstances, chief of which is that the digestive action of the two classes of food is so different in character. Either of these foods used separately may agree with an individual, and yet disagree when taken with the other. Fruits are much more quickly digested than are vegetables, and it is partly owing to the slower digestion of vegetables that the difficulty arises, the whole food contents of the stomach having to wait, as it were, until the vegetables are digested, before the stomach can pass the food along. This delay is likely to cause fermentation of the other foods, and hence disturbance of all the other food products undergoing digestion. The healthy man is not affected by eating incongruous food mixtures, if he insalivates and masticates his food thoroughly.

To recapitulate, the digestibility of vegetables depends: 1. On their condition — whether green, ripe, or over-ripe, whether cooked or uncooked; 2. On their insalivation; and 3. On the individual.

Improved methods of cooking would make more digestible vegetables and less indigestion. Vegetables should be served green and uncooked, wherever possible, as in salads (v. p. 132); or, if cooked, they should, almost without exception, be baked.

Boiled, mushy, and "waterlogged" vegetables are almost impossible of thorough insalivation even with the aid of hard and dry substances.

The cabbage tribe is not readily digestible, as the sulphur in these vegetables causes flatulence.

In this age of nervous haste we are wise in restricting ourselves to the vegetables which agree with us. Insalivation almost solves the question.

It has been said that many vegetables might well be eliminated from the bill of fare of human beings without serious loss. Whether this be true or not, they at least add great variety to our diet.

XIV

THE RAW-FOOD QUESTION

A DIETETIC theory of which we hear a great deal is the "raw food" theory. From a theoretical standpoint it is easy to argue that the natural food of man consists of nuts, fruits, grains, and vegetables—a "raw" diet. The claim is made that the natural foods of man are the unchanged products of nature—fruits, nuts, seeds, and grains, the green leaves that grow in the sunlight, and possibly milk, cream, and eggs. The strongest argument of the "raw food" advocates is that certain important elements of natural foods (the salts) are so altered by heat as to be quite useless to the body. The claim is made that cooked food is deficient in these elements, and that a body fed wholly, or largely, upon cooked foods must suffer from malnutrition. This argument is logical and holds good within certain limits.

"We should always bear in mind that we can never improve on Nature, and that everything we can relish in its natural and raw state is best adapted for the nourishment of our body. While the most delicious products of the soil, the fruits, do not possess the high nutritive value of the more concentrated foods, they are nevertheless indispensable for maintaining health and vitality.

"More than other products of the soil, fruits enjoy a free and uninterrupted exchange of the influences of light, heat, and air, by which the electrical forces of the sun are transmitted. Vital energy is thus stored up in the fruits in a higher degree, and

while we cannot grasp or determine this subtle power by chemical analysis, we can feel its enlivening effects through our whole system."

Jacques Loeb, in his recent physiological researches, likewise comes to the conclusion that the energy of food stuffs, and the motion of the heart, are not only due to the production of heat, but also the chemical energy in electrically charged molecules. "Evidently," he says, "the chief rôle of food is not to be digested and 'burned' in the muscles and organs, as present-day physiology assumes, but to supply electrical 'ions.' The heat developed is a by-product. The chief action is the production of electricity. The body is in some sort a dynamo. Food, then, is of value according to the amount and kind of electricity it affords."

It is claimed we can enjoy this electrical vitality only in uncooked fruits, nuts, and grains, as they come from the hand of nature, prepared by the rays of the heavenly light, filled with life and vigor, unblemished by the hand of man, and that raw food must therefore be declared the ideal diet of man, which the unperverted appetite will always demand.

Here are some raw-food theories:

"All disease is the result of disobedience of Nature's laws. It is a crime against Nature to eat the food she provides in any other condition than that in which she provides it. Nature does not err.

"No one can improve upon Nature, yet that is what man attempts to do when he subjects his food to the heat of the fire, destroying its vitality and changing its chemical constituents. The products of mother earth, given us for sustenance, are uncooked save by the heat of the sun—the source of all energy.

"The sun is productive of life. Fire is destructive of life.

"Cooking destroys the life cells in food—the cells

which make and sustain life in man. Cook a seed thoroughly and see whether it will sprout when planted; or graft a dead cutting to a live limb and see whether it will grow, or whether it will help the growth of the live branch. All live vegetation is capable of either reproducing its own kind, or of furnishing life or vitality to other organized living things; take away its life and it can do neither. Life cannot come from death.

“The man who eats cooked food subsists upon the few cells which escape destruction by fire. He is obliged, therefore, to take large quantities of food to secure the required amount of nourishment. He is surfeited with material which his system cannot appropriate — dead matter which must be gotten rid of. The system cannot expel this waste material fast enough, and much of it ferments or decays in the stomach or intestines, furnishing food for the germs and bacilli which daily enter the system.

“The raw-food diet prolongs life. Uric acid is now recognized as one of the chief causes of old age. This poison is present to a greater or less extent in all persons who eat devitalized food, and the accumulation increases with the age of such persons. Another cause of senility is the presence of an oversupply of earthy salts, or mineral matter, in the blood and bones, this also being produced by the eating of emasculated, or lifeless, food. These foreign substances ossify the bones and obstruct the blood-vessels, interfering with the exercise of vital functions, and diminishing the vitality more and more.

“By natural dieting these calcareous deposits, uric acid and other poisons are absorbed, or dissolved and eliminated, and their further accumulation prevented; thus juvenility is retained and ‘old age’ warded off.”

Some enthusiasts on raw diet seem to think that all

the ills which human flesh is heir to can be cured by a raw or natural diet. Raw food in its place cannot be excelled nor even equalled, yet there are many questions of a dietary character that are not solved either by the use of raw food, vegetarianism, predigested foods, or any other of the so-called health-getting methods.

The more one looks into a raw-food diet, however, the more one is apt to become convinced of its merits.

One cannot well imagine a more beautiful or cleanly diet than nuts, in the shape of blanched almonds, English walnuts, Brazil nuts, or pecans, unbaked or un-fired whole wheat bread, lightly buttered, some of the luscious fruits in their natural state, either the separate fruits or the proper combinations of peaches, pears, figs, sugar-prunes, grapes, bananas, apples, tomatoes, etc. This is a diet fit for the gods — nuts, fruits, and cereals, and all uncooked. But it must be noted that while admitting and fully realizing the importance of the natural foods as articles of diet, yet their use forms but one of the several planks of the dietetic platform. To claim them as the exclusive and only ideal diet would be to incur the risk of being called an extremist or food-faddist, which is only another name for a dietetic bigot.

Unquestionably the present-day method of cooking destroys or changes the character of food, but whether this affects what is termed the germ, vitalizing or life-giving principle, is a debatable question. It is undoubtedly true that in many instances foods such as fruits, nuts, some vegetables, eggs, milk, flesh-meats, etc., are best consumed in their raw or natural condition. This statement applies with particular force to all or nearly all foods containing any considerable quantity of albuminous material, the effect of cooking being to coagulate or harden the albumin and thus render the foods more indigestible. On the other

hand it may be said that the proper cooking of certain other foods has much to recommend it. This has special reference to the foods containing starch, such as wheat, oats, barley, rice, etc.

The usual temperature of 212° F. which is that ordinarily used to cook the cereals, wheat, oatmeal, breakfast foods, etc., is not sufficient to cook starch properly, and it is for this reason dry cooking or baking should be used in which a temperature of 300° F. to 320° F. is employed, a heat sufficient to pre-digest the starch. The degree of heat to be employed in the cooking of foods is something to which the majority of cooks pay no attention, although it is of great importance. It is a question if raw starch is not made much more assimilable within the mouth by thorough mastication and insalivation than is a starch food cooked at a temperature of 212° F. The use of imperfectly cooked cereals is without doubt responsible for a large share of the dyspepsia prevailing amongst civilized people, and it is for this reason that so many individuals have "gone over" to the use of raw foods and have become extremists. In general it may be said that vegetable foods are improved by cooking, while animal foods are rendered less digestible.

An understanding of scientific principles as applied to cooking shows that the baking of starch pre-digests it, that the chief vegetable albumin, gluten, is rendered very much more easily digestible by cooking, whereas animal proteids (albumin) in the form of eggs and meat, are rendered less digestible by cooking. If man would profit by these lessons he should see in using grains that they are thoroughly cooked or perfectly masticated. If flesh foods, he ought to take them raw for digestibility's sake, though raw flesh-foods have their dangers.

Many of the claims made by the raw-food theorists are purely imaginary, and cannot be proved or sub-

stantiated by facts. Uric acid or its compounds, earthy salts, calcareous or other deposits, never occur within the human body as a result of the ingestion of cooked or uncooked food any more in one case than in the other. These compounds are found in the human body always, and only as a result of eating or over-eating those foods which contain them, and this may occur equally as well from the use of the raw food as from the cooked food.

The solution of the question as to whether food is to be cooked or not cooked is largely solved by its proper mastication and insalivation.

Raw starch as it occurs in the cereals, owing to the fibrous envelop or capsule in which the starch grains are held, can only be digested in the mouth, provided one has good teeth and takes the time to masticate the food thoroughly, always a praiseworthy practice.

Devitalized food, if such a thing exists, is undoubtedly revitalized by the air which we breathe, which is food many times concentrated and the most highly vitalized of substances.

There is a phase of the use of natural foods which seems to be ignored or almost entirely overlooked, and that is the economic advantage which the use of such food offers. This phase of the raw food question should be of special interest to hundreds and thousands of the masses who find the cost of the necessities of life reaching a point almost or quite beyond their means. Pound per pound, the cost of meat, which is three-fourths water, would probably be about five times that of peanuts, peas, beans, and lentils, which are in every respect perfect and superior substitutes for meat and eggs. In addition to this there is a saving of fuel, a saving of time, and a saving of health, — all of them factors of great importance.

There is also the social aspect of the raw-food question, which means the emancipation of many

women from much of the kitchen-slavery and drudgery of work now so prominent a factor in women's life. Food-reform principles carried out in a family of five or six persons would amount to a very tidy sum at the end of a year.

When the raw-food theorists or advocates speak of zweiback and other cooked foods as so much sawdust they are wide of the mark and have much to learn of the composition of foods and their dietetics. It might be well to ask the raw-food advocates how they account for the wonderful vitality of the Japanese, whose main diet is *cooked* rice.

I very much doubt if it would be possible to prove by any number of experiments that the uncooked foods possess one particle of merit over or above the cooked foods, or *vice versa*. Thorough mastication and insalivation of both kinds of foods under like conditions of living in all respects would likely show precisely the same results. Without air and plenty of it, food cooked or uncooked would not figure very largely in the making of man.

The natural foods (uncooked) possess many excellent and meritorious features which should recommend them as a suitable dietary for man, without there being any occasion to introduce theories to bolster them up which cannot be scientifically demonstrated, and which in many instances are largely matters of conjecture as well. Such theories are best relegated to oblivion or are best not brought forward at all. The merits and advantages of the uncooked foods are:

1. Their use inculcates the practice of the art of insalivation, which is the secret of good digestion, and good digestion means health, the greatest asset with which a young man or woman can begin life. The mere fact that the use of raw foods teaches man the art of insalivation is of itself sufficient reason why they should form about three-fourths of his diet.

2. The use of natural food makes every family independent of any food monopoly.

3. The use of natural sweet-fruits is the means of dispensing or doing away with fruits preserved with cane sugar, — such preserved fruit, on account of the cane sugar which is used to preserve it, giving rise to intestinal and many other irritations and much sleeplessness, unless the insalivation of the sugar products is very thoroughly performed.

4. The use of natural foods saves doctor's bills, valuable time, money, worry, and health, factors of the greatest importance to every man and woman who values the principles of economics as well as good health.

A warning must be issued to those who use raw foods, more particularly as it relates to green vegetables and small fruits. Owing to the prevalent custom of gardeners who use top dressings for their vegetables, strawberries, etc., there is great danger of the introduction into the human system of parasites, such as tapeworms, etc., unless the garden products are made thoroughly clean. To this end such vegetables as lettuce, celery, spinach, and the like, should be thoroughly disinfected by dipping them in boiling water for three to five seconds, — repeatedly, if necessary. Small fruits such as strawberries, grapes, berries, etc., which are usually exposed for sale in the shops and subject to the dust of the street, should likewise be made clean by washing several times before they are used.

Natural Bread

The most primitive way of making bread was to soak the grain in water, subject it to pressure, and then dry it by natural sun heat, or gentle artificial heat. An improvement upon this was to pound or bray the grain in a mortar, or between two flat stones, before moistening and heating.

A more elaborate bruising or grinding of the grain leads to such simple forms of bread as the *oat-cakes* of Scotland, which are prepared by moistening oat-meal (coarsely bruised oats) with water containing some common salt, kneading with the hands upon a baking-board, rolling the mass into a thin sheet, and ultimately heating before a good fire, or on an iron plate called a griddle, which is suspended above the fire. In a similar manner the barley meal and pease meal *bannocks* of Scotland are prepared; and in the East Indies (especially the Punjaub and Afghanistan), as well as in Scotland, flour is kneaded with water and rolled into thin sheets as *scones*. The *passover cakes* of the Israelites were also prepared in this way. A similar preparation of wheat-flour — but with the sheet dough much thicker — forms the *dampers* of Australia. The Indian corn-meal, kneaded with water and fired, affords the *cornbread* of America. These kinds of bread are called unleavened, as no leaven has been added to the dough to excite fermentation. Even in the time of Moses, however, *leaven* was employed in making bread. It is probable that the Egyptians were the first to use leaven, that the secret afterwards became known to the Greeks, and that the Greeks communicated the process to the Romans, who spread the invention far and wide in the northern countries during their campaigns.

Bread, which has been truly termed the “staff of life,” is made from the flour or meal of the cereals: oats, rye, and barley in the north countries, Indian corn, millet, and rice, more especially in the southern countries, and wheat in the intermediate regions; but other vegetable products, such as beans, peas, lentils, turnips, carrots, potatoes, and even the bark of trees, are also sometimes employed either alone or mixed with the flour of the cereals. The natives of Kamtchatka make bread from the inner bark of the pine-trees mascerated in water and baked without flour.

Wheat alone contains all the elements necessary for the support of man. The "wheat gum" (made by chewing the wheat grains) which most of us were familiar with in early childhood, is a perfect food, and with or without milk or some other form of fat, man could subsist on it for a life-time. Bread and milk have been a diet from time immemorial. The primitive Greeks, as well as others of the primitive races, took a plentiful supply of wheat with them on their war marches, their knapsacks being filled with wheat. From all of which, it will be observed, raw-diet is not such a modern fad as may at first appear. Unquestionably the cooking of food is responsible in part for the lost art of mastication.

The fundamentals of a raw diet, or in fact any other diet which is natural to the human system, are the foods which we like as children, namely :

BREAD (Cereal) and BUTTER (Fat), NUTS (Vegetable Meat) and RAISINS (Fruit), which represent all the different classes of natural food, and hence contain the essential elements for the growth and development of man.

There never was and never will be a more perfect combination of food products, or one more adapted to the wants of the human system than is represented by these four foods. But while this is true it must be remembered that no one perfect diet, or in fact no restricted list of perfect diets, will ever suffice for our wants. The lower animals, seemingly, are able to exist on a monotonous diet, but experience goes to prove that man must have a variety of food, not necessarily all at one time, but judiciously selected and distributed as his natural taste dictates.

This foundation of bread, butter, nuts, and raisins, can be built upon to an unlimited extent and yet remain unchanged in its essentials.

The cereals may be extended to include whole wheat bread, unleavened or unfired bread, white

126 *The Art of Living in Good Health*

bread, brown or graham bread, zweiback, toast, rice; in short, starch in any one of its varied forms. The fats may be animal or vegetable. The nuts may be walnuts, brazils, pecans, hickory nuts, filberts, butternuts, or hazel-nuts, — even sweet acorns are not to be despised. The fruits may be fresh or dried: grapes, raisins, peaches, pears, apples, prunes, figs, cherries, etc. A combination of about equal parts of bread and fruit is best.

As has been previously stated, the occupation has largely to do with the amount of food necessary for each individual. Obviously one who is engaged for long hours at hard manual labor requires more food than an office worker. An average amount of food for each meal for the ordinary adult is: carbohydrates (bread and fruits), eight to ten ounces; butter-fat, one half to one ounce; nuts, one to four ounces. These quantities may be changed to suit the individual requirements.

The number of combinations of natural or uncooked foods which may be made is almost endless, and could not well be given within the covers of a book of this character. The recipes given here are original except where otherwise stated. They are sufficient as a basis for experiment. Any housewife who feels disposed to interest herself in the preparation of raw-food dishes cannot fail to tickle the palate of the most exacting epicure-husband.

No cooking or "frills" can ever improve the natural peach, pear, pineapple or other fruit.

In dismissing the subject of natural foods it is clear that natural food eaten in a natural manner makes natural men; food eaten in an unnatural manner makes unnatural men. This logic is so self-evident that it teaches its own lesson.

Unbaked or Unfired Bread.

Take rolled wheat, rolled oats, or corn meal, separately, or mixed in equal or varying quantities, with

cold water sufficient to make a paste the consistency of thick batter, then spread it in a thin layer upon plates or clean boards to dry before the fire, or in sun-heat if preferred. A pinch of salt may be added to the water, if desired, before making the paste or dough.

Fruit Bread

To an unfired bread made as above formulated, mix into the paste, before drying, seedless raisins, currants, prunes, figs, dates, or any other single fruit, or a mixture of fruits, to suit the individual taste. The bread should then be dried in the usual manner before a fire or by sun heat.

Unleavened Bread

Stir together coarse wheat meal, cracked or rolled wheat and cold water (nothing else, not even salt) to the consistency of a thick batter.

The Bachelors' Breakfast

Whole-wheat Bread, 4 ozs., with butter or nut-butter 1 oz., walnuts (shelled) 2 ozs., 1 sliced tomato peeled, with lemon juice, if desired. Fruit in season, 4 to 8 ozs., which may be peaches, pears, apples, or berries; or the dried fruits—sugar-prunes, raisins, figs, or dates.

Jellied Nuts

Make a jelly of vegetable gelatine or Irish moss, dissolving about one ounce in half a pint of hot water. When the jelly is cooling add half a pint of fruit juice, — either grape, apple, peach, or pear juice, — as well as a sufficient quantity of blanched nuts, which may be almonds, brazils, walnuts, hickory nuts or pecans. A little sugar may be added if necessary. The fruit-juice may be replaced by an equal quantity

of water to which is added sufficient lemon juice to give the desired acid taste; lemon essence or vanilla may be added if desired. In effect this makes a fruit jelly to which blanched nuts are added.

Nut Fruit. Pot Pourri

- Huckleberries 1 part
 - Peaches, peeled and sliced 4 parts
 - Raisins, seedless 2 "
 - Sugar-Prunes 2 "
 - Walnuts and hickory nuts, shelled, . . . 1 part each, or
 - Pecans 2 parts
- All thoroughly mixed.

Hygeia Salad Dressing No. 1

- Nut cream, 1 cup
- Mustard, 1 teaspoonful
- Salt, to taste
- Eggs, 2
- Lemon, 1/2
- Sugar, to taste

The nut-cream is made by mixing together nut-butter and water to the consistency of cream.

To the yolks of the eggs, beaten up thoroughly, add the lemon juice, beating well together; then add the beaten whites of the eggs; salt and sugar to taste; and, lastly, add one or two cups of nut-cream. Whip all together and place on ice until ready to serve.

Hygeia Salad Dressing No. 2

- Eggs, 2
- Lemon, 1/2
- Olive oil, 1 oz.
(2 tablespoonfuls)
- Whipped cream, 1 cup
- Sugar and salt to taste
- French mustard, 1 teaspoonful

Some formulas have butter in lieu of nut-butter or olive oil, also replacing lemon juice with 1 tablespoonful of vinegar, as well as adding a pinch of cayenne as an appetizer.

Apple Snow

- 1 cup of Brazil-nut cream
- 1 lemon
- 4 apples minced
- 5 eggs
- jelly powder

Beat the whites of the eggs very lightly, then add the juice of the lemon, and the nut-cream, with constant whipping. Have three tablespoonfuls of jelly powder prepared, and when the jelly is cooling mix all together with light beating.

Natural, Raw, or Un-cooked Foods

Many of the advertised "raw foods" are exactly like those mentioned in the chapter on primitive bread, the grains usually being coarsely ground or half broken up. Water is poured on the coarsely ground grain and a thick paste made which is spread upon plates and dried by a gentle heat. Typical raw-food combinations may be made from the various nut butters with cereals, such as rolled oats, rolled wheat, or oatmeal.

Cerealo No. 1

Rolled oats, 2 parts
Peanut butter, 1 part **Mix.**
The proportions may be varied to suit.

This may be eaten dry, or may be made into a thick paste with water. Or again with a sufficient quantity of boiling water it makes a splendid soup, which may be salted and flavored with raw or stewed tomatoes, celery, etc.

Cerealo No. 2

Rolled wheat, 4 parts
Peanut butter, 1 part **Mix.**

Serve dry or as a soup.

Cerealo No. 3

Corn meal, 1 part
Peanut butter, 1 part **Mix.**

Serve dry or as a soup, flavored with tomatoes, celery, or condiment.

Nut Preparations

Many un-cooked or raw-food nut preparations will be found in the chapter upon Nut Dietetics.

Fruit Soups

Fruit soups are usually made by prolonged boiling, but in many instances simply by pouring boiling water upon the thoroughly crushed fruit and allowing it to stand for a short time. The mixture should be carefully freed from all debris, bits of rinds, etc., by careful straining.

If desired, whole wheat, sifted rolled oats, ground barley, or corn meal, may be added. For invalids this would require straining again. The fruits which may be used are usually dried prunes, figs, and raisins; although whatever fruit suits the individual taste or fancy may be used.

Fruit Juices

As a beverage for the well or for the sick, nothing can excel the natural fruit juices. Not only are fruit juices a source of nourishment ready for almost immediate absorption by the system, but in addition to this they also possess marked refrigerant, laxative, depurative, and germicidal properties. The juices recommended are those mentioned in the chapter upon "Fruit Dietetics": apple juice, grape juice, and orange juice. By pouring hot water upon any of the dried fruits, or by thoroughly crushing fresh fruits, fruit juices may be made of any of the berries or fruits, such as blueberries, blackberries, cranberries, raspberries, cherries, currants, tamarinds, figs, etc.

Nectar

Peaches
Dates

Grapes
Blueberries

The dates should be stoned and the peaches halved. The fruits should then be arranged in layers.

Blanched Brazil nuts may be cut up in small pieces and distributed through the mixture. Seedless raisins may be added to this mixture if desired.

Nut Hash No. 1

- | | |
|------------------------|----------------------|
| Peanut butter, 2 parts | Rolled oats, 1 part |
| Corn meal, 1 part | Rolled wheat, 1 part |
| Puffed rice, 1 part | |

Mix all together. May be served plain or with tomato catsup or salad dressing.

Nut Hash No. 2

Malted flour, 1 part; peanut, almond, walnut, or Brazil-nut butter, 1 part. Mix.

Nut Hash No. 3

- | | |
|-------------------------------------|--------|
| Roasted almond nut butter | 1 part |
| Rolled oats | 1 part |
| Malted flour | 1 part |

Mix. Serve dry or with salad dressing.

Nut-Fruit Soup

Take say one or two tablespoonfuls of peanut butter (or any other nut-butter will answer), to make, with half-pint of boiling water, a tasty soup. To this add one ripe raw tomato, sliced and peeled. The soup may be salted and otherwise flavored to suit. If preferred, the tomato may be mashed, or tomato catsup may replace the tomato sliced. Celery salt may be added.

Nut-Fruit-Cereal Soup

The above nut-fruit soup may be used as a basis, to which rolled oats, whole wheat, corn meal, puffed rice, or any of the other cereal preparations may be added as desired.

The fruits to be used may be those which suggest themselves as the most agreeable; they may be

prunes, figs, raisins, cherries, blueberries, etc. Most individuals would regard this in the nature of an Irish-stew, without meat.

Nuts with Tomato

Hickory nuts, English walnuts, Brazils, filberts, or whatever nuts the individual taste dictates, should be blanched, preferably. When any of these are used with the ordinary tomato catsup as a dressing, a most delicious dish is made.

By taking any of the nut-butters (peanut or other), dissolving the requisite quantity in hot water, then adding tomato catsup to it, and finally sufficient hot water to make a nut-vegetable (nut-fruit) soup, a most acceptable and appetizing dish is prepared.

Vegetables (Natural, Raw, or Uncooked)

Green vegetables, though raw-food products in every sense of the term, have not been included in any of the foregoing formulas, because, as has been intimated in the chapters upon vegetables and fruits, these two classes of food do not harmonize well together in individuals of weak or slow digestive powers; hence most vegetables must be looked upon with suspicion by such persons.

In many instances vegetables are alone responsible for digestive disturbances occurring in certain persons, whether confirmed dyspeptics or otherwise.

Some individuals, with strong digestive powers, seem to find that most vegetables agree with them even when mixed with fruits, nuts, and other food-stuffs; but in the majority of instances the list of suitable vegetables is confined to tender celery, beets, carrots, asparagus, squash, and pumpkins. Tomatoes come under the heading of fruits. They will always be found a desirable food.

The potato, when properly boiled with the skin upon it, or well baked, is perfectly digestible if well masticated. Salads made wholly from vegetables or even from a combination of fruits, vegetables, and nuts, are exceedingly wholesome and appetizing.

XV

PROPORTIONED BILLS OF FARE

THE following schematic or proportioned bills of fare include raw diet in its purity, and raw diet modified, both with and without animal foods. Some individuals take an extreme attitude, refusing milk, butter, cheese, or eggs, — that is, any product of animal life. Others have a more diversified diet. There are endless combinations. Those given here are exceedingly plain, and can readily be extended to suit the individual taste. Each of the appended bills of fare is sufficient for one meal; two of such meals are sufficient for one day.

The proportion of flesh-meats, nuts, or other proteids to the whole meal should be about one-fifth, cereals and fruits constituting the remaining four-fifths.

The quantity of dry food ordinarily required for an individual at each meal is about one-half to three-quarters of a pound, proportioned as follows:

Carbohydrates, 10 ozs.; Fats, $\frac{3}{4}$ oz.; Proteids, $1\frac{1}{2}$ ozs.

1.	ozs.	3.	ozs.
Brazil Nuts, shelled	1	Peanuts, cooked	2
Raisins	4	Apples	8
Cracked Wheat	2	Unleavened Bread (with Butter)	4
Pears (in season)	4		
2.			
Shelled Almonds	1	4.	
Dates	4	Shelled Walnuts	2
Cracked Wheat	2	Raisins	4
Peaches (in season)	8	Unfermented Whole Wheat Bread (with Butter)	6
		Peaches (in season)	4

Proportioned Bills of Fare

135

	5.	ozs.		6.	ozs.
Shelled Pecans	2		Shelled Hickory Nuts	2	
Unfermented Whole Wheat Bread (with Butter)	4		Cracked Wheat	2	
Grapes (in season)	8		Dried Figs	3	
			Strawberries (in season)	½	lb

Raw Diet Modified

	7.			11.	
Apples	1		Spinach or Asparagus Salad		
Peaches	2		Potatoes (boiled)	1 or 2	
Green Peas (stewed)	2		Nuts or Eggs	2	
Bread and Butter	4		Bread (with Butter)	4	
			Cheese (a bit)		
			Fruit in season		
	8.			12.	
Potatoes (baked)	3		Brazils or Walnuts	1 or 2	
Peas	3		Wheat Bread (with Butter)	6	
Bread (with Butter)	5		Tomato (1 peeled)		
Cottage Cheese	2		Honey	½-1	
Fruit (if desired)					
	9.			13.	
Baked Beans	2		Fruit Juice		
Tomatoes (raw)	2		Fruit Salad		
Baked Potatoes	4		Hoe Cakes or Zweiback, buttered		
Wheat Bread and Butter	2		Eggs (natural or poached)		
Fruit (in season)	4		Rice, Tapioca, or Sago Pudding		
	10.			14.	
Raw Egg (1)			Soup — Vegetable or Nut		
Brazil Nuts	1-2		Fruits (in season)		
Tomatoes (1 or 2)			Nuts or Eggs		
Wheat Bread (with Butter)	4		Whole Wheat Bread, Butter		
Fruit in season	4		Rice Pudding with Fruit Jelly		

Nos. 13 and 14 are unproportioned; they contain fairly good food combinations, and the appropriate quantity may be filled in according to individual liking.

The quantity of food for each individual must always be relative — never in excess. If two meals are taken the preferable hours are 8 A. M. and 4 P. M., unless the no-breakfast plan is followed, in which case the principal meal of the day is at midday.

136 *The Art of Living in Good Health*

If three meals is the usual order the hours may be, 7 A. M. to 8 A. M.; 12 to 1 noon; 6 P. M. to 7 P. M.; the principal meal of the day being arranged to suit the individual's occupation or convenience.

Simplicity should be the underlying principle of a dietary. *Variety is absolutely essential* in order that the food may be appetizing; without this even a perfect combination of food soon becomes distasteful by its monotony. *Variety is the spice of appetite*, and is obtained by a varied distribution through the daily meals rather than by a great variety at any one meal.

XVI

SUGAR DIETETICS

*"A surfeit of the sweeter things
The deepest loathing to the stomach brings."*

IF there is one vice which stands out more prominently than another in the people of the United States and Canada it is the *sugar-vice*; and it is a question if the excessive use, or abuse, of sugar is not almost as harmful to the human individual as is the excessive use of flesh-meat. This statement regarding sugar applies whether considered in reference to its use for domestic purposes or to its use as a luxury.

Certainly the excessive use of sugar is unquestionably responsible, in a very large measure, for the universal dyspepsia and indigestion which exists upon this continent.

Starch, or some modification of it, which includes sugar, forms possibly four-fifths of all the food consumed by the human race; hence the mal-digestion of starch and its derivatives is a factor of immense importance, in whatever way it relates to the dietetics of starch or to the dietetics of sugar. Starch is universally taken in the form of bread, potatoes, sago, tapioca, rice, macaroni, porridge, biscuits, and in all the cereal foods; while cane-sugar occurs most commonly in the cakes, sweet pastries, and in the preserved and canned fruits which form so large a part of the usual food-supply.

The most common form of indigestion, in this country at least, is that known as farinaceous indigestion, or the indigestion of starch, in which the

stomach and intestines fail to convert quickly the starch — which is so universally contained in the cereals — into dextrose, practically the final product of starch digestion. ✓

For the purposes of this article starch indigestion and sugar indigestion may be considered as one and the same thing, and in each instance they result in fermentation, with the consequent formation of acetic acid, lactic acid, and various other compounds which irritate the mucous membrane of the stomach and intestines, producing gastric catarrh, intestinal catarrh, catarrh of the liver: in short, catarrh of all the mucous membranes of the body, constituting what is termed universal or general catarrh.

Catarrh covers probably one half the category of diseases, or disease conditions. Its effects are far-reaching and do not stop upon the surface, as it would seem. The excessive use of sugar produces disease conditions, among which are obesity, gall-stones, jaundice, and general disease of the liver; and last, but not least, diabetes, an almost fatal disease, which usually terminates in early death from tuberculosis, Bright's disease, or inanition.

The love of sweets — the sweet tooth — seems to be universal among civilized people, but in no country in the world is sugar eaten in such prodigious quantities as in America, where bon-bons, taffy, sweet desserts, corn-syrup, preserves, sweet pickles, sweet cakes, and sweets of a dozen other descriptions now figure very largely in the daily bill of fare. In fact with some individuals, especially with children, it is nothing but sweets, sweets, all the time — both at and between meals. The usual accompaniments of porridge, oatmeal, cracked wheat, or any other of the breakfast foods, are milk, cream, or butter, and nearly always with a liberal allowance of sugar. Altogether this makes a difficult mess for the stomach to dispose of, and the condition of the food in the stomach is an

ideal one for producing flatulence and heart-burn, — a genuine old-fashioned sour stomach. A little bit of chemistry may be interesting in this connection. The ideal conditions for producing vinegar or acetic acid are starch or cane sugar, a proper quantity of fluid, a ferment, and the right temperature. These are precisely the conditions under which sugar or starch is ordinarily taken into the human stomach, with the result of fermentations and eructations of gas, distension of the stomach, bilious attacks of vomiting and regurgitations of sour liquids. Many individuals, as a result of their failure to thoroughly insalivate and masticate the starch and sugar foods, as well as from the partaking of these foods in excess, start out after breakfast every morning with a stomach containing a miniature vinegar-making equipment. There is just one thing for the stomach to do — make vinegar — and it does it; for if starch and sugar are not thoroughly insalivated within the mouth and thus made digestible, they must ferment or “sour” in the stomach.

Under these conditions physicians everywhere are recognizing the pernicious effect of this great consumption of sweets, and the evils arising from it; but all the efforts of doctors and diet reformers have thus far been unable to stem the tide or lessen the evil.

The increased consumption of sugar is probably a result of the development of the sugar appetite, which, like any other appetite — for instance, the liquor appetite — grows by gratification. Candies are now put up in so many appetizing ways that they are almost irresistible. Once the sugar appetite gets control of the individual, it is a difficult matter to break up the habit.

Some authorities state that the appetite for sugar is a natural one, but this statement must be taken relatively. While the requirements of the human system demand starch or some modification of it, as the

“sugars,” yet, to my mind, the craving or appetite for sugar is largely an acquired taste and is the result of the habits of childhood. And it is interesting to notice just at this point that it was once the custom for mothers to give their infant children what was called the “sugar-plum”—a bit of sugar wrapped up in a clean cloth or rag—which was given the little child to suck, hoping to keep it quiet. Such a procedure would defeat its own end, producing wind colic and other disturbances, and would materially affect the health of the child as well as try the temper of the parents. Practically the same thing—the feeding of sugar to the child—is continued by the indulgent mother, who gives her child bread and butter spread with sugar. Such methods of feeding children must certainly lead to the formation of an appetite for sugar in after life.

Many individuals who have not lived the sensuous life, on account of poverty or other causes, have not developed such a sugar-craving. It is a noticeable fact that there are many individuals, notably the Highlanders of Scotland, who rarely use sugar, and who will tell you they have no desire for it. From this and other proofs we may fairly infer that the appetite for sugar is not a natural, but an acquired condition.

The insufficient mastication of the starchy foods and the insufficient insalivation of the sugars, is largely responsible for the evil effects arising from their use; and this applies with particular force when they are used to excess. This may well be expected in the case of cane-sugar, on account of its exceeding solubility within the mouth; and to such an extent is this true that it is only by an effort of thought—by will-power, or by training, all a matter of self-control—that one is enabled to refrain from almost instantly swallowing the sugar foods. And it may be accepted as a general statement that the individual who takes

these precautions to heart — who practises the principles of insalivation and mastication of food, and follows them out in a rational manner — will escape disease. For there is really but one disease, and that is indigestion, which is a legitimate outcome of the neglect of taking the precaution to practise the principles of insalivation and mastication. Cane-sugar possesses the peculiar property of readily undergoing fermentation under favorable circumstances, and if it is not thoroughly subjected to the influence of the saliva within the mouth (insalivation), it ferments in the stomach. Many of the evils of sugar arise from its excessive use, and in the concentrated form in which it is usually consumed it interferes with the physiological processes. Sugar properly insalivated in the mouth and used in moderation is harmless; improperly insalivated, whether used in moderation or immoderation, it becomes harmful. But it is to be borne in mind that sugar as a food must always be treated with great circumspection, and in many instances tabooed entirely by persons of lowered vitality, invalids, etc.

An absorbing problem in chemistry is the conversion of starch into sugar and acids. As a laboratory experiment we can take ordinary starch, and by means of heat, chemicals, and other agencies, we can convert it into dextrin and dextrin-compounds, then into malt-sugar, then into grape-sugar (glucose) and finally into alcohol, lactic acid, and acetic acid, respectively. Cane-sugar has not been made artificially as yet.

Cane-sugar, in plants containing sugar, seems to be a transition product between starch and dextrose, the latter being practically the final form of starch or sugar as absorbed into the blood.

Occasionally one may appreciate in preserved fruits or confections which are just "turning" three features at one and the same time: the sweet of the cane

sugar, the vinous, wine or alcoholic fermentation, and lastly the acetous or vinegar fermentation. Vinegar is the final outcome of the "turning" process. It is interesting to notice that the counterpart of this laboratory experiment (the hydration of starch) is duplicated by the saliva and the intestinal secretions, aided by the epithelial cells. Though the sugar formed from starch by the action of the saliva is maltose (malt sugar), that found in the blood is dextrose, which is formed from the maltose by the intestinal juice or secretions, aided by the action of the epithelial cells through which it passes. Cane sugar, maltose, and milk sugar are all converted into dextrose before absorption into the human system. Under normal conditions the conversion of starch in the body stops at dextrose, any processes beyond this

**Cane Sugar
Ferments**

(that is, the further conversion of the dextrose or fruit-sugar into lactic acid or acetic acid) being abnormal products, and productive of mischief. It is this acid development which accounts for the sour stomach occurring in many individuals. When no starchy food or sugar is taken into the system there can be no sour stomach, but when it is remembered that starch or sugar in some form or another enters into nearly every food product which is consumed by the human being, it will readily be understood that the doing away of starch as an article of food, or of its derivatives, is almost out of the question. Obviously, then, the avoidance of an acid stomach is to be accomplished by the thorough insalivation and mastication of all foods containing starch or sugar or their compounds, and that these foods should always be taken in moderation, preferably without fluids, the presence of which is one of the four factors upon which fermentation depends.

The fact that the starch of cereals is, in the process of digestion, converted into sugar, has led many per-

sons to suppose that by the eating of cane-sugar, the task of the digestive organs is lightened; in other words, they assume that cane-sugar, being a pre-digested form of starch, will be more easily assimilated and is better adapted to the system than starch itself. This is an error, since cane-sugar does not replace, though it may supplement, the cereals.

Hurried eating forces cane-sugar into the stomach, undigested, there to prove a source of ferment. The question may be asked if this applies to cane-sugar, why it does not apply equally well to fruit-sugar as it occurs in fruit? Various answers may be given. Observation and experience teach us that cane-sugar ferments more rapidly within the stomach than fruit-sugar. This of itself would be a sufficient answer. Physiology also teaches us, as will be noticed in a subsequent paragraph, that starch is converted by the action of the saliva, within the mouth, into dextrin or the dextrin compounds, maltose or malt-sugar, and a small amount of dextrose, glucose, or grape-sugar, and it would seem that the further conversion of malt-sugar into glucose or grape-sugar is held in abeyance in the stomach, only to be completed when the various sugars reach the intestines. Cane-sugar in any form, as in maple syrup, candies, bon-bons, preserves, etc., is specially prone to ferment within the stomach, as has been pointed out, and it is for this reason that cane-sugar and its compounds are neither tolerated by nor are they natural to the human stomach. And cane-sugar would never be found, as such, in the stomach provided it were thoroughly insalivated in the mouth, for the specific action of the saliva upon it is to convert it into another form of sugar which does not readily ferment in the stomach; all of which is intended to teach us of the wonderful digestive powers of the saliva, as well as that we cannot pay too much attention to the thorough insalivation and mastication of food of every description.

Pre-digested starch usually means malt-sugar. Malt-sugar differs entirely from cane-sugar, and particularly is this distinction noticeable in the manner in which the stomach treats the two sugars, especially as it relates to their fermentation. The idea in cooking or baking starch is to make it more soluble or digestible, so that it may be more easily absorbed by the system. This is exactly the reason for toasting bread or for making zweiback. This is also the idea involved and put into practice in the highly advertised cereal-foods, — the baking process, whereby the starch is converted in part, if not almost wholly, into malt-sugar.

The slightly sweet taste of carefully prepared zweiback is frequently to be observed, and is a result of the conversion of the starch into malt-sugar by baking.

It is interesting to notice how and why this occurs.

The stomach is shaped like a bagpipe; or it may be described as a sack-like structure practically the shape of a Brazil-nut many times enlarged, with the larger end at the left side of the body and the smaller end pointing towards the right side, the whole organ lying cross-wise of the body. The larger end on its lower surface forms a diverticulum or pouch (Pavlov's pouch) whose shape is more or less like that of the ordinary potato, so that the stomach is divided into two parts, at least for digestive purposes. The left end may be said to be the receptacle for food which reaches it at meal times, the food remaining practically undisturbed there, and subjected solely to the influences of the saliva, as previously mixed with the food when in the mouth, for a period of thirty minutes, more or less. Recent experiments by Cannon would seem to prove that foods containing starch are subjected to the influences of the saliva in the stomach (salivary digestion) for a period of two hours, and that this digestion of starchy foods only ceases when they reach the fundus or the body of the stomach. Here-

tofore it has been supposed that the time occupied in the stomach for the digestion of starchy foods extended over a period of one-half hour or thereabouts. Shortly after this the food is propelled or forced into the more central part of the stomach, there to meet with the acid gastric juice which completely neutralises the ptyalin of the saliva, which is only active in an alkaline or neutral solution.

The digestion of starch having temporarily ceased, the stomach takes up the digestion of the proteid foods, such as flesh meats, nuts, peas, beans, cheese, etc. After a time the food is forced along by the contractions of the stomach being constantly churned up, and finally forced out of the stomach into the intestines to be subjected to their digestive fluids as well as those of the pancreas (sweet bread).

The pancreatic juice digests sugar, fat, and meats; hence whatever undigested food reaches the intestines is finally digested by these powerful digestive fluids. So that starch digestion is a series of what are termed hydrations and dehydrations before combustion finally occurs; begun within the mouth, temporarily inhibited or stopped in the stomach, taken up again and completed in the intestines. From the intestines the digested starch in the form of sugar passes to the liver, where it is dehydrated to form glycogen or animal starch; and finally hydrated once more to pass to the tissues as sugar, where it undergoes combustion, or in plain language, is burned up.

There are at least a dozen or more sugars, the most interesting of which is levulose, a fruit-sugar, the sweetest of all sugars. Fruit-sugar (invert sugar, chemically considered) is a mixture of levulose and dextrose in equivalent quantities. The fruit-sugar of fruits, in the main, consists of levulose and dextrose, though most sweet fruits contain cane-sugar as well, to a small though appreciable extent. Levulose is found in all sweet fruits; in some, especially

grapes, it is associated with a certain proportion of dextrose, also called grape-sugar or natural glucose.

Dextrose is of special interest because, as previously stated (v. page 141), it is practically the form in which sugar appears in the blood.

Honey, a natural sweet, contains large quantities of levulose, with some dextrose or grape-sugar. Honey was the form in which sugar was used in olden times, and it is only within the last half-century that it has become displaced by granulated or cane-sugar.

Cane-sugar is very generally distributed in the vegetable kingdom, more especially in the juice of the sugar-cane, beetroot, mallow, and sugar maple, in amount varying from three to fifteen per cent.

This juice, when concentrated by artificial methods, forms the granulated sugar or cane-sugar of commerce, containing from ninety-seven to ninety-nine per cent pure sugar, the other two per cent being moisture.

**Cane-Sugar
not a Natural
Food**

Cane-sugar, then, is not a food, but a food element, a fact which should always be remembered. In its natural state the sugar is well diluted, and is never found in the concentrated form in which we are accustomed to use it. This is a matter of great importance, for physiologists have demonstrated the interesting fact that ptyalin, the active principle of the saliva, acting as a starch ferment, in order to continue its work of converting the starch into sugar, is effective only when the sugar resulting from the action of the ptyalin is absorbed as rapidly as formed, otherwise the action of the ptyalin ceases. It thus appears that when sugar is taken with starchy foods, its effect is to interfere with their digestion, as it will at once render the mixture so highly saccharine that the ptyalin cannot act upon the sugar as efficiently as it would otherwise do. Cane-sugar cannot be absorbed as such, but must be digested. It is converted by the action of the saliva and the intestinal juice into

malt sugar, which prepare it for absorption; but this absorption does not take place until after it enters the intestines, consequently cane-sugar is neither absorbed nor digested in the stomach: and so long as the food substances remain in the stomach, it is also present, interfering with starch digestion. Further interference with digestion is occasioned by the fermentation of the sugar, which, under the influence of the germs which are always present in the stomach, may ferment, although it does not digest, and the fermentation thus started may extend to other of the food substances, vitiating the products of digestion, and interfering with the whole digestive process.

**Starch
Indigestion**

Sugar, like fats, when separated from its natural association with other food elements and used in a concentrated form, is capable of producing highly injurious effects. These effects are much more far-reaching than is commonly supposed, and they are extremely likely to follow from the fermentation of the sugar, which usually takes place within the stomach. These effects include not only irritation of the stomach, but disturbances of the liver or kidneys, and various nutritive disorders, the effects of which are in the highest degree far-reaching and damaging.

The dangers of sugar as an article of food would be minimized provided its insalivation were always complete, but we are now speaking of conditions as we find them in this hurrying and fast age, when men and women, because of this great hurry and worry, do not take time to obey Nature's laws.

Many diseases of mal-assimilation, as outlined elsewhere, are directly traceable to the use of sugar alone.

In its concentrated form, cane-sugar gives rise to an excessive formation of mucus in the stomach, and the products resulting from the fermentation of sugar

are provocative of, or give rise to catarrh; so that, briefly told, the main disturbances, evil effects, and diseases connected with the use of cane-sugar are catarrh of the stomach. This, in substance, means the inflammation of every mucous membrane of the entire body, the catarrh extending from the stomach to the various other organs through the blood current. Whether it be of nose and throat, eyes, bronchial tubes, stomach, liver, or other structures, it is none the less catarrh,—what may be termed a general catarrh of the body.

Cane-Sugar Produces Disease.

It is interesting to follow this up to its conclusion. Stomach gas is a result of fermentation, resulting from the mal-assimilation or indigestion of starch or sugar. The two principal causes for this are, first, the failure properly to masticate and insalivate the food; raw starch, let it be understood, can be sufficiently digested within the mouth and stomach, and will not become perverted in the stomach, provided the mastication of the food is thorough. Secondly, if there is no fluid taken at meal-times the starch cannot ferment. The requisites for fermentation or souring are starch or some modification of it (sugar), the proper degree of temperature, fluid, and a ferment, conditions which are usually to be found in persons who are troubled with acidity of the stomach. Without starch or sugar, or some of their compounds, and without fluid, fermentation cannot readily take place in the stomach. The yeast "ferment" is usually present in the stomach to help start the fermentation process, and when fermentation takes place it is always accompanied by the formation of gas (carbonic acid). The effects of the presence of gas in the stomach are not only those of pressure and distention upon the surrounding organs—the heart, the lungs, the liver, pancreas, kidneys—but also those experienced in organs remote from the stomach. This will

be the more readily understood when it is remembered that the pressure effects of the constantly expanding gas exercise a more or less paralyzing influence upon the nerves of the stomach, as well as upon the other organs in question. This accounts in many instances for the cold hands and feet (obstructed circulation), palpitation of the heart, rheumatic, neuralgic, sciatic, and ovarian pains, headaches, hemorrhoids or piles, congestion of the liver, and in fact for many other obscure ailments. The free use of cane-sugar is unquestionably responsible for much of the *sleeplessness* so common to many individuals, some of the worst cases of which arise from the indigestion of cane-sugar and the insufficient mastication of starchy foods, producing gaseous distention and irritation of the nerves. A trifling amount of gas imprisoned within a knuckle or loop of the intestine will create an amount of irritation to the sleeping "centres" of the brain that seems almost incredible,—in fact, such an amount that sleep is impossible under the circumstances. Although irritation effects of this character affect the brain indirectly, yet direct irritation of the brain itself would not produce greater disturbances than result from the fermentation of food. Obviously the cure for sleeplessness due to indigestion lies in removing the cause, and this cannot be accomplished by dosing one's self with drugs, but simply by paying strict attention to dietary regulations, which means that each individual should subject all starch and sugar and their compounds to thorough insalivation in every instance. It will be noticed that cane-sugar is not digested to advantage in the stomach but only in the mouth, and in the intestines; in the stomach it sours or ferments, hence the importance of its thorough insalivation. Starch and its compounds likewise require thorough mastication and insalivation; otherwise they are likely to ferment in the stomach.

It is interesting to notice that while cane-sugar so readily ferments, yet on the other hand in solutions of from fifteen to twenty per cent and higher it prevents this very same process of fermentation or souring from occurring in other substances. Hence the use of cane-sugar in preserving fruits; while with salt it is used in the preservation of flesh-meats, giving rise to the term "sugar-cured hams." In strong solutions of syrup, sugar does not ferment, but is observed to candy, or crystallize out as "rock-candy."

Experimentation has proven that cane-sugar has a decided inhibitory or retarding effect upon digestion, the addition of one fourth of an ounce of sugar to three ounces of meat interfering decidedly with digestion to the extent that the quantity of digestion in a given time is only three fourths that of normal digestion. Glucose, which is only cane sugar or candy oxidized one degree higher, is a chemically prepared sugar, made from corn. It occurs largely in candies and syrups, particularly in the kind known as golden yellow; and it is also used largely as an adulterant of honey. The sugars which the stomach naturally accepts are, first and foremost, fruit-sugar, or levulose, the sweet elements of fruit (also found in honey), milk sugar, and malt sugar, which is produced by the action of saliva upon starchy foods. Fruit-sugar in the form of sweet fruits, raisins, currants, dates, figs, prunes, malt-sugar, and honey, should be used as a substitute for cane-sugar, as far as possible.

A condition commonly known as torpid liver, or in other words, the bilious temperament, is very generally present in persons who consume sugar in large quantities. The condition is characterized by general disturbance of all the functions of the liver; this means interference with the bile-making process; with the sugar-making and regulating function of the liver; with the poison-destroying function of the

Cane-Sugar
Retards
Digestion

naturally accepts are, first and foremost, fruit-sugar, or levulose, the sweet elements of fruit (also found in honey), milk sugar, and malt sugar, which is

liver, — that is, the protection of the body against poisoning or auto-intoxication.

Summarized, the effects of an excess of, and the indigestion of cane-sugar and starch upon the human system are as follows:

(1) *Interference with the Bile-making Process.* In many instances the bile, instead of being excreted in the natural way, is retained in part in the system, as a result of obstruction of the bile ducts, thus producing bile absorption and poisoning. A very small amount of obstruction — for instance, a plug of mucus — will often be sufficient to produce this peculiar condition, as the bile is secreted at such low pressure. This condition is not indicated by jaundice, but by a muddy complexion, dulness of the white portion of the eyes, bad taste in the mouth, heavily coated tongue, and when extreme, by light or clay-colored stools, or fæcal discharges, and a very dark color of the urine. Sometimes, however, infective jaundice results from catarrh of the biliary passages, and when the catarrh or inflammation is severe enough to cause closure of a biliary passage of considerable size, a sufficient amount of bile will be absorbed into the system to make the skin and white of the eye saffron or yellow colored, and the patient is said to have the jaundice. Then there is the jaundice produced by gall-stones. In this form of disease the occurrence of jaundice is sudden, and is accompanied by severe pain, or colic, due to the passage of a gall-stone. When the stone has passed from the gall duct, the bile flows again, and the jaundice disappears. It is also characterized by chills occurring daily or regularly, accompanied by fever. These chills often continue for a long period, and are usually attributed to malaria. The excessive use of sugar is a very common cause of this disease, and always aggravates it.

**Bile
Poisoning**

Jaundice

**Gall-
Stones**

(2) *Sugar-Making and Regulating Function.* One of the most curious functions of the liver is its sugar-making and regulating function. All the sugar and starch taken as food after digestion and absorption, are carried to the liver by the portal vein, the greater part being stored up in the liver cells by conversion into a form of starch known as glycogen, or animal starch. In the intervals between meals the glycogen is slowly digested, by means of a ferment derived from the blood corpuscles, and thus converted into sugar again. By this arrangement the sugar is supplied to the blood regularly, and in small amounts. This regulation of the supply of sugar is of great importance, for the reason that sugar is chiefly used in the body for the production of force and heat, the demand for which is more or less regular, as in the case of the engine or locomotive.

When the blood becomes surcharged with sugar on account of its too free use, the liver is unable to retain all of it, and more than the usual amount escapes into the blood. The normal amount of sugar contained in the blood is two to three parts per one thousand parts of blood.

When the amount of sugar is more than three parts in one thousand, the kidneys — whose function it is to regulate the condition of the blood — separate the excess of sugar and throw it out of the body in the urine, and thus protect the blood corpuscles and other delicate tissues of the body from the injurious effects certain to follow an excess of sugar in the blood. To put this plainly, it means that when the liver is continuously overloaded with starch, or a modification of it, a diseased condition is eventually and permanently produced. When sugar is thus habitually present in the urine, the patient is said to be suffering from *diabetes*. It is a well-recognized fact that although diabetes may be a disease of the pancreas,

or even have disordered nerve-centres as a cause, yet it is more frequently produced by an excessive use of sugar, or saccharine substances, than by any other cause. The liver apparently becomes exhausted in its effort to retain the excessive amount of sugar taken in, and lets a portion pass through into the blood.

For years it has been a moot question whether starch (and sugar foods) should be administered to a diabetic patient, or whether, if so, it should be in a minimum quantity; but the real issue at stake, the propriety or impropriety of giving starch or sugar foods to a diabetic patient is really one which is solved by the manner in which the patient insalivates foods of this particular class. Thorough insalivation and mastication means the complete digestion and assimilation of starch or sugar foods when taken in moderation; while, on the other hand, the insufficient insalivation of these foods always means mal-digestion and mal-assimilation, in which case the undigested food creates stomach and intestinal disturbances, and it can only act detrimentally to the diabetic patient or to any other patient suffering from impaired or lowered vitality.

Food is really digestible or indigestible, or health or disease producing, according to the degree of its insalivation and mastication, — a fact usually lost sight of. In other words, in certain diseased conditions it is not so much the kind of food as it is the quantity of food and the manner in which the food is consumed that should determine what is necessary for the particular case, and it is the ignoring of this fact which probably accounts for the disagreement among physicians as to the advisability of giving potatoes, bread, and other starchy foods to persons suffering with diabetes.

(3) *The destruction of ptomaines and poisons of animal or vegetable origin, and the prevention of auto-intoxication or self-poisoning*, is the specific province

of the liver; in other words, the function of the liver is life-saving in character. When a man takes alcohol, nicotine, strychnine, or in fact any other poison, a part is taken into the liver, which destroys what it can of the poisonous substance, allowing only a portion to escape into the body. Poisons are constantly

Sugar

Biliousness

produced in the alimentary canal which the healthy liver is able to destroy, wholly or in part, thus protecting the body against their injurious effects. When the liver becomes disabled as the result of excessive consumption of sugar, so that it is no

Liver Destroys

Poisons

longer able to perform these delicate functions efficiently, systemic poisoning appears as the result of the accumulations of the tissue poisons and the absorption of those formed in the alimentary canal by decomposition of the food under the action of germs. This poison is increased when the liver is in a state of disease. When the bile becomes vitiated or diminished in quantity, its antiseptic power is lacking, and the intestinal contents, especially those of the colon, undergo decomposition to an unusual extent by throwing into the blood great quantities of intensely poisonous substances. Biliousness is a true auto-intoxication or self-poisoning process, which accounts for the disgust for food, nausea, vomiting, constipation, depression of spirits, high-colored scanty urine, with weight and soreness in the region of the liver, and jaundice, or muddy skin.

Persons with disabled livers are much more subject to injury from alcohol, tobacco, and other poisons which may be taken into the body, than are those who are in a normal state. For this reason, meat, cheese, oysters, and other foods especially likely to contain poisonous substances, or to encourage their development within the body may be injurious in those who have weakened or partially disabled livers.

(4) *Excessive Fat Production.*—Starch, or its modification, sugar, produces within the body heat, force, or fat. When a larger amount of sugar is taken than can be utilized in connection with the other elements of food in heat or force production, if not eliminated by the kidneys as sugar, it may be deposited as fat; thus the use of sugar tends to obesity. Fat accumulates about the heart, overburdening this organ so that it cannot perform its functions properly. The general accumulation of fat throughout the body weakens the muscles, and this effect may be so pronounced as to seriously interfere with a person's usefulness. It is not an uncommon thing to find very fleshy persons weighing even twice their natural weight. There is no substance more capable of producing a rapid accumulation of fat than undigested sugar.

**Undigested
Sugar Makes
Fat**

The sugar of commerce is physiologically different from the sugar element as it naturally exists in sweet fruits. Sugar is the concentrated juice of the sugar-cane; hence many times stronger than when in its natural condition. The addition of sugar to starchy foods, cakes, and other sweet pastries, and to grains is not only unnecessary, but physiologically inexcusable; in doing this, we are practically adding sugar to sugar, the sugar not only making a double dose, but at the same time interfering with the digestion of the starchy foods, the saliva being overwhelmed for the time with the excessive quantity of sugar and starch.

**Eat Sweet
Fruits**

It must be remembered that sweet fruits are always preferable to fruits which are made sweet by the addition of cane-sugar,—a pernicious habit, to say the least. Unquestionably the time is coming when many of the fruits will be made sweeter,—naturally sweeter. In fact this has already been accomplished by the botanical wizard, Luther Burbank, of California.

Fruit-sugar is a most wholesome and digestible article of food, but ordinary cane or granulated sugar is much less digestible. Sugar,—that is, fruit-sugar—in the form of sweet fruits—is harmless. Diabetics can use apples and most other fruits freely without injury, as they are able to appropriate natural sugars found in these substances. The precise influence of the starch and sugar foods upon diabetic patients is now a matter of interesting experiment, under the favorable conditions of perfect mastication and insalivation. Physiologists have yet much to learn of the effects of foods of all kinds when taken into the human economy, and in no case is this uncertainty more marked than as it relates to the ingestion of the starches and sugars.

Honey (in the comb) is one of the best possible forms in which a natural sweet can be used. Strained honey is without objection provided it is pure.

One who has formed an appetite for cane-sugar might think considerable self-denial would be involved in giving up the use of sugar: but the gratification of the sweet-tooth without the attendant miseries which are almost sure to follow this sugar indulgence may be splendidly attained by eating raisins, currants, figs, prunes, and dates.

If one would use cane-sugar, as it occurs in the innumerable forms of syrups, preserves, candies, etc., without harm to the system, the following points must be religiously observed: first, the thorough insalivation of the sugar-foods; second, their use in moderation and with but a minimum quantity of fluid. If these points are not very carefully observed it will be best to taboo cane-sugar in every form, as a questionable food, and certainly one always to be eaten with great circumspection.

It is possible for some persons with strong and vigorous digestive powers to digest cane-sugar and

its compounds, where the individual thoroughly insalivates such food; but the great majority of persons, especially those who eat rapidly as well as those whose digestive powers are weak, are safer in adopting some other form of sweet, thereby saving themselves much discomfort and misery.

It may seem rather humiliating to one who has always used sugar to be compelled to forgo its use, but better do this than to suffer its evil effects.

As a substitute for sugar, pure honey or some of the sweet fruits may be used, notably raisins, which are a wholesome and valuable fruit (the seeds and rinds should be discarded). Raisins which are old and have the fruit-sugar crystallized on their outside surface are very desirable. Dried currants are especially recommended as a sweet, and they have the advantage over the ordinary raisins of being seedless and less expensive.

If currants be carefully chewed, a considerable residue will be left from them which should be discarded.

Probably the new sugar-prune is all in all the best fruit that can be recommended, combining all the good qualities of both raisins and currants and possessing none of their drawbacks. For the purposes of nutrition all the sweet fruits are invaluable, and preferably in their natural or uncooked condition.

XVII

SALT AND THE SALT-EATING HABIT

COMMON salt, the chemical name of which is chloride of sodium, has been used so long by civilized man that most individuals are led to believe its use indispensable to the human economy. This is an erroneous belief, as every individual can decide for himself. Certain commonly accepted ideas have given rise to these beliefs, many of which are wholly inferences.

It is a wrong inference which leads people to believe that because the deer likes the salt "lick," or the redman likes fire-water, either of these substances is natural or necessary to the human body. So, in like manner, although it has been customary to feed or "salt" cattle and other of the domestic animals with this chemical (chloride of sodium), such a procedure does not imply that it is necessary or essential.

The cattle upon the great plains of Texas and the West thrive perfectly well without salt, and cattle in other parts of the world thrive equally well without this luxury. Feeding salt to domestic animals is simply a custom; animals are educated to use salt just as children are educated to eat sugar.

It is a well-known fact that there are numbers of people who never use salt. The North American Indian whom the hand of civilization has not made unnatural does not eat salt; and many of the peoples

of the more northern parts of Europe and America as well as Central Africa, have no use for salt.

An individual need go no farther than his own experience to learn that salt is wholly unnecessary for the human body. One can develop an appetite for salt as for anything else. Where this appetite has not been developed, the lack of salt is never noticed, and its use can be dispensed with for years with benefit to the system. On the other hand an appetite for salt may be developed to such an extent that the victim may well be called a "salt-eater."

Salt is a powerful preservative, hence its use in flesh-meats, either as dry-salting or "brining."

In hot countries, like Palestine, Egypt, and other Oriental lands, salt is indispensable, having always been used not only as a preservative, but also as an appetizing condiment (Job xi. 6).

Among the ancient Greeks and Romans, as with the Semitic peoples (Lev. ii. 13), salt was habitually associated with offerings to the gods.

Oriental tax-imposts on salt were high, and, whether as a result of the crude methods of collecting the salt from shallow reservoirs or from the dishonesty of officials, it happened frequently that the consumer was supplied with adulterated salt—"sanded" salt; hence the import of the saying "the salt have lost his savour" (Matt. v. 13).

The physiological effect of salt is that of an irritant upon all the mucous membranes of the body, producing a watery discharge. This is the purpose for which salt is prescribed by physicians,—as a medicine to irritate, or cleanse by the effect of this irritation, which is only intended to be temporary in character and not an every-day affair. It is an interesting fact that salt and cane-sugar have practically the same effect as an irritant on the human organism. The stimulating or irritating effect of sugar and candy is to be observed in the case of an inflamed

throat, where it produces a profuse discharge of mucus, thereby relieving congestion of the affected parts. Any one can easily prove the truth of this assertion by snuffing a solution of salt or sugar and water up the nostrils; the profuse discharge which follows is proof of the irritant effect of either upon the mucous membrane of the nose. What applies to the nose applies equally well to the stomach or any other organ of the body. So that the effect of salt when used in excessive quantities is to produce catarrh of the mucous membranes of the body, and this in time becomes chronic.

There are other minor ailments for which the excessive use of salt is responsible, — notably eczema and other rashes of the skin manifesting themselves as pimples and boils. Frequently the tenderness of the edges of the nose both within and without the nostrils is the result of the excessive use of salt. And again the eyelids may be affected from the same cause. The results of the excessive use of salt are to be observed also in what is known as scurvy.

It is interesting to notice that common salt in large doses acts as a purgative and emetic. One of the quickest emetics in time of emergency is made by putting salt in a glass of luke-warm water and swallowing the mixture. Owing to the harmful effects of salt it is withheld from many animals, and in some instances certain animals will not touch it, never having acquired a taste for it. It is said that this applies particularly to birds and dogs.

The ill effects of salt are especially apparent upon the kidneys. The dropsy of Bright's disease of the kidneys and certain forms of heart disease are in many instances caused, wholly or in part, by the use of salt. This explains how a milk diet in kidney diseases so rapidly improves the condition of the patient; the salt which has been deposited in the tissues is washed out, as it were, by the milk. The same is true of the

grape cure; the fruit-juice of the grape also washes out the salt from the tissues. Obviously the real cure consists in the fact that no salt enters the system through the diet. With the cause of trouble removed the cure readily follows. Certain forms of heart disease, bronchitis, and in fact many other diseases, which need not be mentioned here, also occur from excessive use of salt. The opinion that salt is a necessary aid to digestion is absolutely without foundation, and there can be no question that the excessive and continuous use of salt produces a host of diseases. The word "catarrh" applied to disease is legion itself.

In the natural foods there is quite a sufficient supply of what is called the inorganic salts, without any artificial addition of chloride of sodium being necessary for man's wants. It seems to be overlooked by many writers that salt is but one of a number of the inorganic salts, the phosphates, sulphates, and many others being almost wholly ignored. The phosphates particularly are to be reckoned of great importance. It is not salt alone, but the combination of the various salts which gives value to the inorganic salts in food. Where a perfectly natural diet forms the larger part of the meal, as it should, the use of salt is wholly unnecessary. It will be remembered that the present method of cooking vegetables removes or destroys the inorganic salts. Hence, from the standpoint of nutrition, vegetables should be eaten raw, or if cooked, should be baked. It is a recognized fact that under any circumstance the amount of salt for man should not exceed fifteen to thirty grains daily as any excess has to be excreted through the kidneys and skin. A little salt may not be out of place, but anything beyond one-quarter or one-half teaspoonful per day is an injurious amount for an individual.

The presence of salt in all prepared foods creates

162 *The Art of Living in Good Health*

an unnatural thirst, the tissues of the body being constantly deprived of a great amount of water. The sensation of thirst is a matter of common observation, especially after using salty preparations of butter, salted meats, or fish.

“Salt-eating” with a great many people becomes a habit and unquestionably gives rise to serious disturbances of health, which are seldom, if ever, ascribed to eating salt in excess.

In the light of all our information the opinion that salt is necessary to the human economy to the extent to which it is commonly used, cannot be said to be founded on facts. Unquestionably the less salt one eats the better for the individual. ✓

XVIII

OVEREATING

*"It is difficult to speak to the belly,
because it has no ears."*

OVEREATING or gluttony is one of the greatest sins perpetrated against the human body. The habit of overeating is almost universal, and if there is one thing more than another the truth of which we will not admit even to ourselves, it is that we eat too much. I believe I am well within the mark in asserting that nine out of every ten persons habitually overeat. And yet every one of the nine will instantly rise up in arms and positively deny the charge, though it is an indisputable fact. When one considers that the capacity of the human stomach is approximately a pint and a half or thereabouts, no special logic or argument will be required to convince the average person that it is simply a miracle how the little stomach tolerates such enormous amounts of food-stuffs, often amounting to one, two, or even three quarts of material. If the habit of overeating is so widespread, there must be a **Bad Habits** reason for it. Quite true there is, and a good one too, one which goes a long way back, in fact to the very root of the evil. It is a matter of education or non-education, — ignorance would be a better term for it. No sooner is a child born into this world than the overfeeding process begins. The mother, in her excessive anxiety for the welfare of the child, fears

that the child will die unless fed every few minutes; and it may be said with truth that between overfeeding and bad feeding, it is a wonder that so many children pass safely through childhood. Parents are either entirely ignorant or very careless concerning the right feeding of their children. Consciously or unconsciously they encourage them to eat largely, the current idea being that unless one eats largely the bodily powers fail. Such encouragement from adults can end only in making a glutton of the child. How much better to teach the child the principles of moderation and self-control, which will be beneficial to him in after life, and will make him a man among men.

Fortunately Nature is very flexible with children, tolerating in them what she severely chastises in the adult. As a result of this, children grow up absolutely ignorant of what or how they should eat, and acquire "bad habits" of eating, which are almost impossible to overcome in after life. When one considers that a properly fed child will never have a day's sickness, nor cause the parents the slightest anxiety, it is a matter of surprise that so little attention is given to the subject. Sick children make the home unhappy, and the cares and anxieties incidental to sickness are frequently the starting-point in the mother of what ultimately leads to a broken down constitution, — a nervous wreck. The solution of the question of having a happy and healthy baby in every home is easily realized by parents who familiarize themselves with, and put into practice, the principles given in the chapter upon Infant Feeding.

Intemperate indulgence in alcoholic liquors is a world-wide evil, but is as nothing in comparison with intemperance in eating. The connection between these two forms of intemperance has escaped general attention, but it is a matter of common knowledge among students of these problems that overeating is

largely responsible for the evils of alcoholic intemperance, — in short it is, in the majority of cases, the direct cause. The stomach becomes overloaded with food; the mass or “mess” neither digests nor moves. The stomach rebels, and manifests its rebellion by an uncomfortable writhing. Rightly interpreted it means the stomach is desirous of getting rid of its load. Individuals given to surfeiting are unable to interpret this sensation correctly. One who is at all given to even moderate drinking is certain at this time to try an alcoholic liquor which temporarily seems to afford relief. It whips up the blood in the stomach to increased activity, producing an engorgement or more active circulation in the fluids of the stomach. Overeating produces the sensation of a craving or false thirst for drink. This is noticeable more particularly in those suffering from chronic dyspepsia. Where meat is an article of diet the relationship which exists between overeating and alcoholic intemperance is greatly accentuated, for the reason that meat is more particularly digested in the stomach, differing from most other foods in this respect. Meat is termed “heavy of digestion” on this account.

Intemperance — food intemperance — begins at home. It is here that self-control, the best temperance, productive of good for all time to come, should be taught and enforced.

Herbert Spencer declared: “Few seem conscious that there is such a thing as physical morality. Men’s habitual words and actions imply the idea that they are at liberty to treat their bodies as they please. Disorder entailed by disobedience to Nature’s dictates, they regard simply as grievances; not as effects of a conduct more or less flagitious. Though the evil consequences inflicted on their dependents and on future generations are often as great as those caused by crime, yet they do not think themselves in any de-

**Physical
Sins**

166 *The Art of Living in Good Health*

gree criminal. It is true that in the case of drunkenness the viciousness of a bodily transgression is recognized; but none appear to infer that if this bodily transgression is vicious, so too is every bodily transgression. The fact is that all breaches of the laws of health are physical sins.

“Just because we do not place life on a physical basis this should appeal to us; we are all the more bound to accept it, because life has a moral basis.

“Mental vigor and spiritual insight are not got through despising the physical side of life.”

Purity of mind is quite incompatible with gluttonous habits of eating. The Bible inculcates the same principle, although most Christians fail to recognize it or to carry it out in practice.

We must recognize that religion involves the body, and that the laws governing the healthful performance of the bodily functions are as much the laws of God as are those governing the soul.

Christ, by his forty days' fast in the wilderness, taught us a most important lesson regarding the subjection of the appetites. During his entire life He taught and practised the principles of simplicity in habits of living. John the Baptist, with his frugal fare of wild honey and locusts, and the Apostle Paul, as well as the other Apostles, lived up to the motto: “Moderation in all things.”

The religion of the soul and the religion of the body are inseparably associated. The ministry in general has failed to recognize the significance of this. Men need “to be born again” from a physical as well as from a moral standpoint.

It is still the practice, as it has been for centuries, to preach only one-half the truth. To be a successful and powerful preacher now-a-days, one must preach more than one side of the Bible, and the preacher should combine the qualities and possess the knowledge of both preacher and doctor, thus enabling him

to understand and teach the laws of the body, as well as to preach the religion of the soul. Physical and moral sins are inseparably associated, and this fact should be recognized and taught.

Simplicity in habits of eating, and the avoidance of all stimulating foods, are, with the exception of religion, the most powerful of all aids to purity of life. Good living is a religion in itself. Many a man is trying to do by prayer what can be acquired far more easily and naturally by correct habits of living. Men fail to see this, yet it is so simple that "the way-faring man, though a fool, cannot err therein."

The "good health" idea is one from which we cannot get away, and while we are inclined to dismiss these thoughts from our minds, with a shrug of the shoulders, yet the only way any individual can feel, think, and act naturally, is to be possessed of good health, health of body and health of mind. Good digestion makes a man feel saintly, at peace with God, his fellow-man, and himself. The only way to get and to keep good health is to observe the laws governing it, which follow from correct habits of living.

Overeating is harmful in innumerable ways. While the columns of the health magazines are teeming with information about the relative merits of a vegetable, fruit, and nut diet, as opposed to meat, and while volumes upon volumes have been written upon the value of dozens of other things, — physical culture, deep breathing, exercise, etc., — all these are secondary to the question of overeating. The greatest point of all, more important even than the character of the food taken into the system, is neglected; namely, the quantity of the food and the manner in which it shall be eaten. Any excess of food, even if the food is perfectly adapted to the wants of the system, results in but one thing, — auto-intoxication or self-poisoning.

**The Perils of
Overeating**

**Excess of
Food is
Poison**

Let us follow up the evil effects of overeating. Primarily it distends the walls of the stomach, lessening its muscular power, and finally weakening the organ beyond recovery, producing what is known as a dilated stomach, which must always remain a weak stomach. The object of eating — the nourishment of the body — is entirely defeated in that the original character of the food is wholly changed, so that instead of a clean, assimilable, milk-like fluid, chyme, there is formed a fermenting and decaying mass, the absorption of which can have but one effect, poisoning, ending in many instances in the death of the individual after sudden outbursts of appendicitis or enteritis. This circulation of poisoned blood in the human body, causing continual inflammation of the delicate cells of the lungs, kidneys, liver, or other organs, can have but one result in the long run, — disease; it may be Bright's disease of the kidneys, cancer of the liver, tuberculosis of the lungs (consumption), diabetes, pneumonia, rheumatism, or premature senile decay. All diseases are at bottom alike, however different in symptoms. Aside from surgery and midwifery, the practice of medicine for the most part revolves about the stomach. While there are hundreds of diseases, they differ in name only according to the organ of the body affected. They have a common centre or origin, — the stomach; and a common cause, — overeating. This being so, it behooves every thinking man to give serious attention to the question of proper eating. To make even the beginning of an attempt to show more of the why and wherefore of the harmful effects of overeating would involve the writing of a book itself, giving a description of nearly every disease known.

The most complete and perfect laboratory in the world is the human body. Experimental researches conclusively prove that every normal individual generates enough poisons in the body every few hours

from the natural waste products of food to cause death, if these poisons were retained in the blood and tissues. The amount of poison manufactured daily so nearly equals the capacity of the poison-destroying organs (the liver and lymph glands), and the poison-eliminating organs (kidneys, lungs, skin, and bowels), that serious symptoms, much suffering, many diseases, and death result. If any one of the organs named ceases to act for twenty-four to thirty-six hours, death in many instances results in a few hours.

The liver excretes enough poison every few hours sufficient to cause death if it were all suddenly introduced into the circulation at one time. Since the organs of a normal person are engaged to the limit in order to prevent the poisoning of the body — a very delicate equilibrium or balance to be maintained, it will be noticed — it is apparent that a serious condition of affairs must inevitably result when every organ and function of the body is below par and called upon to perform extraordinary work. The margin between health and sickness is therefore narrow at all times, and when the habits of living are grossly irregular, and the organs above mentioned are rendered inactive from any cause, the margin disappears and disease of some kind results. Normally the ptomaines or any other poisons of the body are arrested by the liver and destroyed, or excreted in the bile. In this way they are absolutely harmless. If the liver is sluggish in its action or unable to arrest and excrete them, they pass into the systemic circulation and cause a great many diseases and distressing symptoms. Fatal cases of ptomaine poisoning are only too frequent.

About all that we have to fear in eating is excessive use of proteids. The human economy requires a small daily quantity of proteid material, amounting to about one ounce for each day. Without this proteid matter life cannot

**Fear of
Proteids**

exist for any length of time. Heretofore scientists have declared four or five times this amount to be the normal requirement for the body.

The products of proteid metabolism or its tissue changes are extremely poisonous. Any excess of them taken into the body means the formation of uric acid and the ptomaine compounds, xanthin, adenin, granin, etc. It is the accumulation of these poisons in the body that makes one feel tired, exhausted, and fatigued when he has not worked, makes him nervous and irritable, and gives him a devitalized constitution. An excess of starch, sugar, and fat may be stored up in the body in the form of fat, so that the forms of food, it will be noticed, which are best adapted for man are the cereals and fruits.

The study of the conditions and of the manner in which these ptomaines arise is one of comparatively recent date, and even at the present time there are many obscure points about them which remain to be cleared up by physiologists. We know, however, that the nitrogenous elements of certain animal foods, particularly meat, fish, eggs, milk, cream, and cheese, are liable under certain conditions to form ptomaines. Many of these ptomaines are deadly poison, being similar in their action to strychnine, morphine, and other alkaloidal poisons. These ptomaines are decaying nitrogenous animal principles, and may include the putrid albumenoids or proteids of the human body itself.

Inasmuch as these may occur in life, poisoning the blood during the progress of disease, especially disease associated with the development of micro-organisms or microbes, they possess great interest; one of these of a curaroid (arrow poison) character, seems to play a part in the process of digestion. Another a ptomaine from putrid flesh meat, another from putrid fish products, while another termed tyrotoxin is

the name given to a ptomaine isolated from poisonous cheese, milk, and cream. The above poisons in the human system are responsible for many of the so-called appendicitis attacks, the intense diarrhoeas, vomitings and general prostration.

Ptomaines are formed when the proteid foods are used to excess, as in overeating. This process probably takes place in the colon. It results in the inability of the system to expel the fermenting mass, and is associated in some way with the development of microbes. The retention within the system of a decomposing mass of food gives rise to many poisonous symptoms, which must occur with the development of ptomaines. Just what the decomposition products of nuts, peas, beans, lentils, and other of the vegetable proteids would give rise to is at present a matter of experiment, but reasoning from analogy their decomposition products would probably be of the same character as the decomposition products of the animal proteids. Any one who has ever "surfeited" on nuts must have noticed that the one result of eating them in excess is what is termed "rotten fermentation." In addition to this there are the subjective symptoms of eructations and nausea; vomiting and diarrhoea may also follow.

**Overeating
Produces
Ptomaines**

If the system of an individual living a healthy life, with food properly adapted to his wants, and in exactly the right quantity, with pure air and no adverse mental conditions interfering, is constantly manufacturing poisons to the limit of his excretory powers, it will readily be understood that if there is one cause more than another likely to disturb this balance it is overeating. As has been explained, the function of food in overeating is perverted, the proteids being converted into ptomaines. Overeating of other food products, fruits, vegetables, and cereals, is also accompanied by poisonous products, but they are of a

much less poisonous character than the decomposition products of the proteids.

The proteid foods (meats, eggs, nuts, milk, cream, cheese, peas, beans, etc.) should never be taken in excess. No food of any other character should be taken in excess of the requirements of the body.

Nature builds up and tears down within the body according to her requirements in her nutritive processes, — oxidizing or deoxidizing as the case may be, — always doing her best for the body economy. The outcome of our disregard and violation of her laws can end only in disease, which differs from health only in the fact that in health the body is doing its work under favorable conditions, while in disease the work of the body is carried forward under unfavorable conditions.

The practical lesson to be learned from these examples of perverted nutrition is that if food which in itself is entirely harmless becomes under certain conditions a poison in the system, or in any other way acts detrimentally to the system, it behooves us to pay attention to the condition under which this arises, — namely, overeating. Unquestionably food and drink — intemperance — is the most disastrous evil threatening man to-day.

“One-fourth of what we eat keeps us; the rest keeps the doctors.” It has been well said that “Gluttony kills more than the sword.”

XIX

A RATIONAL VIEW OF EATING

*"They are as sick that surfeit with too much
As they that starve with nothing."*

THE idea is prevalent that to eat a good deal of food is certain to be rewarded by good health and enhanced physical vigor. Under certain conditions this may be true; but it must always be borne in mind that any food taken in excess of the actual requirements of the body is a source of weakness and not a source of strength. Obviously there is a limit to the needs of the body, and when the supply exceeds this limit it must be removed or disposed of in some way. The removal of this excess of material from the system consumes nervous force, which is needed for better purposes. This is especially true of nitrogenous material, hydrocarbons being burnt off in respiration with far greater facility.

Unquestionably the quantity of food is more important than the kind of food in the matter of eating. This presupposes that food is consumed in the right manner. To repeat: first, in order of importance, is the way in which the food is eaten (thorough chewing); secondly, the quantity of food; and lastly the kind of food.

Physiologists say that the Japanese present the most perfect physique of any race in the world. Most of the diseases common to the Western world are unknown among the subjects of the Mikado, and

this happy condition they themselves attribute to the fact that they eat sparingly, and only of plain, nourishing food.

There is no doubt that the human body can be maintained in full vigor and activity upon a much smaller amount of food than is usually consumed, and the question which concerns each individual is the amount of food which suits his special requirements. The occupation to a great extent influences both the character and the quantity of the food required. Evidently one who works hard at manual labor all day will require far more of the muscle and energy-making foods than will a brain-worker. It is well known that laborers eat and can digest far more than the brain-worker.

It has been estimated that an average man at moderately active labor requires enough food-material to make up about 2,000 to 2,400 calories or heat-units. The demands naturally vary according to the individual, his occupation, and the climate. Most people believe that increased muscular and mental activity requires a correspondingly enlarged amount of tissue-building food; this is true in so far as physical activity is concerned. A person engaged in hard muscular labor requires from 25 to 30 per cent more food than one whose occupation is chiefly mental.

One of the most advanced physiologists of our time, Voit, of Munich, has found, however, by careful investigations carried on for a number of years, that even at the most strenuous work the body consumes no more proteid than when at rest; that heat and energy are created almost exclusively by the combustion of fats and carbohydrates; that 15-30 grams (about one ounce) proteid daily are sufficient for the average man, while about the same amount of mineral matter is needed in the form of organic salts.

All progressive physicians admit that a large num-

ber of diseases are due to the excessive amount of proteid we take in our nourishment. As a result of the excess of proteid, an excessive amount of urea and uric acid is formed and deposited in the joints and tissues, causing rheumatic or gouty affections, or in the kidneys or liver, in the form of calculi or stones.

As a result of recent scientific investigations, it has been proved conclusively, by practical experiments on soldiers and others, that an amount of food about one-half less than the accepted standard, is quite sufficient to supply the needs of the body. The ordinary business or professional man can live upon a quantity of food represented approximately by:

Carbohydrates, 8 ozs. (starch and fruit sugar)....	}	daily quantity,
Proteids, 1 to 1½ ozs.		
Fats (Nut Fat), 2 ozs. (or Butter Fat, 1½ ozs.)		

making the daily amount of total weight of dry food stuff about 11 to 12 ounces, or about three quarters of a pound.

From 12 to 20 ounces of dry food daily is thus considered to be the amount necessary for the human economy. Taking the mean of these quantities it follows that about one pound of dry food is the daily quantity for an average individual to consume. From 1½ to 3 pints of water should be the quantity of fluid taken daily, excepting where fresh fruits or green vegetables contribute largely to the diet, in which case less water will be required.

Long chewing satisfies the appetite with less food, so that to chew more and eat less is a good motto for most of us.

The experience of Louis Cornaro, who lived to be 103 years of age, and through his last sixty years lived upon less than twelve ounces of dry food daily, is conclusive evidence of the possibility of maintaining

life and vigor on a much smaller amount of food than has generally been considered necessary. The amount of proteid material eaten has always been in excess of the actual demands of the system. In whatever form this material be taken — meat, eggs, nuts, or other proteids — it should be used in *very small quantity*, the bulk of the food being in the form of carbohydrates, particularly fruits.

The athletes of Ancient Greece were trained entirely on a fruitarian diet. The boatmen of Constantinople who live on bread, cherries, figs, dates and other fruits, have a wonderful muscular development. The children of the desert exist for a long time upon a handful of dates a day, and travellers speak of raisins and parched corn as a common fare.

It is often asserted that, while a vegetarian diet would be good in tropical and subtropical countries, it would be entirely insufficient in the colder climates. This, however, is an entirely mistaken view. Not only can our body derive a far greater amount of heat and energy from plant-foods, such as nuts and cereals, but they are also more conducive to health.

In this connection it may be interesting to give the dietary of a Trappist monk. His meals vary in number and time with the various seasons of the year. In summer, when his out-of-door work is of course the hardest, rising at two in the morning (as he does all the year round), he takes his first meal at half-past eleven. At four he eats a light collation, consisting as a rule of a little dry bread and water, though other articles of diet, such as fruit or vegetables, may occasionally be added, at the abbot's discretion. From September 14th until Ash Wednesday he takes his first and only meal of the day at half-past two in the afternoon, when he has been up for twelve hours and a half. During Lent his fast is still more rigorous, his one meal being postponed until half-past four, when he has been up singing his

office, working, studying, and praying for fourteen hours and a half. On this fare the Trappist is the very picture of health, living to eighty years and more. And yet we in the world, when indeed, we fast at all and do not find a pretext for exemption, grumble at being forced to wait for our breakfast from seven or eight until twelve.

Few people have acquired the habit of abstemiousness. Most of us are the victims of the force of habit. Those who eat three meals a day cannot miss one meal without suffering distress or discomfort.

Contrast with this the Arab who eats but a handful of dates once a day, or every other day according to convenience. The Tartar travels all day and eats only at the end. The Indian or hunter, when shooting or trapping, if he finds nothing will go for three or four days practically without food. With plenty of water to drink it is surprising upon how little solid food one can subsist.

Just as our clothing requires change with the seasons of the year, from furs and flannels to linen and cotton, in the same manner our foods require to be changed according to the temperature of our environment or surroundings. Foods range in heat-producing properties from 100 calories, or heat-units, to the pound, up to nearly 4,000. Most individuals notice that on the approach of hot weather, a change occurs in our desires and appetites for foods, differing entirely from those used during the colder weather, heat-producing foods being replaced by fruits and other foods of a lower heat power.

If one desires to be cool in hot weather it can only be accomplished by eating those foods which do not possess great heating power. This means one must eat the foods having a low heat power, fresh fruits, green vegetables of the more digestible kind, and some cereals, with but few nuts, eggs, or other proteids.

178 *The Art of Living in Good Health*

The accompanying table shows in a gross way the relative heat-producing properties of the more generally used foods. From the appended list or from tables scattered throughout this book, any one can easily arrange, or "individualize," a diet adapted to his particular wants.

Nuts.....	an average	2300-3400	heat-units	to the lb.
Cereals....	"	1200-1600	"	"
Potatoes...	"	350- 400	"	"
Fruits, fresh	"	100- 350	"	"
Fruits, dried	"	1000-1400	"	"
Vegetables.	"	100- 450	"	"
Flesh-Meats	"	500-1000	"	"
Pork.....	"	1600-3000	"	"
Fish.....	"	200- 450	"	"
Fowl.....	"	1000	"	"
Eggs.....	"	650	"	"
Butter.....	"	3400	"	"

Foods should be selected giving off from 200 to 1,200 heat calories to the pound, in a climate where the temperature ranges from 50 to 95 degrees F. A combination of fruits, cereals, and vegetables answers this requirement. An individual who eats largely of the heat-producing class of foods — nuts, fats, etc. — during the hot summer months must expect to feel almost burned up. During the hot weather one meal should be made almost entirely of fruits each day. As a rule a single fruit is best, two fruits being quite a sufficient number; to these may be added some simple cereal, as a Graham or whole wheat wafer. Unselected mixtures of fruit are not desirable. Just as a single odor in a perfume is perfect, so a single fruit when eaten alone is delightful. A mixture spoils the combination in odors; the aroma of fruit is spoiled in the same way.

Permissible combinations in fruits are: —

Grapes, Peaches.		Pears, Melons.		Oranges, Pineapples.		Cantaloupe, Grapes.
---------------------	--	-------------------	--	-------------------------	--	------------------------

A watermelon is best enjoyed as a fruit dinner, eaten entirely alone. If the juice is thoroughly insalivated, and the insoluble, pulpy material discarded, the melon will not "repeat" if eaten in moderation.

If humanity at large could be made to realize the truth of the assertion that *four-fifths of disease is the result of errors of diet*, of which overeating in some form or other is the chief factor, a wonderful advance would be made in the education of the race. This is a truth which the people should realize, and profit thereby. While medical science has thousands of names for diseases, at bottom all diseases are alike. Poisonous principles are thrown into the blood as a result of the indigestion, and the result is disease. There are several hundred organs and tissues in the body, each one of which, when affected, gives a name to a disease, but while the names of disease are different, yet the cause which produces them is generally the same, — overeating, which produces auto-intoxication, self-poisoning, mal-assimilation, premature old age or disease, — call it what you will. The conditions which produce Bright's disease will also produce gout, rheumatism, cancer, or appendicitis.

Why one person should suffer with rheumatism, another with tuberculosis, and a third with Bright's disease, can only be explained on the ground that these are some of Nature's manifestations of her wonderful diversity of form. Practically all disease is a legitimate outcome of overeating, and as such these hundreds of ailments are nothing more or less than manifestations of blood poison on specific organs or tissues of the body. In the aggregate it is *one cause, one disease*. In many of the larger cities of the old world, particularly Europe, many diseases occur from starvation as a result of too little food or the use of food wholly unadapted to the wants of the people. Many such cases are to be seen in the larger hospitals of both Europe and America. These patients present

a phase of disease variously termed mal-assimilation, mal-nutrition, or inanition, all signifying a lack of nutrition. Contradictory as it may seem, the poor have occasional opportunities for gorging themselves and otherwise indulging in excess to as great an extent as the richer classes, and this temporary good-fellowship among the poor produces its train of disease as it does among the rich.

In this connection the question may arise as to the influence of germs or microbes in disease. *Germs or*

**Germs — Mi-
crobes**

microbes of whatever character are powerless to injure a healthy man. If this

were not so we should all die of germ diseases, for we live in an atmosphere of germs, breathing tuberculosis, diphtheria, scarlet fever, measles, etc. It is only when the body is reduced or brought down from its high plane of vigor and vitality to a low level that it yields to the influence of noxious microbes.

If tubercle germs are injected into the skin of a healthy man he will not suffer in the least, and undoubtedly, as has been proved, a healthy individual can swallow various germs and suffer no ill effects.

In many instances it is a question whether germs are not a result rather than the cause of disease. The germs themselves are not so poisonous as their toxins or excreta.

There are many points about disease yet remaining to be solved. We know that in many instances the bacilli of diphtheria may be found in the mouth of an individual and long remain harmless to him. This may go on for an unlimited period, or these bacilli may suddenly take an active or malignant form from causes which seem to be as yet beyond our understanding. Unquestionably the body of

**Disease
Germs**

a healthy man has the power to destroy any or all germs or microbes. Many of the so-called disease germs, the bacilli of consumption, typhoid fever, and others, have had an

existence for centuries, and they will still continue this existence so long as time lasts, for they form an integral part of the life of plants. Just as a tree is not killed by cutting off its leaves, neither is consumption, diphtheria, pneumonia, or any other so-called germ disease prevented by destroying the bacilli. We live in a world of germs, and we know absolutely nothing of many of the forms of germ-life, because we have no microscopes sufficiently powerful to show them; but this does not prevent us from knowing that these minute forms of life exist, — we know they exist by their effects on plant and human life. This only emphasizes the importance of cultivating habits of good living for the sake of absolute immunity. By a well regulated natural life we can keep our bodies in such a condition that they will resist disease of any kind.

Observance of the principles of right eating is the very keystone of health. Why an individual should want to eat two or three pounds of food daily when one-third of this would be nearer the proper quantity for his requirements is beyond reason.

We are the creatures of habit, which has been aptly defined as "the facility which comes from the frequent repetition of an action." Nothing in life is stronger than habit, nothing is harder to overcome. Hasty eating becomes a habit as easily as overeating. The long-continued practice of eating hurriedly, and of drinking at meal time without properly masticating the food, soon becomes a habit which is pernicious in its consequences, and can be overcome only by considerable will-power and self-control. Hundreds and thousands of men and women are fully satisfied they eat too much, but are unable to free themselves from this habit of overeating. They are bound hand and foot, enmeshed in a **In a Web** web as it were, like the victim of intemperance in alcohol, tobacco, cocaine, etc.

If one wishes to realize what is meant by force of habit, let him try to abstain from the use of tea, coffee, cocoa, or any other stimulant, and notice what a struggle it is to overcome the desire for it.

Unquestionably the majority of people in this country do not feel satisfied unless the stomach feels full. This is an inheritance of childhood's habits, and always means that the system is filled beyond the natural requirements. The stomach can be trained so that in one case an individual is happy only when the stomach is full, while in another case one-half the quantity will afford ample comfort and satisfaction. Force of habit enters here very strongly. The majority of people are accustomed from birth to eat till their stomachs become distended and so overloaded as to be wholly unable to churn the food. A full stomach is never a satisfied one; and a satisfied stomach is never a full one. As an instance of what training will accomplish for the stomach, it may be said that when once the stomach of an individual becomes accustomed to recognize its normal or natural quantity, an excess of food instantly produces the full feeling of discomfort, and is a signal for immediate cessation of eating and drinking.

Much more attention is being paid to *what* we eat than to *how much* we eat. Chemistry teaches us that all food is practically alike. Consequently the fundamental problem is not the kind of food we eat, but the quantity and the manner of eating.

The underlying principle of correct eating lies first in moderation, whatever food may be selected; an excess of harmless food is productive of far more harm than the moderate use of any harmful food. It is a question wholly of excess, excess of anything, — meat, eggs, nuts, fruits, cereals, water, sugar, — excess of one or all.

The idea of eating entertained by the ancient Greeks was summed up in abstemiousness or modera-

tion: not to over-feed the body so that "their bodies should sit as light as possible about their souls." This idea still stands as the classic one, and adherence to it will yield more mental and physical power than can possibly be obtained in any other way.

The results of excess when summed up are: an excess of albuminous, nitrogenous, or proteid material is productive of uric acid, and may under certain conditions be productive also of ptomaine poisoning, resulting from the action of microbes or germs in the intestinal tract. An excess of fat is productive of acetone bodies, fatty acids, and other irritating substances; an excess of carbohydrates is productive of fat itself in the tissues of the body.

If one wishes to be free of disease, then, he must eat the right kind of food in moderation and in the right manner. Attention has been called to the fact that food, even when properly adapted to the requirements of the system, becomes harmful under conditions of excess and may act as a poison. This may apply to the excessive use of foods of one particular kind, as the excessive use of meat or sugar, or it may mean the excessive use of food in its totality.

Sydney Smith evidently appreciated the meaning of excess, when he humorously remarked that according to his own computation, between the age of seven and seventy he had consumed in eating and drinking about forty-four wagon loads more than was good for him.

If we were trained from childhood to eat as little instead of as much as possible, we should most likely attain, notwithstanding our excesses and eccentricities as adults, the happy condition of eating to live instead of living to eat.

Let us again remind ourselves that *four fifths of disease is the legitimate outcome of over-eating.*

The subject of food combinations deserves the serious attention and study of every individual. If

the importance of the subject were more generally recognized, there would be far greater simplicity in our diet. Most persons realize that certain foods do not go well together, — for instance lemonade with milk, — but they hardly realize that there are many such food incompatibilities. Every animal but man keeps to one diet; but woman has provided man with so much variety in this respect that he finds it almost an impossibility to keep within a reasonable range in the use of food. Nothing short of six to ten dishes, apparently, will satisfy him. Foods are said to have different degrees of digestibility; some foods are digested, at least in part, in the mouth, others in the stomach, still others in the intestines, while others again may be digested in several different portions of the digestive tract. Flesh meats are digested in the stomach, fats and cane-sugar in the intestines. Bearing these facts in mind, it will be readily perceived that a mixture of half a dozen different kinds of food, whose composition and digestibility are so widely different, is not calculated to result in anything but an unnatural condition of affairs in the stomach and other digestive organs. It is a principle practically amounting to a Law of Digestion that those foods should be eaten together which digest together. As previously stated, the coarser vegetables and fruits are not a good combination. To more fully explain this idea of the incompatibility of food, let us suppose we have a diet of peaches and lettuce. Alone, the peaches are ready for almost immediate digestion and assimilation within a period of one-half hour to an hour at the utmost. The introduction of the lettuce puts an entirely different phase on the digestibility of the mixture of the two foods. Until the lettuce is digested, probably a matter of two or three hours, the digested products of the peach have to remain in the stomach, awaiting the slower

digestion of the lettuce. The delay of any digested product, or in fact of any undigested product, in the system beyond a certain time, is bound to end in fermentation, decomposition, putrefaction, or marked food perversion of some kind, inducing in the stomach pronounced digestive disturbances. These disturbances are largely the result of germs, ferments, or microbes. If the digested products of each food were passed out of the stomach, separately, this perversion of food might be obviated. We know, however, that the pyloric orifice or lower end of the stomach does not open spasmodically for the discharge of food, but does so only after the food products in it have been reduced or churned to a uniform mass, all prepared and ready to be passed along together for intestinal digestion. If two foods of different degrees of digestibility and assimilation are likely to produce disturbances, the conditions will be accentuated where several different foods form the diet. Vegetables, owing to their woody structure, are particularly slow of digestion with some individuals. It is for this reason that, taken with fruits, or in fact with almost any other food combinations, they produce gastric disturbances. A purely vegetable dinner is more likely to prove digestible than a dinner composed of vegetables mixed with several other foods. Nuts, cereals, and fruits form a perfect food combination, — all the better if there is one food only of each class. The addition of vegetables will spoil the combination, excepting possibly raw tomatoes and baked beets, or any of the digestible vegetables not possessing woody fibre. Vegetables approaching fruits in structure are not likely to be incompatible with other foods.

XX

MEAL PLANS

*"I sing the sweets I know, the charms I feel,
My morning incense, and my evening meal."*

It has become an almost universal custom in civilized life to appropriate certain fixed times in the day for taking food. Not only does this practice appear to be well suited to our physical organization, and therefore most consistent with health, but it is to a large extent a necessary condition of life as it exists at the present day.

During the zenith of Roman and Grecian civilization it was an established rule that no man should eat until he had leisure to digest, that is, at the end of the day's work. For several hundred years the one-meal plan was the established rule among the civilized nations living along the shores of the Mediterranean. Dinner in the form of a mid-day lunch was unknown, and for breakfast a bunch of grapes, a fig, or a crust of bread was sufficient to stay the appetite.

The evening feast was a kind of domestic festival, the reward of the day's toil. Music and amusement of various kinds usually followed.

The one-meal plan was adapted to the conditions existing years ago, but an abstemiousness of this character would now be regarded as starvation by the average American. Just as the foregoing would be an extreme in one way, so the methods in vogue

among Germans and English of to-day may be considered as extreme in the opposite direction.

Whatever plan may be outlined as the one adapted for an individual, it must of necessity meet certain demands and circumstances over which he has no control. One's habits in eating must be determined largely by his occupation.

For brain-workers and those following sedentary occupations, one meal a day is not such a hardship as it may appear. It is the one certain way to arouse an appetite among those who complain of its absence. The one-meal-a-day plan would not do for those engaging in heavy manual work.

The two-meal-a-day plan is the prevailing custom of the world, and no matter what a man's occupation may be, two meals a day will furnish him with all the needed nourishment.

We can eat but twice a day and eat naturally,—which means giving the stomach a rest after digesting the food.

The Continental system consists of two meals a day. The first meal is usually taken between 11 A. M. and noon, and corresponds to an early dinner. This is a substantial but not a heavy meal, and frequently consists of some whitefish, or cutlets, or a made dish of some kind, then an omelette and some fruit or cheese. Wine and water are usually drunk with the meal. The only food taken before this meal is a cup of *café-au-lait* (coffee), or chocolate, with a roll or a little bread and butter, which is served in one's bedroom on first getting up. The second meal, or dinner proper, is taken when the day's work is over, usually between 6 and 7 P. M. This is a substantial meal of soup, fish, one or two meat dishes, sweets, dessert, and black coffee. This system is remarkable in that it is adopted by all classes of the community on the Continent; whereas in Great Britain the time of taking food is almost a class distinction.

The widespread belief that we must eat three meals each day to maintain health is unquestionably one of the principal causes that lead to serious illness. The force of habit is very strong in us, and when one has been accustomed from childhood to eat three meals a day, it seems almost impossible to break up the habit. The habits of childhood become the habits of adult life.

✓ **Three-Meal Plan**

Four meals a day is a common regimen both in England and in Germany. This is sure to result in gorging. Even the three-meal plan does not give the stomach or the system sufficient time to eliminate the products of food disintegration excepting in hard manual work with long hours. For brain-workers undoubtedly two meals a day are quite sufficient. A farmer or manual worker of any kind, from the nature of his employment, requires food in larger quantity and at more frequent intervals than if he were occupied as a book-keeper.

The two-meal plan may be carried out satisfactorily in two different ways. There should be at least seven hours from the beginning of one meal to the beginning of the next, and in many instances this time may be extended to eight or even nine hours. At least four hours should elapse between eating the last meal of the day and going to bed.

Two-Meal Plan

Supposing that the two-meal plan of eating commends itself to an individual, he may find it very inconvenient to carry it out in practice. The hours for dining in this country are usually based on the three-meal plan, so that the two-meal plan requires special arrangements.

Plan A. — The breakfast should be of a substantial character. Replace the mid-day meal by a glass or two of water, a bowl of soup or some fruit juice, but no solid food. For supper you will have an appetite not to be despised.

Plan B. — The second method is the no-breakfast plan, according to which the first meal is eaten five to six hours after rising, and the second meal after another interval of about the same length; this is the French system of dining but slightly modified.

One objection to the no-breakfast plan is that a rather hearty meal is needed when one's time and energy are usually required for employment rather than digestion.

This objection may in a way be overcome by having a moderate or light lunch at noon, reserving the evening for a more hearty and substantial meal.

With the business and professional man, as well as with nearly every other worker, a substantial early breakfast is the method which accords best with all, the organism being properly furnished to begin the work of the day.

The professional or business man may dispense with luncheon to advantage. He may, if he desires, take a mid-day luncheon of liquids, without any solids. This may be one or two glasses of water, tea, coffee, chocolate, or other fluid.

Plan A, or the breakfast plan, has much to commend it, in that it allows sufficient interval between the last meal of the day and the hour of sleep. It also allows, when necessary, the taking of a little fruit, fruit juice, or a light collation before retiring, when this in no way interferes with sleep.

Those persons who live on fruits exclusively should eat three or four times a day. In many instances an individual's occupation is such that no stereotyped plan will answer, and it requires planning to cover the difficulties.

It is possible for many persons to take at the very beginning of a meal a clear soup in small quantity, say four to eight ounces, which is readily absorbed by those of vigorous digestion; and the same may be said of a

glass of water, though not of milk. One may also drink say half a glass of water, tea, or coffee, at the end of a meal with no apparent derangement of the digestion, but the safest way for the dyspeptic is to dispense with them. Just as we have a time for eating, it is advisable, though not necessary, to have a time for drinking. To this end those who adopt the two-meal plan a day, may also adopt to advantage the plan of drinking say three times a day. Food simplicity is of paramount importance. In this way are avoided fermentations and other digestive disturbances, usually incidental to those cases where the food is a mixture of two or three different classes of food, as, for example, bread and butter, meat, vegetables, fruits, pastry, etc.

Dyspeptics cannot digest several articles of food at the same time, because the enfeebled stomach is unable to make gastric juice suited to the mixed foods.

There may be no difficulty whatever in the digestion of a single, simple article of food, if the article selected is adapted to the patient's condition; that is, a patient might not be able to digest bread, meat, and milk, but might be able, without difficulty, to digest bread or milk. A stomach may, by careful training, be rendered capable of digesting at first single, simple articles, and later simple combinations.

XXI

PETER'S VISION

THIS book is intended to be a presentation of facts, and is not in any sense to be taken as an exploitation of any particular theory or food fad. The diet platform is a very broad one, and there is no more burning dietary question under discussion at the present time than the propriety or impropriety of eating the flesh of animals. This is a question that can be decided upon grounds entirely outside of the Bible. This of itself should be sufficient. However, there are so many who insist upon bringing the Biblical view of flesh eating into the discussion, that it may be well to refer to this phase of it here. We find in Genesis, ninth chapter, that man is given permission to eat flesh meat under certain restrictions. This would also include permission to eat fish, provided it does not contain blood. The restriction made respecting the use of flesh is, "The blood thereof shall ye not eat." It will be remembered that fish, as commonly eaten, contains blood, strangulation being the cause of death. This objection is overcome by making deep incisions in the fish, then, covering the fish with salt, and finally thoroughly washing; otherwise no Christian can eat fish if the Biblical injunction be followed (see Lev. xvii. 10-16). The orthodox Jews separate the blood from flesh meats and even from fish in many instances, before partaking of them. The objections to the use of blood are

based upon physiological grounds, the blood of a dead animal being more or less poisonous from effete matter. While it is quite true that the Bible undoubtedly permits the use of flesh-meats, it will be noticed it is entirely in a tentative way. When man was unable to provide himself with his natural food, then he was permitted to eat flesh-meats, on condition, however, of the removal of every particle of blood which it might contain. Certainly the Bible nowhere encourages the use of flesh-meats. And it would seem as if man's food originally devised for him by his Creator was a diet of fruit, grasses (cereals), herbs, and vegetables — essentially frugivorous — and one difficult to improve upon, even at this day. The Bible covers a period of thousands of years, and this must be remembered when attempting to prove from the Bible what particular diet was or was not used, the time, the connection, and the circumstances having to be considered. In the discussion of Biblical dietetics this point is frequently forgotten or lost sight of. Any one who wishes to familiarize himself with the Biblical idea of what should constitute man's food has but to go to the Bible itself to find out the truth. A full discussion of the various arguments advanced for or against the use of flesh-meats from the Biblical standpoint is outside the scope of this work. It might be pointed out, however, that, while the law of Moses permitted the eating of clean meats, the law of life was still operative. This law finds its counterpart in the Buddhist's scriptures. It will be remembered that the Jews did not always do as commanded. Their innumerable violations of the dietary laws set down for them would in no wise affect the laws appointed for them, so that we must not be led astray, when we read of repeated instances of their flesh-eating, into thinking they were following out the original commands in this respect.

Two questions are repeatedly asked or thought of in this connection: First: Was not Peter commanded, when the great sheet or sail was let down from Heaven containing all manners and sort of animals, to "arise, slay and eat"? (Acts x. 9.) Secondly: Did not Christ eat meat?

In reply to the first question it may surprise the reader to be told that this allegorical dream of Peter's has absolutely nothing whatever to do with flesh-eating, or in fact with eating of any other kind. Not only this, but if there be any argument whatever, it is distinctly against the use, rather than in favor of, the advocacy of meat eating.

The following abstract from an article by Sidney H. Beard is pertinent and highly interesting: —

"It will be noticed that of the creatures let down in the sail, no fish are mentioned; also that Peter declared that he could not eat flesh food because he had never eaten anything defiled or impure. When Peter in narrating the story of his vision to the Jews at Jerusalem, in order to explain to them how he was, by means of it, taught to recognize that Jewish bigotry and exclusiveness were contrary to the Divine Will, he says: 'Not so, Lord, for nothing common or unclean hath at any time entered into my mouth.' (Acts xi. 8.) We learn from Peter's own emphatic declaration that he had been a life abstainer from the flesh of animals, and that, consequently, he had not participated in the orthodox observances of the Jews on the occasion of the Passover feasts. Moreover we know that Matthew, James (the brother of our Lord), and James the Apostle, never ate animal flesh, and we have the clearest testimony on this point in the writings of the early Christian historians, Hegesippus, Augustine, and Clemens. All this goes far towards demolishing the assumption of the churches; that the Master would, as a pious Jew, certainly have partaken of the Paschal lamb at the

other inoffensive and innocent forms of life. Why not let the child be brutal?

One of the first of the doctrines of Buddha is "not to take life." "Sooner," said he, "shall the cleft rock reunite so as to make a whole, than may he who kills any living thing be admitted into our society."

Pythagoras, who lived 600 years before Christ, taught abstinence from all animal food and wine. The gospel of Pythagoras abhorred the shedding of blood, and recommended the use of "food which needs no cooking" — nuts, fruits, honey, and the like.

"The Romans were, at this time, so persuaded of the superior goodness of vegetable diet that, besides the private examples of most of their greatest men, they established it by their laws of food."

We find the same preference given to vegetable food by the ancient Latin writers, and by Galen and Plutarch, the latter of whom has shown more particularly perhaps than any one else the danger of animal diet, in his precepts on health and various discourses on eating flesh.

Certainly the opinion of such authorities must be worthy of our serious attention and thought.

After carefully looking into the matter, and after some years of experience, I am bound to say that practically under no circumstances is the flesh of animals necessary as an article of food. So far as body nourishing, building, and sustaining qualities are concerned, there are many other articles of food which are far superior in every respect to flesh meats.

Unquestionably flesh meats as an article of diet are inferior to cereals, nuts, and certain of the vegetables. To put it plainer, the frugivorous diet is better than any flesh-meat diet in existence. This was so centuries ago and it is equally true at the present day. All this is a matter of history, the particulars of which are to be found or referred to in various parts of this volume, notably in the chapter on Natural Man. As

a matter of fact the railroad builders of the world to-day are the Italians, whose principal diet is macaroni, bananas, bread, and soups; and we also find that the Armenian, Polish, and other foreign laborers live on a diet more or less like that of the Italians.

The histories of the Anglo-Boer and the Anglo-Russo-Japanese wars furnish us with the evidence of what can be done upon a vegetable diet and also of what can be done upon a restricted diet. Lessons of this kind seem to be lost on many of the people of this continent, who are apparently more anxious to see how much they can eat than how little.

The American laborer of to-day might take a leaf out of all these peoples' book of experience, and this with great advantage in many respects, but in order to do this the American must be educated in the principles of the frugivorous diet. "It's never too late to learn," and "now is the appointed time." Unquestionably man can live on a diet of flesh meats, proof of which is amply afforded by the very fact that a large part if indeed not the larger part of the people of the North American continent of to-day are living almost wholly or largely on such a diet. When it comes to a discussion of the relative merits of the two diets, or flesh meats versus vegetables, using the word "vegetable" in its broadest sense and including in it the grains, nuts, fruits, vegetables, we need go no farther than to chemistry and physiology, which show that the flesh meats do not begin to contain the same amount of nutriment as do the nuts, and some of the other articles of vegetable origin.

This of itself should be and is quite sufficient evidence to settle the whole question. In fact this is the last court of appeal, and it takes the whole subject out of the realm of likes and dislikes and makes it such that the question may be decided entirely upon the merits of the case. Any unbiased person who reviews the facts as presented here can certainly come to but

one conclusion in considering the relative merits of the two much-discussed classes of food, Meat *vs.* Vegetables; and that is that the frugivorous diet is far superior to any flesh-meat diet in existence.

Whether the men and women of America or of England or elsewhere decide to adopt the frugivorous diet each individual must decide for himself. The principle involved in this whole matter is solved in the following words: "Therefore to him that knoweth to do good, and doeth it not, to him it is sin."

Almost every old-time sportsman who has lain aside his gun and ceased from killing animals for the sport of it will tell you that the struggle was long and stubborn before he was enabled to give up the pleasures of the chase, the excitement of which seems to egg on or incite the brutal instincts. The shooting and killing of animals by sportsmen seems to be nothing more or less than legalized and refined brutality, calculated to perpetuate man's lower or savage instincts. When a sportsman thinks of the dumb and mute appeals which wounded animals make to him in their death-struggles, looking at him with almost human eyes, he must think and feel—though it may be a long time in bearing fruit—as if his actions were condemning him, and that he is to be pitied because he has placed himself lower than the very brute whose life he is aiming to take or destroy. The sacrifice which may seem to be involved in giving up the so-called sport of killing game-animals is more than repaid in the pleasure of seeing them enjoy the same freedom that he himself possesses,—the freedom and joy of life.

Experience, which is the best teacher, teaches every individual that if flesh-eating is dispensed with, the time will quickly come when one will lose all desire for flesh foods; in fact, no inducement, however strong, can be offered to make one return to their use.

Unquestionably the highest mental, physical, and spiritual excellence will come to a person only when, among other things, he refrains from a flesh and blood diet. The moment an individual decides to discontinue the use of flesh foods from praiseworthy or other motives, that very moment does he become a better individual. In doing this he respects the rights of animals. This mental attitude engenders in one the spirit of kindness, and elevates a man above the level of the brute or savage state.

Volumes upon volumes have been written upon this subject, the literature of which is well worth the reader's attention and perusal.

Ovid has expressed it thus:

“Let white-robed peace be man's divinity,
Rage and ferocity are of the beast.
Why should man destroy, kill, and eat?”

The whole subject—the concrete idea—is beautifully expressed by Cowper in his well known stanza:

“I would not enter on my list of friends,
Though graced with polished manners and fine sense,
Yet wanting in sensibility, the man
Who needlessly sets foot upon a worm.”

This is precisely the teaching and philosophy of the Hindus, according to their Scriptures.

Fasting is an idea almost as old as the hills. This is to be seen in the Rhamadan or Lenten season of the Mohammedan; while innumerable instances of it are furnished in the **Fasting** Bible. In the days gone by, purification and sanctification were accomplished by fasting. In modern times, however, the practice of fasting is a comparatively rare procedure, and is thought of almost as a thing of the past, fasting being rather supplanted by feasting. Yet fasting has its uses, even in modern days.

There is no doubt that many people are cured of chronic ailments by the fasting method. Many persons who have suffered severely from minor ailments, have found them disappear after an illness, a temporary illness, in which the body has had sufficient time to regain its normal balance or condition of health. The same thing frequently occurs after a sea voyage; the stomach is so thoroughly shaken up and emptied by retching that the individual practically puts in a time of compulsory abstemiousness or fasting, and Nature has time to burn up the waste matters of the body.

"The more you feed a sick body, the sicker you make it." Conversely the less the body is fed, the healthier it becomes.

There is really only one benefit from fasting, and that is getting rid of the uric acid cinders, the proteid waste of the body. The majority of people are eating three or four times more proteid material than they need, and the consequence is they cannot utilize it all, and it accumulates in the body as half-burned material or uric-acid cinders.

A man cannot profitably consume more than one ounce, or one and a half ounces, of proteids or nitrogenous food per day, but, ordinarily, from four to eight ounces per day are taken in the form of flesh-meats, eggs, nuts, cheese, peas, beans, lentils.

The army ration supplies four or five ounces, which is a great excess; and most health books, physiology and all, say that three or four ounces are necessary to keep a man healthy; these are antiquated ideas.

A vital point in the consideration of this question is that the excessive use of flesh meats, or in fact an excess of any of the other proteid foods, eggs, nuts, or the legumes, results in an excess of uric acid in the blood, producing the condition known as high tension of the arteries, as a result of the increased action

of the heart. Hence we must be *sparing or fasting in the use of the proteid foods*, whether of animal or vegetable origin.

The only thing in foods of which we need to be really afraid is the proteids. When a person feels that he needs to fast, all that is necessary is to abstain from proteids. To this end nothing but fruits should be eaten, excluding the highly saccharine kinds, such as bananas, figs, and dates. Use the ordinary juicy fruits, such as apples, pears, berries, oranges, peaches, and grapes. Eat, whenever you feel hungry, of this sort of food. Being mostly water, it satisfies the craving for food, supplies energy for the muscles, prevents lowering of the vital resistance and weakening of the vital forces. A person should continue such a fruit diet until he finds himself getting clear-headed, and with clean tongue. An exclusive fruit diet an entire day of each week is to be commended to all individuals.

There is no advantage in an absolute fast. The proper way to fast is never to overeat. Man is a creature of excess, and does not always diet himself in a philosophical manner, so that an occasional fast or a day of abstinence is of marked advantage to him. In the absence of fasting, purgation is a valuable substitute.¹ Entire abstinence from food is better than to be gorging one's self with those foods which are productive of poisons in the body. A fruit diet is a much better way, and one which commends itself to every person. In the fruits we have sugars and acids, practically no proteids; and by quitting proteids, we gain all that is accomplished by an absolute fast.

There is considerable advantage in this plan, because the vital resistance of the body is not lowered, the energy of the body is not depleted. The sugar of fruits is immediately absorbable, and furnishes energy to the body at once, without the digestive process. The acids of fruits are depurative, they are also

¹ Occasionally, in some acute inflammatory conditions of the bowels.

slightly diuretic, and destroy germs which often accumulate in the stomach in countless millions.

Still further; fruit supplies to the liver the material which it needs in its work of destroying the body poisons.

Absolute fasting may be carried too far, to such an extent that it may end disastrously. This risk is not run when fruit fasting is the method employed.

In connection with the fruit cure, the patient should be treated by other means: exercise, deep breathing, hot and cold baths, all of which accelerate the fires of the body, helping to burn up the cinders.

“The more you feed a sick body, the sicker you make it.”

THE NATURE OF DISEASE

DISEASE is a condition about which the ordinary individual usually knows nothing, leaving it all to the doctors. This is a decided mistake. Every individual owes it to himself to acquire as much knowledge as he can concerning the proper care of the body. This does not mean that every one should be a doctor. It does mean, however, that every child should be taught in a general way that the care of the body is of the utmost importance. For this reason practical physiology, practical hygiene, and dietetics should be taught to all children. The teaching of health can be and should be a part of every school education.

It is strange that the one subject which everybody admits ought to be taught to every child in the public schools — namely, how to keep well — receives so little attention. The normal functions of the organs of the body, and the simple methods of keeping them in healthful action, should be a part of every child's schooling. The prevention of disease and of disorder ought to be among the first lessons in every scheme of education.

Many American children reach maturity without parental instruction, and are absolutely ignorant in the most elementary matters of health. Children are taught everything from calisthenics up to Greek and Latin, but nothing of "the one thing needful." Instruction in the laws of health should be compul-

sory. These laws are not taught in the lay or medical schools, nor are they preached from the pulpit or press; and in general it may be said that there are comparatively few individuals who are competent to teach such laws, which are to be found only in one unprinted book — the book of Nature. Unfortunately the secrets of this book in many instances are learned only in the school of experience. If we search chemistry and physiology, however, we shall be amply rewarded by discovering the most vital truths,— truths hidden from the masses of humanity, yet wide open to those who are seeking knowledge. If there is any study more important for the welfare of the human race than the study of health, it remains to be found. Physicians have not the time for teaching health; they are kept too busy prescribing for ill-health conditions.

Humanity, as it now exists, does not want to be told how to live. The cry is for a bottle of medicine, and not for advice. The main object of this book is the teaching of health, — something which will aid in the betterment and happiness of humanity. There is nothing uncanny or unknowable about disease. The average layman can easily get an intelligent idea of it. A general knowledge of the causation and prevention of disease would be for the material welfare and benefit of the entire race.

The ancient Greeks, as well as other ancient peoples, regarded disease as a devil, demon, or evil spirit, which had taken possession of the body, and had to be driven out or cast out. In modern times, however, we recognize disease as an inability upon the part of the body to carry on its work under unfavorable conditions. If we look to the animal kingdom we notice practically an entire absence of disease. In view of the fact that animals are overworked, starved or half-starved, maltreated, abused, and subjected to every kind of hardship, it is significant that disease is rare among them. They usually die a natural death,

of old age. This is in marked contrast with the life of man, who, notwithstanding all his boasted knowledge and learning, lives out but one-half to two-thirds his natural term of life.

The lesson to be learned from these vital facts is that man's violation of the laws of health is responsible for sickness, sin, and premature death. If man were taught these laws of health in childhood, the larger part of all disease would be prevented. Ignorance of the law does not save man from disease. Surely some one must shoulder the responsibility of wilful neglect, whereby millions of humanity are doomed to a life of misery and suffering, which could for the most part be prevented by wider education in the laws of health.

An understanding of disease is so simple that even a child can readily grasp it. As has been explained in another chapter, there is but one disease. It has a hundred names. The names, theories, and many other issues may be left to the physician to learn and speculate about. Disease is the same wherever we find it,—a result of the violation of the laws of nature. *Four-fifths of disease is the legitimate outcome of excesses in eating and drinking.* The remaining fifth is the result of accidental and incidental conditions over which we have no control, and for which we are not responsible. The human body is a factory of poisons. Under conditions of excess in eating, these poisons fill the blood and produce disease. The body always does its best to keep itself in perfect balance, disease being simply an unbalancing of the condition known as health. What a different world this would be if four-fifths of the disease now prevalent were swept out of existence. This earth would be a very Paradise indeed; and such a condition of affairs would really exist if man simply lived in compliance with the knowledge which is his for the seeking.

So long as the people can be kept in ignorance of the nature of disease, so long as the press, through the agency of newspapers, magazines, and various other publications, gives space to advertisements which create imaginary disease, just so long will an unhealthy and unwholesome condition exist in the minds of hundreds and thousands of individuals who are victimized by these misleading advertisements. In permitting their publication, the press is a partner to fraud. The object of these advertisements is to make the people imagine they have dangerous diseases,—that is, they aim to play upon the credulity of the public with the intention of exciting a fear of the disease. Then the patient imagines he must buy the medicines to cure his imaginary ailment.

It should be distinctly understood that medicines never cure disease, with one or two possible exceptions; for instance, when a poison in the blood is combated by another poison as an antidote. Medicines relieve or remove disease conditions, but do not cure them. The cure of disease consists, first, in the removal of the cause, which may necessitate the removal of an individual from unhygienic surroundings, a change of occupation or environment; secondly, by the upbuilding of the body with the only natural agencies in existence,—*pure food, pure air, and pure water. These are the only agencies which make pure blood.* Many individuals make immense fortunes by propagating the falsehood that medicines—their medicines—cure disease. The only agent that cures disease is pure blood. Pure blood is not made with medicines of any kind, but only by pure air, pure food, and pure water.

In general, it may be said that medicines act just as so much poison when taken into the human body. Even physicians have been deluded into believing in the curative action of drugs. Medicines of a certain kind may remove the cause which produces disease,

and in doing this the disease is said to be cured. For instance, an inflammatory condition of the bowels may be relieved by an active cathartic, whose action is to rid the system of a putrefying mass of food, the presence of which would cause disease of the character mentioned. With the removal of the cause the body heals itself. Unquestionably there are medicines which are a boon to humanity, and with which we could not well dispense, but the systematic drugging of the body with the so-called blood medicines, in order to build up the body, is a weak attempt to do what Nature does to perfection by means of pure air, food, and water. Medicines are not tolerated by the system. The truly scientific methods of administering medicines are the hypodermatic (beneath the skin by injection), and by the method known as cataphoresis, or the diffusion of medicines through or into the skin, and thence into the body, by means of electricity. In the ordinary way, when medicines are administered by the mouth, they are frequently torn up and cast out of the body as so much foreign matter; and Nature recognizes and treats them in just this manner. No better instance of this can be furnished than the method in which pepsin is handled by the body. Outside of the body pepsin is a splendid digestive agent, as evidenced in its dissolving egg albumin. When pepsin is introduced into the human body, however, it is not recognized as a digestive agent, but only as so much albuminous material, and is broken up like all other food matter. This is likewise true of pancreatin, another digestive agent, which has been administered for digestive troubles. Nature makes her own gastric juice out of the blood, and never from any artificial gastric aids like pepsin and pancreatin.

Barrelfuls of pepsin and pancreatin have been administered to individuals suffering from dyspepsia. They are still suffering. As for dyspepsia, it may be remarked, in passing, that it is always entirely cura-

ble, and without drugs of any kind. We are still laboring under the delusion, perpetuated in one way or another through the public press, that medicines cure. The healing power is to be found in the blood, and not in medicines. If man would only live, eat, and drink as he should, there would be absolutely no indication for medicines. If one transgresses in eating, however, purging by medicine affords as a rule a quicker and more expeditious relief than fasting. If there is one class of medicines more commendable than another it is the laxatives. They have the distinction of being harmless, effective, and rapid in their action.

Structural or organic disease of any kind, such as tuberculosis, commonly known as consumption, cancer, Bright's disease, leprosy, etc., cannot be cured by any medicines. All that can be done is to upbuild the body by the natural medicines, pure air, food, and water, so that assisted Nature may be enabled to stop the progress of the disease. There are medicines of undoubted value, but they never cure disease. They remove conditions, while Nature heals and cures.

The white corpuscles of pure blood are capable of performing miracles in protecting the body against disease and injury. This has been admirably shown and explained by Metchnikoff. The white cells have been called "the effective policemen of the blood."

In the blood there is a power which continually heals and renews the body, creating new tissue, and replacing that which has been destroyed. The wonderful healing and creating power of the blood is frequently lost sight of. In the healing of wounds in man, we see what takes place as an every-day occurrence,—an example of Nature's most skillful handiwork. Without Nature's aid, doctors, nurses, and medicines would be useless. It is to the animals, however, that we must go if we would know what

creative power there is in the blood. In many of the lower animal orders, notably in the crawfish, lobster, and lizard families, it is a matter of common observation that lost legs, claws, tails, and even eyes, are readily and quickly replaced by Nature's efforts. Man is not thus favored, for some unknown reason. It would be extremely convenient if he could have a lost eye, leg, or arm replaced, as occurs with the crawfish or lobster.

The thousands of medicines which we now use should all, with a few exceptions, be cast into the sea of oblivion. Probably the number of medicines which are a necessity to humanity does not exceed ten in number. Most physicians, after an experience of a number of years, come to the conclusion that they must have been hypnotized, in their younger days, into the belief that medicines cure disease. In his early practice the physician is always on the look-out for a medicine which will cure disease of one kind or another. As his experience increases he comes to regard medicines as relieving conditions, not as curing diseases.

It should seem that, on the ground of comfort alone, the wearing of corsets would be a thing of the past. Yet the wearing of corsets is one of the greatest evils with which women afflict themselves directly, and indirectly their offspring. Corsets, cannons, and cooks are said to claim about an equal number of victims. Human nature is a contrariety. A woman will wear a tight-fitting corset with, as she says, the greatest comfort, yet a tight-fitting collar would not be tolerated a minute. Evidently it is all a question of style. That the wearing of corsets has produced untold misery, suffering, and disease is an indisputable and well-known fact. Constriction of the waist, resulting from the wearing of corsets, produces strangulation or interference with the circulation of the blood, and is responsible for the following:

**Corset
Diseases**

1. The normal power of breathing is much restricted, the lungs are compressed, and there must be an insufficiency of air on this account.

2. The wearing of corsets is the direct cause of many of the weaknesses and diseases peculiar to women, producing congestions and tumors.

3. It causes serious displacement in the organs of woman.

4. It is one of the principal causes of agony in child-bearing.

5. It is one of the principal causes of premature old age in women.

6. It is the direct cause of general disease of one or more organs below the diaphragm; this may be tumors of the liver or womb, chronic congestion or catarrh of the liver, kidneys, or womb.

7. It interferes with the circulation of the blood, producing strangulation.

A moment's thought cannot but convince a thinking person that anything that interferes with the circulation of the blood, extended over a period of years, must be productive of serious disease. We know that gall-stones, haemorrhoids, constipation, and many other disease conditions are a result of the corset curse.

Corsets can be replaced to advantage by many of the modern and sensible health-waists, which have all the advantages, and none of the disadvantages, of corsets.

Metchnikoff, the Director of the Pasteur Institute in Paris, in his book on "The Nature of Man," gives an admirable account of the theory of senile degeneration or old age. In it he proves that senile decay, or old age, is mainly due to destruction of the higher, nervous elements of the organism by macrophages, which are cells of a voracious or destructive character. These cells are distributed through every part of our bodies, and have special functions of their own. They are capable of

independent movement, and also of destroying all sorts of solid matters, which has gained for them their name of phagocytes or voracious cells. The phagocytes are divided into small active phagocytes, generally known as microphages, and larger phagocytes called macrophages, the latter of which play a very important part in bringing about senile decay. It would appear, then, that one means of fighting against old age would be to strengthen the resistance of the higher elements, and to transform the "wild" population or the bacterial flora of the large intestine into a cultured and harmless population.

It is being fully and amply demonstrated by scientific investigators that the ability of the human body to resist disease depends very largely upon the presence of certain principles in the blood. **The Blood** Metchnikoff and Roux of Paris have contributed much to our knowledge on this subject, while quite recently Wright of England has even farther advanced our knowledge along these lines, and has discovered what he terms the "opsonins," or the *germ-destroying* principle of the blood. When "opsonins" are present in sufficient quantities in the blood they incapsulate and destroy all bacteria by the aid of the blood-cells. If the "opsonic" principle be deficient in the blood the blood-cells are likely to become overwhelmed with disease-germs. Hence disease is really the supremacy of the germ-cells, or microbes, over the blood-cells. Notwithstanding the wonderful scientific discoveries which have been made in determining the composition, character, and functions of the blood, it would seem that there is yet much to learn about it — and more particularly as to the mysterious manner in which the "vital principle" of the blood, which we call "opsonic" in the absence of a better term, has the power to destroy, under all ordinary circumstances, the tubercle bacilli, the bacilli of pneumonia, typhoid

fever, cholera,—in fact, the power to destroy each and every form of microbic or germ life. It is this protective principle residing in the blood which places the individual above the power of disease, and this is of exceeding import to the race at large. From a physiological standpoint the ancient saying “The blood is the life,” “The life is in the blood,” is literally true, and has a deeper significance than surface indications. The secret of a long life, then, consists in making the human body immune, and this is to be brought about by living the Laws of Health. There exists probably no more important law than one which embodies a correct appreciation of the proper amount of food which is adapted to the requirements of the human economy as well as to the particular method of consuming food.

Fruits and fruit juices are inimical to germs of all kinds. For this and many other reasons fruit is a diet especially adapted for the prolongation of human life. According to physiological law, the duration of human life should be five times the period necessary to reach full growth,—a period amounting to 100 years and upwards. The generality of men would live to this age if they lived in moderation, as Nature intended they should.

XXIII

THE ENSLAVING DRUGS

ALCOHOL; TOBACCO; TEA; COFFEE;
MORPHINE; OPIUM

*"Whatever thing makes man a slave
Takes half his worth away."*

THE great majority of mankind are slaves to one or more poison habits. These individuals are certainly in the grasp of an octopus whose tentacles rarely relinquish their hold until the victim has paid the penalty with his life. In the Orient it is opium and tea; with us it is the full category from alcohol to opium. The natural vices in America are intemperance in eating, and intemperance in the use of alcoholic liquors. The close association of these two forms of intemperance has **Alcohol** been referred to in the chapter on overeating. One has but to look upon the world with its prisons, jails, and asylums, to read the daily newspapers' category of crime, to be assured that alcohol creates untold misery, sending millions to premature death.

As is well-known, alcohol is a product of the starch of grains, manufactured by a process of fermentation and subsequent distillation. Alcohol can in no sense be termed a food, nor is it at any time necessary for the human economy. It can well be replaced to advantage by the physiological remedies; heat, cold, and friction.

Alcohol is to be classed always as a deadly poison. Alcohol is like dynamite, — always dangerous, liable to destroy the innocent and unsuspecting user without a moment's warning. The effect of alcohol upon man is to produce disease. A large-sized volume might be written upon the subject of alcohol. The point to which we wish to direct attention is that the liquor habit, as a disease, is undoubtedly curable. The relation of diet to intemperance is of paramount importance. In intemperance in eating, the sense of taste becomes perverted, cravings and gnawings follow from the irritation of the stomach, and alcohol in many instances is a usual recourse. One of the very first indications in the treatment of individuals addicted to the use of alcoholic liquors, or even of any other enslaving drug, is the careful regulation of the diet, which in many instances, alone and of itself, suffices to bring about a cure. An individual addicted to the use of alcoholic liquors is the victim of a disease. This is the rational and common-sense way of looking at it. Individuals suffering from alcoholism are fit subjects for treatment and should so be considered. Chronic alcoholism is certainly curable. To this end, in addition to dietary regulations, of which one essential is the total abstinence from flesh foods on account of their well known stimulating properties, are to be included hot and cold baths, friction, electricity, etc. A dietary of fruit is especially indicated in the treatment of alcoholism. Drug specification is the last, but not the most important factor in these cases.

Through long years of custom, the tobacco habit has become to be looked upon as one possessing no serious importance. This is a gross mistake, and the sooner the public become awakened to the fact that tobacco is a virulent poison, taking high rank, and deserving to be classed with such poisons as strychnine,

**The Tobacco
Habit**

arsenic, and morphine, the better it will be for humanity.

Tobacco is a powerful sedative poison, whether smoked, chewed, or snuffed; and until the system gets saturated with the poisonous principle — nicotine — it is both a local and constitutional irritant. The effects of tobacco are well known, and, as observed in the beginner, it gives rise to nausea, vomiting, severe retching, and general depression of the nervous system, often ending in alarming and even fatal prostration. No further demonstration of the poisonous effects of tobacco need be given than the foregoing, yet the lesson seems to be lost. The chronic effects of tobacco are that it enfeebles digestion, produces emaciation and general debility, and lays the foundation of serious nervous disorders. The indigestion and dyspepsia of all tobacco-users can properly be attributed to the excessive use of tobacco. Let one stop using tobacco, and all dyspeptic symptoms rapidly disappear.

The nervous phenomena referable to tobacco are many and varied; chief among them is the enervation or lack of nerve power of the heart, with consequent palpitations and other symptoms of heart disorder.

Tobacco heart is only one of the many manifestations of the pernicious effects of tobacco. Tobacco "blindness" and other diseases of the eye are very frequently a direct result of the excessive use of it. In many cases of nervous "break-down" attributed to overwork, the excessive use of tobacco has certainly been an important causative agent.

Epilepsy, bronchitis, neuralgia, throat troubles, and nervous ailments of many kinds are justly ascribed to the excessive use of tobacco.

The active principle of tobacco is nicotine, which is a more deadly poison than arsenic, strychnine, or morphine; one drop is sufficient to kill a dog, while

small birds are killed by its odor alone. All tobaccos contain nicotine; but the quantity of nicotine in all forms of tobacco is small, or it would instantly kill. The poison, however, does not kill outright. It is only after years of continued use, when the system has become saturated with the poison, that there may be any cause for alarm. A man may smoke for years and have no premonition of danger or sensation that he is being poisoned, until he is suddenly made aware of the fact by a paralytic stroke, heart failure, or Bright's disease.

It is a recognized fact that the use of one narcotic poison, like tobacco, creates a taste for another. This accounts for tobacco exciting a love for alcohol, alcohol for morphine, morphine for cocaine,— a ladder of drug habits.

Undoubtedly tobacco should not be used by any individual who regards his health and habits of living of any importance. The cure of the tobacco habit is a matter of diet, the increase of the vital powers, and a certain amount of self-control. Drug specification has also a place.

The question of tea and coffee drinking is one that frequently presents itself for discussion and consideration. Tea and coffee are to be considered as stimulants, making the cup which cheers but does not inebriate.

Tea and Coffee Habit

The use of stimulants of any kind is likely to end in their abuse or immoderate use. For this reason alone, stimulants of any kind are to be looked upon with more or less distrust. The stimulating principle in tea and coffee is caffeine, the bitter principle is tannin or tannic acid, while uric acid exists to a small extent.

The object of the addition of the white of an egg in making coffee, is to throw the tannin out of solution or make it insoluble. Milk produces the same effect when added to tea or coffee; in doing this the bitter

principle in a way is removed. Individuals are variously affected by the use of these beverages. Unquestionably, in a great many instances, tea and coffee are positively harmful. There are several reasons for this: —

First, it is a general custom to drink tea and coffee at meal time, and usually to excess.

Secondly, sugar is nearly always used with them also to excess. It is interesting to notice, in passing, that a weak solution of cane-sugar, say the strength of five per cent, is of itself sufficient to produce an irritation, or mild catarrh, of the stomach.

Thirdly, there are the drug effects produced by the caffeine and uric acid, whatever they may amount to.

Any or all of these effects are not calculated to produce any benefits to the human economy, but rather the direct opposite. The cereal substitutes for coffee, in themselves, are commendable, but there are objections to these, as there are to tea, coffee, cocoa, and chocolate. These objections, when stated, are more particularly that they lead to, and are responsible for, drinking at meal time, which prevents the digestion of food. Then again, the use of sugar with them is another decidedly objectionable feature. Tea and coffee without sugar would possess no charms for a great many individuals; this is just another phase of the "sugar appetite," to which attention has been directed in the chapter on Sugar Dietetics. It is a question whether the two factors of drinking tea and coffee at meals, and the use of sugar with them, are not almost as harmful in their results as the purely stimulating drug effects. Undoubtedly the supposedly harmful effects of the infinitesimal amounts of uric acid, as naturally introduced into the body in certain articles of food and drink, have been very much over-estimated. The harmful drug in tea and coffee is the caffeine. Its intensely powerful stimu-

lating effects will be understood when it is stated that on this account coffee or its alkaloid, caffeine, is used as an antidote for opium and morphine poisoning.

Caffeine is a powerful cerebral or brain stimulant, producing a marked degree of wakefulness. This must be so, otherwise coffee would not counteract the effects of powerful poisons, like opium and morphine. The action of coffee and tea as a nerve irritant is manifested in the marked increase of nervousness, nervous sick headaches, and other allied conditions from which thousands of individuals suffer. Physicians recognize the caffeine headache in those who are excessive users of tea and coffee. Cessation of the use of coffee and tea results in the disappearance of many of the ailments from which tea and coffee drinkers suffer. Weak tea or coffee, in moderation, may not appear to affect the individuals who use them, but the majority of tea and coffee users use these beverages to the extent of several cups a day, usually at meal time, and always strong. There is a tea and coffee drunkenness just as there is a drunkenness in the use of alcoholic liquors, morphine, cocaine, or opium. Under such circumstances serious disturbances of the nervous system are found to follow. The treatment of the tea and coffee drinking habit consists in replacing them by something less harmful. Plain hot water or hot nut-milks fully answer the purpose. The diet should be most digestible, consisting largely of fruits. The nervous system should be toned up by hot and cold baths, friction, etc. Fresh meats are best replaced by nuts, fruits, and cereals.

Though cocoa and chocolate are not in such general use that they may be considered "enslaving drugs," yet perhaps a few words about them at this point may not be out of place.

Cacao butter, commonly called cocoa, is a fixed oil or solid fat obtained from the chocolate nuts

which grow in Mexico, South America, the Philip-
pines, and many other tropical countries. Cacao beans
occur in pods, the trees producing them
growing to a height of from twelve
to twenty feet. Ordinarily the cacao

**Cocoa and
Chocolate**

beans are about as large as an almond, and consist of
an exterior thin shell, and a brown oily kernel. The
analysis of an average lot of these nuts proves them
to consist of water, 8 per cent; nitrogenous matter,
14 per cent; cacao butter (fat), 45.5 per cent;
starch, 23 per cent; theobromine, 1.5 per cent;
fibre, 5 per cent; ash, 4 per cent; silica, 0.5 per
cent. The fresh seeds are white, and the coloring
matter is probably the result of chemical change.

Chocolate is differently prepared in different coun-
tries. In Great Britain and the United States it con-
sists usually, when pure, exclusively of the kernel of
the cacao or chocolate nuts (beans), which are first
roasted, then deprived of their shell, and lastly re-
duced, by grinding between heated stones or plates,
to a paste, which is moulded into oblong cakes.
Vanilla, ground rice, flour, sugar, and many other
additions or adulterants are made to it. The amount
of fat or cacao butter present in a lot of samples may
vary from ten to fifty per cent, and the same differ-
ences may exist between the different cocoas or
chocolates of the various manufacturers. Cocoa may
be a rich drink or otherwise, depending upon the
brand used, and the method of preparing it for
drinking. It is usually served with a considerable
quantity of rich milk and sugar, and provided the
cocoa or chocolate contains much fat, it may form
a very rich drink, and under such circumstances it is
best taken separate from the usual meal. Generally
speaking it may be said that cocoa is less stimulating
to the nervous system than tea or coffee, though it
comes under the same category with them, contain-
ing as it does theobromine, a principle closely allied:



in all respects to the caffeine or theine of coffee and tea. Under certain circumstances cocoa may be, for many persons, preferable to tea or coffee, yet cocoa possesses stimulating properties quite sufficient to keep one awake at night if taken shortly before retiring.

Morphine, opium, and cocaine habits are curable. The treatment consists in a withdrawal or substitution of the drug, careful attention to the diet, the employment of every and all physiological measures which tend to rebuild the body. These are hot and cold baths, massage, electricity, and certain well selected drug specifications. All the drug habits are curable. Unfortunately many of those who advertise a cure for drug habits are wholly incompetent to bring about a cure, and the victims are left stranded on the shores of despair.

Digitized by Google

XXIV

BATHING AND BATHS

"Like a nymph in the bath."

THE ruins of the ancient Roman and Grecian baths, — truly magnificent buildings — scattered throughout Europe, tell us that bathing was a national virtue among the people of classic antiquity. This is in dire contrast to present-day conditions, in which neither public baths nor public bathing is more than a side issue. The masses of the people are not educated to the value of bathing beyond the "swimming" idea. It is almost as difficult to get the average individual to take a bath, with any degree of system or regularity, as it would be to induce him to take a dose of castor oil.

The traditional value of bathing as it existed among the ancient Romans and Greeks has descended, however to the Englishman, who would no more think of dispensing with his morning "tubbing" than he would of going without his breakfast, each being a sacred duty and of paramount importance to him.

The functions of the skin are as a rule but little understood, and as a result of this the care of the skin is much neglected. Yet a healthy skin is essential to every individual. The skin must be kept clean, active, and healthy, either by natural or by artificial methods. During the hot summer months the functions of the skin are generally active so that the skin naturally cleanses itself. In the colder weather, however, the skin is comparatively inactive and it is at this time more particularly that it requires to be kept

222 *The Art of Living in Good Health*

clean systematically by washing, scrubbing, rubbing, or sweating, as the circumstances may require.

Baths have for their object either the simple cleansing of the body or the cure of disease. The appliances for bathing may be simplicity itself, or on the other hand they may be so elaborate as to be almost bewildering.

The whole process of bathing may be resolved into a scrubbing or rubbing of the skin from head to foot, using anything having a rough surface to facilitate friction. The temperature of the water should be as cool as can comfortably be borne, and the length of time for the bath should be varied according to circumstances. After drying the body by considerable energetic rubbing, the reaction should be perfect and without fatigue or distress to the bather. A sponge, one or two hand-scrubs, a flesh brush, a *loofah*, a species of seaweed fibre, and coarse towels, all procurable at any drug store at a small cost, make up a very full and inexpensive bath equipment.

Under proper conditions bathing is one of the greatest adjuncts to health which we possess. Hydrotherapy, or the therapeutic or physiological use of water, is a powerful curative agent. Like anything else possessing merit, bathing and baths have been overdone to such an extent that strong prejudices have arisen against the use of what is most essential to every human being — bathing.

Under proper conditions baths can do nothing but good to those who use them intelligently. Obviously an invalid requires entirely different bath treatment from an athlete: and the same applies to all the various conditions between these two classes. The two principal factors to be considered in the use of baths are the temperature of the water and the length of time for the bath, both of which are subject to variation. Judgment and common-sense must be used in these as in other matters.

A healthy skin is warm, slightly moist, reddens quickly when rubbed, perspires readily under exercise, and is clean and free from eruptions of every kind. Under applications of cold water, with rubbing, the skin reddens perceptibly and readily, and may remain so for some time after.

Baths should never be taken immediately after meals, and preferably not until two or three hours afterwards. Prolonged sea-bathing is decidedly injurious, for the reason that the heat of the body is absorbed by the cold water, and depression and exhaustion result. If indulged in moderately the effect should be exhilarating and beneficial. Cold water in moderation is a stimulant tonic. Hot water, briefly applied, acts also as a stimulant, but if applied too long its effect is sedative or relaxing.

Many individuals have a fear or dread of cold water. This is overcome by commencing the bath with tepid water, and ending up with a cold dash. With vigorous friction, using the ordinary hand brush, flesh brush or loofah, extremely cold water can well be borne, the reaction ending in a brilliant glow of the skin. A bath of any description should be ended with a cold application, however brief, otherwise the pores of the skin are left open and a sedative or relaxing effect is likely to be produced by the continuance of perspiration beyond the proper time. To obtain the tonic effects of water it must be used cold, and for this purpose the best time to take a cold bath is just after getting out of bed in the morning, or after exercise, when one is warm. A cold bath should never be taken when one is chilled; this is the time for a hot bath.

The proverbial cold morning bath is one of the most powerful of tonics. It should be taken immediately on rising. The temperature of the water should be as cold as can comfortably be borne. A minute or two, or

224 *The Art of Living in Good Health*

even less than this, is sufficient time for cold water applications, which should always be followed by vigorous rubbing with a coarse towel or brush, until a strong reaction is produced. This may take from five to fifteen minutes, especially where the circulation is sluggish. Daily cold bathing is one of the very best preventives for those who catch cold readily. The baths must be short (say one-half minute) and are best taken in a warm room, followed by vigorous rubbing and exercise, so that the reaction is prompt. A valuable aid to excite friction is the flesh brush and the loofah, both of which may be used either moist or dry. The benefits of cold baths are not confined to the skin alone. All the organs of the body are excited to increased activity. Special mention must be made of the really wonderful and transforming effects which cold applications have upon the nervous system in nervousness, nervous prostration, or neurasthenia.

The daily scrub bath, aided by the dry-friction bath, will often exceed the curative effects of drugs

Scrub Bath in the treatment of nervous conditions. The scrub bath should form part of one's daily toilet. It may be performed by scrubbing the entire body with brushes or coarse towels, using hot water to begin with, finally ending up with a cold dash, sponge, or shower, followed by vigorous rubbing or exercise until complete reaction ensues, the skin taking on a healthy glow. Cold water can be used in place of hot by those who are accustomed to bathing. For those who have a dread of water, a substitute for bathing is provided by taking a dry or friction-bath. This may be used at any time, once, twice, or even three times a day, and is not followed by any feeling of depression.

For a friction bath a flesh brush is desirable, but coarse towels, loofahs, or other friction-producers, answer. The entire body from head to foot should

be thoroughly rubbed, a procedure which should take from five to ten minutes. Many persons take a bath as a routine matter, while others do so only under compulsion. The dry **Friction Bath** or friction-bath is one which takes but little time, is less inconvenient than the usual method, and for those persons who have a fear or dread of water, it is one that should recommend itself as a hygienic measure of the greatest importance. The friction-bath is particularly adapted to individuals, who suffer from poor circulation, cold hands cold feet—those who dread the winters.

Baths may be varied to suit the fancy: a hot scrub bath one day or several days in succession, a sweating bath once or twice a week, the friction-bath morning and evening, or only in the evening before going to bed; all summed up, however, in the necessity of every individual thoroughly exercising the skin at least once every day.

The buoyancy, vigor, vim, vitality, and exhilaration produced by a hot scrub bath, followed by a cold shower with subsequent rubbing and drying, can be appreciated only by those who have experienced it.

Cold, applied as cold air, cold water, or in any other manner, has a wonderful stimulating effect upon the entire organism. When applied to the skin its effect is to produce **Cold Bathing** marked contractility of the vessels, and this, through a chain of physiological circumstances, awakens every organ of the body. This stimulating effect is especially marked on the nervous system; hence the value of sea-bathing, cold air baths, etc.

One not accustomed to cold bathing, especially if in indifferent health, should begin carefully. It is better to have the water a trifle warm than too cold, 75° F. or thereabouts, and the bath should be brief, not exceeding one-half minute. There should be good reaction after vigorous rubbing and exercise.

226 *The Art of Living in Good Health*

The bath should not be followed by languor, headache, or fatigue. The feet especially must be rubbed till they react well. It may be necessary to put them in hot water or alternately in hot and cold water, and follow this with brisk friction, using coarse towels, hand scrubs, or fibre-brushes to facilitate warmth. In some instances, instead of the general immersion of the body, a towel dipped in tepid or cool water is wrung out of cold water and applied to the body, or the cold-mitten friction is employed, in which a rough cloth, mohair, canvas or fibre mitten is used for the purpose of friction. Each part of the body may be bathed separately and then dried: the chest first, then the feet, legs, arms, or in any other order. The majority of individuals dread the application of cold water to the nape of the neck and the spine. This can be readily overcome by using tepid water at first, and at the same time taking several deep breaths immediately at the beginning and during the pouring of the water down the back. The deep breathing prevents the inhibitory (stopping) effects of the nerves upon the heart, giving rise to gasping and other unpleasant effects. The practice of douching the spine is calculated to give one considerable self-control.

No one need forego the luxury of a bath on account of its expense. Water, an ordinary basin or tub, and a pair of willing hands are the only requisites. One of the simplest baths is the natural bath. In this bath the water, at a temperature most agreeable to the user, is splashed or rubbed on the body with the hands alone, on either the whole or part of the body. The body is dried solely with the hands with vigorous friction, rubbing and slapping. The time required for this is likely to be about fifteen minutes. When ended the body is all in a glow from the friction and exercise.

Natural Bath

The cleansing or night bath is preferably taken just before retiring. In its nature it is intended to be a sedative—provocative of sleep. **Night Bath**
For this reason it should be a hot bath, finally ending up with a cold sponge, then vigorous rubbing until thoroughly dry.

The cold morning bath acts as a stimulant fitting one for the day's work, while the hot bath of the evening is relaxing or soothing in its character, and is especially indicated in cases of sleeplessness.

Sweating by the Vapor Bath.—To induce a profuse sweat is one of the most rapid and effective methods for breaking up a heavy cold, or influenza, bronchitis, tonsillitis, rheumatism, pneumonia, etc. The use of the vapor bath under proper conditions does away with the taking of medicines, and is much to be preferred. Where the usual vapor-bath cabinet is not at hand, an extemporaneous or home-made method may be employed, more or less as follows: First, place the patient on a cushioned chair, preferably one having a perforated bottom (an empty box with a slat top will answer as well); strip him, or, better still, leave on his underclothing, and, after seating him on the chair, cover him with blankets, canvas, or cotton sheets (or newspapers will answer). Drop one or two bricks, previously heated to a "white" heat, into a pail or tub of boiling water placed beneath the chair, and have more bricks ready to be added if the water cools. Subject the patient to the steaming process until a copious perspiration is produced, which may require from twenty to forty minutes' time, and have the patient drink freely of hot ginger, mint tea, hot lemonade, fruit juice, or even plain hot or cold water as desired. The patient should then be wrapped in blankets and put to bed, provided it is intended that the perspiration shall continue; or else he may be sponged off with tepid water, ending with a very brief cold sponge dash,

and then rubbed thoroughly dry with rough towels, completing the process with a plain brisk rub, or with an evaporating lotion of either fifteen per cent alcohol, one-third strength whiskey, or distilled extract of witch hazel, and then put to bed. There is no danger of taking cold after taking a vapor bath if the patient is not unduly exposed to the outer air sooner than ten or twelve hours after the bath.

It is interesting to notice that the "sweat-lodge" was one of the most frequent methods of treating disease as used by the aboriginal North American Indians. It was arranged in the following manner: Strong and supple willow boughs were sharpened at the thick ends and inserted in the ground in a circle, and were then braided at the tops, thus forming a small hut or wigwam from four to six feet in diameter and about three feet high, with an opening for the patient to crawl inside. Blankets or hides were placed over the tent, and after the patient was in it hot stones were placed within, and a vessel of hot water was given him. He removed all clothing, and when every aperture of the tent was closed, the patient poured the hot water on the hot stones, and the steam enveloping him caused copious perspiration. The procedure was continued until, in the opinion of the Shaman, or Indian medicine man, the desired effect was produced. The Indian sweat-lodge was the predecessor of the modern vapor bath.

Sweating by a Hot Compress or Hot Pack.— This method of inducing copious perspiration may be accomplished as follows: The patient is put into bed in a room comfortably warm, stripped and wrapped up from head to foot in cloths wrung out of moderately hot water. The cloths should be wrung out as dry as possible, and put quickly on the patient, not allowing them to get cold. These cloths may be in the form of strips about ten inches wide, and made several feet long, of cotton, cheese-cloth, wincey, or

other goods. In an emergency ordinary white sheets answer, or a number of towels. The hot cloths are covered with rubber tissue, oiled silk, or mackintosh; in the absence of these, with some thick cloth material. Outside of this, flannel wraps must be used to keep in the heat. Hot drinks of lemonade and ginger may be given to the patient. The length of time for the use of the compress or hot pack varies according to circumstances, and must be sufficiently long to fill the blood-vessels of the skin, and produce profuse perspiration. This may take from one-half to one hour or more, and may need repetition. The sweating may be assisted by putting hot-water bottles or hot bricks in the bed. As soon as the sweating process is finished, the patient should be sponged with tepid water, thoroughly dried with towels and brisk friction, and then put to bed. There is no danger in taking cold after this, provided the patient is not exposed to the outer air sooner than eight to ten hours after the treatment. A hot compress or hot pack like the above acts practically like a poultice to the whole body.

EXERCISE — CLOTHING

SYSTEMATIZED exercise is essential to every individual who follows an indoor occupation. A system is to be advocated which develops the muscles generally, in contradistinction to developing one set of muscles to the exclusion of another. Such exercise may be obtained without apparatus of any kind; or by using dumb-bells, clubs, "exercisers," etc.

Unfortunately "physical culture" has been carried to excess, so that much harm has been done by indiscriminate and excessive muscular development.

The simpler the exercises the better. Most of us do not care to be a Hercules or a Samson. Excessive development of the muscles can only be kept up by an unnatural method. As soon as the unnatural exercising ceases, the muscles return to their original condition. They are liable even to deteriorate.

In many cases exercises require to be "individualized." Different classes of individuals require different kinds of exercise. In a general way it may be said that for the brain-worker and the office man, no exercise surpasses walking. In addition to this, deep breathing exercises should be practised at the same time.

Walking, however, lacks interest to many individuals. It is for this reason that golf is so popular; it combines walking with the additional interest of the game. Probably no form of exercise surpasses bicycling in its results. It is particularly adapted for

brain-workers and those who sometimes feel almost too weak for exercise. The weight of the body is borne by the wheel, the larger muscles of the body are put into play, so that the circulation of the blood is made active. The exhilaration of motion and the rapidity of the change of scene combine to make wheeling the ideal exercise when taken in moderation. Wheeling gives the greatest amount of exercise with the least possible exertion. After a spin of a few miles, followed up with a sponge or shower bath and a brisk rub, one will have an appetite not to be despised. Of the games, tennis is one of the best as an exercise. Bowling is an especially desirable exercise, as well as a pastime, for women and elderly men.

Exercises have an important bearing upon baths. After exercising actively, and while the skin is warm and moist, a bath is specially enjoyable. The reaction is complete, quick, and thorough.

The clothing of the human body is analogous in a way to the warming of a house: the problem is to keep the proper degree of heat within.

Hence the kind of clothing we wear has **Clothing** a very important relation to health. Woollen goods hold moisture for a long time. Linen also absorbs moisture to an equal degree, but it dries twice as rapidly as wool, and in so doing it exposes the individual to a too rapid cooling off. For this reason the proper combination to be worn is linen or cotton, next to the body, with an outer woollen garment next it. Two or three thin garments are frequently warmer than one thick one.

Loosely woven garments are preferable to close and heavy fabrics, allowing ventilation of the body by the air-currents enclosed between the garments. Air, acting as a non-conductor of heat, makes several thin garments warmer than one thick one. Careful attention to the proper arrangement of the under-

clothing results in a great degree of comfort and warmth, without the unusual and often inconvenient accompaniment of heavy outer clothing in the way of great-coats, furs, etc. Linen may be worn by individuals possessing the most sensitive of skins, and at all seasons of the year.

Underclothing which has been worn during the day should never be worn at night. At night the day underclothing should be turned inside out and aerated. Two suits of underclothing, wearing each suit every other day, should be worn by those who perspire freely.

The color of the clothing is also a matter of importance. White and other light colors are preferable to dark, as contact of light with the skin is essential for its health. Dark-colored goods absorb the heat rays, yet on the other hand they protect from the chemical or actinic rays of the sun. Hence, in the tropics, the most complete and perfect protection from the sun's rays is afforded by wearing white garments lined with some dark-colored fabric.

Light, especially concentrated light, has a wonderfully stimulating and energizing effect upon the skin. It is for this reason that "light" baths have gained such a pronounced reputation for their curative effects.

Woollen goods give one a feeling of warmth, and under circumstances where there might be but little, if any perspiration of the body, flannel may be worn next to the skin, with linen next and outside the flannel, the reverse of the usual manner of wearing linen and flannel. For all practical purposes cotton goods replace linen-wear to good advantage and at considerably less cost. Thin-meshed or open goods are far preferable to the closer-fibred material. Comfort is the factor which determines the amount of underclothing to be worn. The amount and kind

of underclothing to be worn has frequently to be adapted to the weather conditions, irrespective of the particular season of the year. Heavy linen, or a double suit of linen, may entirely replace woollen underclothing.

XXVI

SLEEP AND SLEEPLESSNESS

*“Early to bed, early to rise, makes a man
wealthy, healthy, and wise.”*

*“O sleep, it is a gentle thing beloved from
pole to pole.”*

IF the principles of the above aphorisms, — which cover all there is to be said about sleep, — were practised there would be nothing more to say about the question. Unfortunately in these days of rush and hurry the question of sleep is not so easily set aside. Unquestionably there are countless persons in our modern life of high nervous tension who are unable to sleep, even if they retire early to bed. It is a strange commentary upon our modern methods of living that those who live in the country rarely if ever have any difficulty in being able to sleep well, while innumerable city-dwellers are unable to obtain refreshing sleep. If the business man or society woman would but drop the activities of business or the demands of society at the end of the day the subject would easily be solved, but unfortunately this is rarely the case. The pressure of business upon men in the city seems to have assumed such proportions that many of them would seem to be compelled to eat their meals with the telephone in one hand and a pen in the other. The absolute necessity of securing sleep is ignored by a great many people, or in any

case it is considered but lightly. When it is remembered that the loss of sleep is more damaging than starvation, the question certainly assumes serious importance. It has been proved by experiment that dogs will recover after being starved for three weeks; yet they will die from loss of sleep in five days. Experiments made on men corroborate what has been found true in animals. Curiously enough, loss of sleep in man causes slight increase of weight, though the body temperature falls.

The proper length of time that one should sleep varies. Young children require more sleep than do adults. Accordingly they should retire early and be allowed to sleep in the morning until they naturally awaken. Brain workers require more sleep than do those whose occupation requires them to be out of doors. For an adult six hours is the minimum time, ten hours the maximum, and eight hours the average for sleep. The first two hours of sleep are always the most profound. Hence the desirability of early sleep. The conditions that favor early sleep are quiet, fatigue, and the recumbent position.

In the main it may be said that the cause of sleeplessness is a result of our advanced civilization, or the present-day methods of living. Sleeplessness may arise from some bodily disorder, such as indigestion, particularly the indigestion of starch and sugar, which gives rise to gaseous distentions and other disturbances, irritating the brain; or the cause may be mental worry, financial anxiety, excitement of any kind, grief, etc. The only way in which sleeplessness can be cured is by the removal of the causes which produce it. One must live the natural life — the life of "moderation in all things." This has reference to proper diet, exercise, out-door life, the avoidance of intemperance in the use of tea, coffee, tobacco, etc.; the avoidance of late hours and of the excesses of balls, theatres, etc.; in short the putting into practice

236 *The Art of Living in Good Health*

of the principles advocated throughout the pages of this book. Learn what it is to live the Simple Life and you will know what it is — to sleep.

When one goes to bed it should be for the express purpose of obtaining rest and sleep. Unfortunately many have cultivated the bad habit of taking their business cares and plans to bed with them and thinking them over at a time which should be devoted solely to sleep. Self control is required to break up such a pernicious habit. One who is unable to obtain sleep should avoid excitement and all other unnatural influences which tend to stimulate the brain. The practice of sitting up late at night reading novels or studying is to be deprecated. Late hours become part and parcel of the life of some people, and usually end in producing such an abnormal and unnatural condition as sleeplessness. A hot bath before going to bed is often of great service in giving sleep.

If sleep is not readily obtained it may be brought about by practising deep-breathing at the sleepless period, the mind-power to be concentrated within one's self in contradistinction to thinking of things of the outside world. If in the practice of deep breathing one follows in the imagination the passage of the air up and down in the filling and emptying of the lungs, just as one sees the tide rising and falling, this idea produces the same effect as does the lullaby, — that of quieting the nervous system, — and sleep follows. Beware of taking drugs, particularly those which are likely to produce the drug habit. It has been said of sleep, Nature's soft nurse, that it is "the mantle that covers thought, the food that appeases hunger, the drink that quenches thirst, the fire that warms cold, the cold that moderates heat, the coin that purchases all things, the balance and weight that equals the shepherd with the king and the simple with the wise."

XXVII

THE OUT-DOOR LIFE

IN reading the history of the ancient Greeks and Romans, one is forcibly impressed by the fact that out-door life was an important feature of their method of living, in direct contrast to what we find existing in America to-day, where innumerable people spend nearly all their lives in-doors.

If out-door life was good for the people of ancient times it is equally good for the people of to-day, and the sooner we realize that the great out-doors should be a play ground for all humanity, at all seasons of the year so far as climatic conditions will permit, the quicker will our health conditions improve.

That man is naturally an out-door animal is a matter upon which all scientists are agreed, whatever else they may disagree upon. This is proved by the fact that with the coming of spring all mankind longs to get out of doors, to breathe the fresh air, to hear the birds sing, to see the blue skies, — in a word, to live.

The natural instinct of boys is to want to live out-doors, to go barefooted and bareheaded, to swim, to run, to play, to be natural. Cage an animal and it becomes restless; in many instances it literally wilts and dies in captivity. In like manner children, if left to themselves, naturally seek the light and air, — and without this they droop, wither, and die. This is also true of adults, who without fresh air and light become melancholy and despondent. Life possesses no joys, holds out nothing for thousands of human-

238 *The Art of Living in Good Health*

ity, solely because they do not take advantage of Nature's life-giving methods. The way to cheer up is to get out into the air where everybody is happy,—where all Nature smiles. The time for the adult to learn to live out of doors is in early childhood; and the practice should never be given up.

In Japan where the children are born and reared in wide-open houses, infant mortality is scarcely known. This is in marked contrast to what we find existing in America, where thousands of children die annually, in many instances solely from air-starvation.

The cheering influences of the sunshine are never more forcibly illustrated by contrast than when dark and gloomy weather occurs, the absence of the sun being responsible for the depressed condition.

Man was made to live out under the sky, to be subjected to the stimulating and energizing effects of light and air, and thus to be enabled to absorb the subtle dynamic influences which are only to be had out in the sunshine. The more one is exposed to the cheering influence of air and natural light during day and night, winter and summer, the more vitality one will absorb. *Air and sunshine are the most effective cures for disease*, more particularly for that dread disease consumption.

Consumption is a mal-nutrition disease, resulting primarily from air-starvation, seconded by food-starvation or its equivalent the perversion of food, as observed in individuals afflicted with dyspepsia and chronic indigestion. It has been held for many years that consumption was a disease resulting from a bacillus, a low form of microscopic animal life. The opinion is now gaining ground, however, that it is a disease resulting from fermentation causes in the nature of a mould, or mildew, a low form of vegetable life, and that the source of infection is through the stomach or other parts of the alimentary canal and rarely if ever through the lungs. This is an addi-

tional reason why every person should aim to have the best possible digestion, in order that not only consumption but also all other equally infectious disease-germs shall be destroyed by the digestive process, the particular germ-destroyer being the salivary secretion.

Whatever view is taken as to the origin of consumption, it does not concern us here except to state that in either case the germs are destroyed by sunshine and pure air. In order to cure the disease the soil of the individual must be made healthy so that the germs cannot live. If the soil is unfavorable to their growth the germs are certain to die. One of the first requisites of a healthy condition is a continuous supply of pure air, seconded by plenty of sunshine, and proper regulation of the diet. Medicines are practically useless and only tend to sicken the patient.

The advantage which an out-of-door life possesses is inestimable and is not adequately appreciated by the masses. Out-door living at the present time is only in its experimental stage. People who live wisely and well go out-doors in the early spring and remain out until the late autumn. They get all the sunshine and fresh air they can absorb, and if they have the right opportunity they sleep out-doors, take their meals in the open air, and thus renew their health and strength in a manner not to be obtained in any other way. When the people fully learn and appreciate the value of pure fresh air as a tonic, *as a food, as a restorer and promoter of health*, and make constant use of it, they will experience an added pleasure in life. Those persons who have camped-out in the woods or at the seashore must have been impressed with the advantages of such a life. Under proper conditions there can be no better way to get close to nature. With the ground covered with pine, hemlock, or other tree-brush for a bed, with the starry heavens as

a canopy, the sleep one will gain will be unrivalled in sweetness, and an appetite will be acquired that can never be equalled except under such natural conditions of air-breathing, and the moonlight and starlight influences, which are so subtle that we can only understand them by their beneficial effects. Now, when the conditions of out-door living are so readily obtained in this country, more especially during the summer months, it is certainly a mystery that any one should want to lie cooped up in the dark corners of a badly-ventilated room, when by moving the bed close to the windows one can see and enjoy the most magnificent of panoramas — the stars and their songs. The moment one suggests the idea of living out of doors, hundreds and thousands of nervous individuals at once cry out their objections, their vivid imagination leading them to think of mosquitoes, toads, snakes and every species of undesirable creature — none of which will ever disturb any individual who takes the proper precautions to be comfortable. Night air is the purest we can breathe, and the more of it we breathe the better for us. Yet we find people who seem to be afraid of the fresh air, acting as if air were made to look at, and not breathe, an enemy rather than a friend.

There are many ways of living out of doors, in porches, verandas, balconies, open summer-houses, roof-gardens, a camping life in tents, and in many other ways with which the reader is familiar. Each of these ways has its advantages, and the one to be adopted is that which gives the greatest degree of comfort with the least possible inconvenience. I know of no other way in which sleeping out of doors can be more thoroughly enjoyed and more easily carried out than by the use of the *sleeping bag*. Its canvas cover is fitted with a flap or fly over the top, which acts as a wind break and an extra protection against rain. Next to this is a thick seamless woollen

bag, felted firmly, but soft and pliable, with a deep thick nap, very strong and very warm. Inside this is a bag made of fine wool, also seamless, soft as a fine bed blanket, but thick and warm. The material of these bags is quite different from ordinary woollen blanketing, being a cloth felted heavily, but with a thick deep nap on both sides, giving it a softness and warmth not found in any other fabric. This combination of three bags, with air spaces between them, gives greater warmth and lighter weight than any other covering affording the same protection. It is possible, however, to use any one, two, or all three of the bags at a time, so the sleeping-bag is just as serviceable in summer as in winter. With it one is ready for every possible condition of climate or weather. The canvas cover and one woollen bag are warm enough for ordinary summer use; with the inside bag added the combination is warm enough to meet nearly every requirement, though for very severe service an extra inside bag is sometimes ordered.

The sleeping-bag is perfectly sanitary. Each bag can be easily removed to wash, air, or dry. This is very important, and no one should think of purchasing a bag that cannot always be kept clean. With a bag of this kind one can sleep out-of-doors without fear of dew or rain, either upon the ordinary slat-bed or couch, or upon a balcony; free in any case from bugs or other creeping things. Every camper knows that the places of beauty and interest which take him really close to nature are those in which in many instances it is almost impossible to remain on account of mosquitoes. With a sleeping-bag this difficulty is readily overcome, by making an arrangement as follows: Take ordinary mosquito-netting and make and sew it together in such a way that it will cover a packing case say seven feet long and two and a half to three feet wide, and the same in height. This may

242 *The Art of Living in Good Health*

be rolled up and packed away in a valise or the sleeping bag whenever it is intended to use the bag in places where mosquitoes are a pest. All that is necessary to do is to take four or six sticks or wooden stakes sufficient to make a frame-work, box-like in shape, and throw the mosquito netting over the frame work. The netting may be so made that it has a hinge at one end so that the sleeper can lift up the hinged lid, slide bag into position, then slide himself into the bag, drop the lid and he is safe. This contrivance does away with the making of smudge fires and other processes which fail to keep the mosquitoes away. If the mosquito netting frame-work is made large, the mosquitoes will be kept at such a distance that their "singing" does not disturb the sleeper. An added precaution for comfort may be taken by having some sticky fly-paper suspended from a tripod, which answers effectually to drown their humming or singing. A practical trial of what I have recommended will prove it to be an absolute success. The whole affair can be quickly and easily made in a short time, and the comfort it affords one is priceless.

The sleeping-bag has many points of superiority over the ordinary square blanket. Blankets are difficult to keep in position; and they do not give the warmth or protection of a properly made sleeping-bag. A bag keeps in the heat and keeps out the cold.

Sleeping-bags must therefore afford the greatest possible warmth with the least possible weight, must be perfectly sanitary (easily washed, aired, and dried), adapted to warm weather as well as cold, and must be rain-proof, wind-proof, and cold-proof. Moreover they must be so simple in construction and so easily adapted to any position of the sleeper that they will meet the requirements of every one. My experience with the sleeping-bag has been that it has so many points in its favor that it cannot fail to recommend

itself as the best of out-door sleeping accessories. The sleeping-bag can be readily utilized for packing the camper's outfit, more or less like a "carry-all." The bag takes up very little space when properly folded and it is never a source of inconvenience.

XXVIII

MENTAL CULTURE

FEAR; WORRY; NERVOUSNESS; CHRISTIAN SCIENCE; MIND CURE; THE EMOTIONS; MENTAL HABITS

"T is the mind that makes the body rich."

SELF-CULTURE includes the education or training of all parts of a man's nature, — the physical and moral, as well as the intellectual. Each must be developed, and yet each must yield something to satisfy the claims of the other; otherwise man becomes one-sided in his nature. If the physical powers be cultivated exclusively, the result will be an athlete or a savage; the moral only, and we will have an enthusiast or a maniac; the intellectual only, and we have an eccentricity in individualism amounting almost, it may be, to an abnormality or freak. It is only by wisely training in all three of these principles together — the physical, moral, and intellectual — that the complete man can be formed.

The ancient Greeks laid great stress on physical training, and a sound mind in a sound body was the end which they professed to aim at in their highest schools of culture; which would involve the idea of equality in the mental and physical development of their youth. The old English entertained a similar idea, — "the field in summer, the study in winter."



But it is to the mental culture of the race we would now more especially direct the attention.

The nervous and mental hygiene, or health, of each individual begins at birth, and ends only with the extinction of life. The hereditarian contends that "the gods visit the sins of the fathers upon the children"; "that we are omnibuses in which all our ancestors ride," and "that the life of each individual is, in some real sense, a continuation of the lives of his ancestors." Much of this is true, but a morbid inheritance is not the crushing and baneful thing that it was once thought to be. Every individual is free to work out his own salvation, and become whatever circumstances will make of him, or whatever he may make of circumstances. Health is the great heritage for success. The laws of the Spartans, which are worthy of imitation in many respects in this age, sought to give health to each individual. They idolized what was beautiful and useful, and endeavored by the most rigorous means to attain these ends. The sick were not allowed to marry, though the healthy were compelled to do so. Bachelors were publicly denounced after a certain age, and banished from society. Marriage in either sex was not permitted until the age of maturity. The result of this Spartan system of marriage was to produce for five hundred years the strongest and bravest men, and the most beautiful women the world has known. Such a system was the "survival of the fittest." Nervous wrecks were unknown among them. The little that individuals in the present age know about the care and wants of the body, as a result of lack of teaching, is a great deal in comparison with the little that is known about the mind wants or necessities of the individual. The mental training of children is one that is sadly neglected; as a consequence their lack of training is reflected in many unpleasant ways in their after life. Children both inherit and



acquire certain mental traits. A dire inheritance is fear.

Fear is the strongest emotion built into the child during the *pre-natal* period, through the fear or over-anxiety of the mother. The child enters the world surrounded and influenced by the *fear* of this, that, and the other thing; the bugaboo man and similar *fear-devising* ideas—a very *atmosphere of fear*—which terrorize the child. Very many times even its religious training is permeated with a fear of God, the great Life Giver, instead of with the love of God, who careth for all his creatures. Fear is part and parcel of our make-up, for which our religious teachers have been largely responsible. Nothing else could be expected, since the fear of the fearful hereafter and death has been knit into our very fibre and being, as a result of these teachings. Most of us would only be too pleased if we could divest ourselves of the fears which were inculcated in us during childhood years.

During the school period the child lives more or less in dread or fear of the conditions at school, fear of failing in examinations, the lack of success, resulting in disgrace.

Fear is the most destructive emotion of the mind; it paralyzes, kills, and destroys. Many people live in perpetual dread of hereditary or contagious disease. No doubt a great many diseases are due to anxiety or fear. Unquestionably contagious diseases are increased through the mental circulation of fear. Patent-medicine advertisements are responsible for the imaginary diseases of thousands of individuals possessed of a nervous temperament and active imagination. The people are literally scared into taking the medicines. Fear is the imagination let loose, unbridled.

Fear and worry are synonymous terms. If we do not worry we do not fear, and if we do not fear we do

not become angry. Worry, fear, and anger are the grossest forms of egotism — self-imaginativeness.

Fear is a form of mental slavery or bondage in which we have been living for ages. It surrounds man before birth, meets him at the beginning of life, and follows him through life unless he becomes free through mental emancipation. If we would be well both in mind and body, we must be free of fear. We must become emancipated and fearless.

Fear manifests itself in many unthought-of ways. There are those who are afraid to leave the doors unlocked for the night, when possibly there is n't a stranger within miles; others who are afraid of thunder or lightning; others afraid that a storm will soon blow; others afraid of the thousand imaginations of an imaginative mind.

Fear is due to superstition and ignorance. Fear magnifies and creates a thousand imaginary calamities or obstacles, none of which ever come to pass. Fearlessness must be cultivated by every individual.

Fear is born and bred in us as a result of centuries of cultivation. There must have been an object in this, for we know that an individual, imbued with fear, is a slave, — a slave to some authority whether it be Church, State, or individual, who exercises this power — fear. If one would be free and happy he must cultivate *fearlessness*. We have much to learn from the Japanese in this respect, who have a love of life, but no fear of death, who believe that what "will be — will be." No wonder that as a race they are possessed of a wonderful degree of culture and self-control. Such a thing as fear or worry is practically unknown among the Japanese.

Fear engenders distrust and despondency, is the one demoralizing mental state. Opposed to this is faith, which gives assurance, confidence, and trusting expectancy; is the one restoring and sustaining mental state. These two opposing states, fear and faith,

are the ones which involve the mental influence on health and disease.

Fear is the one demoralizing agent. It lets down the bars and opens the system to the inroads of disease, inviting the very evil that we dread. It creates *imaginary* evil, and gives to it its fictitious power. It shuts off any healing action in proportion as we are held under by its paralyzing and depressing influences.

Faith is the *antidote to fear*. Faith restores and exalts as much as fear demoralizes and depresses.

In the cultivation of fearlessness lies the secret of the cure of worry and nervousness.

If it were possible for me to teach humanity how not to worry, I feel that I could have accomplished no work more far-reaching and beneficial in

Worry its results. Just as overeating is probably the greatest sin that is committed against the physical body, so in like manner is worry the greatest sin committed against the mind or mental body. To such an extent is this true of worry that it has almost attained the rank of entitling it to be called *one of the great national vices of America*. Worry may directly or indirectly pave the way for organic disease, and hence it must be regarded as the serpent in the rose, — a deadly thing. Theoretically it is one of the easiest things in the world to quit worrying; practically it is one of the most difficult things of accomplishment, or at least it appears to be so.

Worry is hydra-headed in character, proceeding from a hundred causes, conditions, and influences, some of which exist before birth.

Worry means to be unduly anxious or troubled, to be in a state of solicitude, anxiety, disquietude, or pain, to make oneself anxious or harassed, to fret from the cares and worries of life. When an animal is "worried" to death, as occurs in the hounding of sheep by dogs, we have a good illustration of the effect of

worry in its meaning, — to be suffocated by something stopping the windpipe, smothered by choking.

The majority of persons are full of worry; in fact we live in a very atmosphere of hurry and worry. If we have not inherited worry we acquire it through unnatural conditions of living at high pressure. Unquestionably overwork of mind or body, or both, are the prime factors responsible for worry, super-inducing a diseased or unhealthy body. There may be exceptions, but these only go to prove the rule.

In general it may be said that worry is a result of ill-health, dependent upon overwork, bodily or mental, or both, in some form or other. Lack of exercise in the open air, combined with mental concentration along some particular line of business or professional work, is responsible for many ills of the present generation, — ills not only of the nervous system, but of the organs of digestion and assimilation. In addition to this are the emotional causes of fright, shock, and grief. The poison of la grippe seems to have a specific influence on the nervous centres, and is highly provocative in inducing depressing effects leading to the worrying habit and nervous exhaustion.

Children undoubtedly inherit or acquire bad mental habits from their parents. Many a father and mother, through their incompatibilities, influence the lives of their little ones in a way that cannot but manifest itself harmfully in them in their after life. Just as children learn bad dietetic habits from their parents, so they absorb, imitate, or acquire their mental habits or traits, good or bad. Worrying parents have worrying children.

Worry, or the worrying habit, can be cured; undoubtedly so, but only by a systematic method of training of both body and mind. Worry is a habit of the mind, which is as susceptible to training, subjection, and control as is any other individual function of the body.

**Worry-
Cure**

250 *The Art of Living in Good Health*

Worry is a most useless employment. Certainly one should not worry over what can be helped or prevented. If it can be prevented, all that remains to be done is for the individual *to do* it, and the trouble is ended. If it cannot be prevented, only harm comes from thinking about it.

The individual must be his own physician. He must realize, with every fibre of his being, the utter, absolute uselessness of the sin of worry. He must understand that if it were possible for him to spend a thousand years in thinking it out, in worry, it would not change the facts, causes, or conditions, one jot or iota. One must fully realize and be impressed with all this in his inmost consciousness before recovery is likely to come. When this point is reached, the point where every worrier perceives the absolute senselessness* and futility of worrying, the cure of worry will have begun; because just as soon as one realizes that worry is doing harm or injury to him, he at once determines to quit worrying. This beginning of the exercise of will power, the starting of the motor of determination which has lain idle so long, is the weapon which kills the venom of worry.

We know that thought, the power of well directed thought, is simply marvellous, and always for good; just as we know that badly directed thought is always harmful in its effects. For this reason we must always *think health*, good health, and if we would think good health, we must always live good health. The two form a chain which cannot well be sundered without producing bad results.

Imaginary diseases are curable by thinking good health; actual diseases are cured by living good health. *All diseases are cured by living and thinking good health.* Man has been defined as "a creature looking before and after." Some worriers are living in the past, others are living in the future. The former class might as well be philosophical, and re-

member that what has been done cannot be undone, and it might have been worse. The others are crossing bridges before they reach them. To cure one's self of worry is not an easy task. It is not to be moved by two or three applications of any quack philosophy.

The cure of worry must be directed to removing the causes which produce it, whatever they may be. If the general health is below par it must be improved by attention to correct habits of living, as emphasized time and again throughout these pages. The digestion must be perfect, otherwise the essential conditions for the cure of worry can never be attained. The care of the body must be the first consideration, because a healthy body has a powerful tendency in producing a similar condition of mind. It is an absolute impossibility for a healthy mind to exist in an unhealthy or diseased body, though there may have been some few exceptions to this rule.

The products of digestion in an unhealthy person — that is, in one suffering from indigestion — are alone and of themselves sufficiently powerful and poisonous to produce irritation of the nervous centres, inducing nervous prostration, nervousness, and worry, with all its attendant train of disorders. It is for this very important reason that we must live, as well as think, health. If thinking good health of itself would make us well, no one need ever be sick.

To expect one to quit worrying who is in ill-health is like asking the removal of mountains without apparatus. With improvement in bodily health, the functions of the mind are at once stimulated to healthy and natural conditions. It is a comparatively easy matter to cure worry when it is more particularly dependent upon, or proceeds primarily, from a condition of bodily ill-health; but when the factors responsible for it have been shock, fright, sorrow, etc., directly affecting the nerve centres, then the case

252 *The Art of Living in Good Health*

assumes an entirely different aspect, and becomes somewhat more complicated, involving systematic mental training.

In a few words, then, the cure of worry resolves itself into two phases, — living and thinking health.

First, we must *live health*. This is the bodily cure for worry.

Secondly, we must *think health*. This is the mental cure for worry.

Both of these conditions, the living and thinking of health, if carried out in a proper manner, are bound to end in but one thing, — the gratification of one's highest desire and greatest good, perfect harmony both of body and mind, producing health.

To live health means that the digestion must be perfect. Good digestion makes cheerfulness, cheerfulness produces hope. Hope, the most powerful stimulant in the world, makes health and happiness. In addition to the care of the digestive functions, attention must be paid to the functions of the skin, as outlined in the chapter on Baths and Bathing.

Two of the most powerful agencies employed in the cure of nervous conditions, of which worry is a symptom, are fresh air and cold water, both of which should be used to the fullest possible extent. Systematic deep-breathing and bathing are fully explained in their respective chapters. Rest, fresh air, change of occupation, or complete cessation from work, where this is the cause, are all indicated in the treatment of those possessed of the worrying habit. Some individuals worry because they have nothing else to do. They should change their occupation at once, and become actively engaged mentally or bodily or both.

Worry has its root in fear. Again, over-anxiety is only another form of fear or fearfulness.

It is interesting to note that "worriers" as a rule are the most difficult people in the world to influence.

It is almost an impossibility to get them to do anything, to become positive; they are always so *fearful*. You may point out to them the deadly and pernicious effects of worry; that it paralyzes, kills, and wholly destroys; that it devitalizes, enervates, saps, and sucks the very life blood of an individual; that "worriers" have no pleasure themselves, nor, so far as their efforts are concerned, can any one else have any. To all of which they readily assent, and yet one might as well pour water on a duck's back, expecting it to get wet, as to talk to worriers with any expectation of getting them to act for themselves.

✓ In many instances worry is but *a manifestation of ill-health*, and must be so regarded. Worry always means depressed functions of the mind or body, or both. These dual functions are so inter-related to each other that what affects one is bound to affect the other through sympathy. Many individuals given to the worrying habit have been made so by that dire disease la grippe, whose poisonous effects seem to be specially directed to, and spent upon, the nervous centres. Thousands of these individuals are the victims of ignorance or neglect of the ordinary laws governing health. The "nervous wrecks," who are scattered and stranded along the shores of ill-health, are such because of our artificial, rush-hurry, high-tension, get-rich-quick methods of living.

Marital incompatibilities, much as we like to shut our eyes to the fact, are largely responsible for the worrying habit, in many instances. Even under the most auspicious circumstances, married life has its cares and responsibilities, for which many young people are almost wholly unprepared. How could it be otherwise when neither of the contracting parties has the slightest idea of what is meant by self-control, — necessary capital with which to begin married life. It is for this reason that there are so many "misfit" families.

254 *The Art of Living in Good Health*

Imagine, if you can, a high-spirited young woman who is unfortunate enough to become the wife of a man who is a victim of the alcohol habit. Add to this the curse of a besotted and unsympathetic husband, the sickness of children with its fears and anxieties, the neglect and poverty of home; are these not sufficient in themselves to drag down and degrade any woman of spirit, in short, to induce the worrying condition? A woman so placed requires confidence, faith, hope, prayer, will power; even these in many instances seemingly require to be supplemented by dynamite. These are the circumstances where women require will-power of the character of which it is said that a lion tamer would rather face his lions than his wife's temper; manifestations of fear in both instances, — lions afraid of man, man afraid of woman.

The minutest quantity of this kind of temper or will-power, instilled or inoculated into the mind of a worrier, will "ferment" a determination to quit worrying—to get well. This is the essence of the "I will" idea or plan,—a positive determination to do something for one's self. This is true mind-cure, or mind-power.

Worry always means hurry, involving as it does an excessive activity of the body or mind, or both. This means overwork, a condition which inevitably results in worry, nervousness, and exhaustion. The old adage "Make haste slowly" is quite justified. Hurry means high tension. High tension is the counterpart of a break-neck speed, which is bound to lead to a "runaway" of the nerves sooner or later. Worry is caused by fear, yet there is nothing to fear in the whole universe. Learn self-control and you will conquer worry, fear, anger, and all the other evil passions. Learn to relax both the body and the mind. Mental relaxation or rest is absolutely necessary in the worrying condition. Relaxation of the body is easy in comparison with relaxation of the

mind. Mental relaxation or mental rest is an absolute necessity in conditions of worry, nervousness, etc. The minds of these individuals never stop thinking. The individual may relax muscularly, but not mentally. If these persons could only stop thinking a few hours each day, what an amount of vitality would be saved. Many persons keep themselves sick by their active imagination. In fact worry is often kept up in just this way; the mind can think health or it can think ill-health, just as the individual wills. When we will good health, we practice mind-cure in its purest form, the basis for which is to be found in religion. Belief in God is the basis of true mind-cure. Belief gives rise to hope, and hope is one of the most powerful stimulants to which the body can be subjected. If a man have nothing to hope for, he must indeed be depressed and spiritless.

Remember that worry kills and devitalizes, and therefore do not harbor worrying ideas, whose effects are equivalent to those of a slow poison. The individual who is always in a hurry does not see half the beautiful things of this world.

There is much unnecessary worry about the salvation of the soul, due to fear and the teaching of being eternally damned. The idea of an avenging and relentless God, as once preached, is enough to create terror in the minds of the young, lasting through life; and even when, as adults, we realize and fully comprehend that the love of God towards all His children is not in accordance with these terrifying teachings, we can hardly free ourselves of the fear of being everlastingly lost.

If any one needs a sound basis of hope and good cheer, it is the sick man or the worried woman. The man or woman who believes in God, and who knows that He cares for each one of us, has a great foundation upon which to base faith and hope.

To tell a nervous woman to stop thinking about herself is about as sensible as to tell the wind to stop blowing, or the sun to stop shining. The proper thing to do is to give her something outside herself to think or be engaged about. Introspection and retrospection are the great bugbears of those who worry. Such individuals must be encouraged to occupy themselves in doing something that will absorb the attention, and wean the mind from dwelling on one's self or troubles, whether these be real or imaginary. The advice of a celebrated English nerve specialist to overwrought and nervous women was to go home and do fancy knitting for half an hour every day; this idea involves a change of thought, which in many circumstances is just what worriers require.

Another excellent plan is the practise of systematic deep-breathing, which may be done to advantage in many ways. When one begins to worry, the mind must be diverted in some way. One of the best methods of doing this is to practise deep breathing, keeping the mind or thoughts concentrated upon the exercises, following, in imagination, the passage of the air up and down, in the filling and emptying of the lungs, just as one rises and falls with the tide when sitting in a boat swaying with the current. Inhale and exhale fully, easily, and intently. Banish the idea of worry entirely; if necessary, repeat any phrase or phrases five, ten, twenty, or even one hundred times, if need be, which may seem to help you or give you determination. These phrases may be your own making, such as "I shall not fear or worry," "I will be well," "I shall not think, worry," etc. Remember the power to act well is always yours to wield. *Pray without ceasing.*

Most worriers live in the past, the present, and the future, all at once. The worrier recalls the troubles and mistakes of the past, carries the burdens of the present, and anticipates the woes of the future. The

triple load is overpowering. Healthy individuals can live but one of these at one time.

“Take no (anxious) thought for the morrow.”

“Let the dead (past) bury its dead.”

These inspired words in themselves teach the folly and sin of worry.

Always see something beautiful in the weather, whatever it may be. The weather, like the poor, is always with us, and is always beautiful to those who are well. Torrents of rain are quite as beautiful as the sunshine.

Nervousness, or nervous exhaustion, is only one of the varied forms of worry. Many other subdivisions of nervousness are manifested in the harmful mental habits of discontent, fault-finding, fretting, fear that **Nervous-** **ness** affairs will not turn out aright, jealousy, self-pity, over-anxiety, melancholy, irritability, etc.

A man can worry far longer and harder than he can possibly work, and by keeping himself in a state of nervousness or worry, he thinks himself to be carrying great responsibilities, and doing important work, whereas the worry does nothing but exhaust and devitalize the system of nervous energy.

The emotions use up the nervous system far more than does the intellect. For this reason worry, which is one of the fear emotions, is expensive to the nervous system. An individual can worry from the time he wakens up in the morning until he goes to bed at night. He can even have the worry, or nervous state of mind follow him through his sleep, so that he is restless and fatigued in the morning.

A curious sign of nervous exhaustion is what may be termed “irritable weakness.” For example, an individual while working will constantly make unnecessary movements; will see the door ajar, get up and shut it, even though this be of no advantage; will

258 *The Art of Living in Good Health*

see a piece of paper on the floor and will have to get up at once and put it in the basket; or the hands are picking at a watch chain or bracelet. In general the power of control is lessened so that the individual is doing many things which are quite unnecessary. The face especially is over mobile; the eyes and lips are constantly expressing emotional states.

✓ It is worry, not work, that kills. There is nothing under the sun which so enervates or practically uses one up, sometimes almost to a point of complete collapse, as the very common practice to which so many individuals given to worry become habituated, — that is, the building of castles in the air, or brooding. Give the imagination reins and in a short time one will become nervously bankrupt. This habit of castle-building, of planning and speculating, of always anticipating what one will or will not do, of always building in the future, is one of the worst of nerve-sapping influences. These castles are usually built during the hours when one should be asleep. These flights of speculation should be vigorously fought against. When one finds himself indulging in this baneful practice and apparently unable to banish the ideas from his mind, he should seek the fresh air, read a book, or do something that will necessitate a change of thought. The mind or nervous system is like an electric motor which continues to go on long after the power which puts it in motion is shut off.

Self-control is attainable by training and we must all practise it if we would master ourselves. The exercise of the mind, whether by prayer or otherwise, is the palladium against worry, depression and its effects.

Nervous prostration and nervous dyspepsia are direct results of self-thought and self-interest; every contagious disease is made possible to us through fear for our personal safety; and our mental condition and spiritual depression are due to worry over our own unfortunate circumstances. There is

more health in self-forgetfulness than in all the drugs of the earth, and more happiness in self-adjustment than in realization of all our present wishes. Happiness, which means health; health, which means holiness, is not fenced off in certain spaces of the earth, to which we must fight or pray to gain admittance. It is all around us, over us, under us, or it is nowhere.

The worrier is a suicide — self-slain by a weakened and cowardly condition of mind which ultimately kills. Nervousness can be absolutely cured, but not at one fell swoop. Practice and persistence are bound to conquer it. On retiring for the night constantly impress your mind with the thought: "There is nothing to fear in the whole universe. I am God's child and He will let no harm come to me. When I awaken I shall be happy and refreshed."

One can truly say concerning nervous pains that one only suffers when he thinks of suffering.

The nervous patient is on the path to recovery as soon as he has the conviction that he is going to be cured; he is cured on the day when he believes himself to be cured.

By all means stop talking of your ailments. So long as disease is held in the mind, it is likewise held in the body. We must absolutely let go of disease in thought, if we would drop it out of the body. This must be done if one would be well.

Live health, think health, pray health, and you will certainly find it.

Christian Science is another of the newer teachings, which assumes that there is no such thing as disease, reasoning it out so: "What is termed disease does not exist. It is not mind nor matter. Human mind produces what is termed organic disease as certainly as it produces hysteria." That is to say "God is good; disease is evil. God created all things, and pronounced them good. A good God can create

**Christian
Science**

260 *The Art of Living in Good Health*

no evil, hence disease does not and cannot exist." As an offset to this it may be said that God never created sickness, suffering, and disease. They are man's own creation; disease, sin, and sickness are synonymous—that is, one and the same thing. They come through his violating the law under which he lives. Sickness is the scar of sin. But so used are we to seeing them, that we come gradually, if not to think of them as natural, then to look upon them as a matter of course.

To say that disease does not exist is as absurd as to say that crime, vice, insanity, and immorality do not exist. Let any sane man look out upon the world and view the hundreds and thousands of maimed, crippled, halt, and blind of humanity and say that disease does not exist. One might as well say that the sun or moon does not shine, or that we ourselves do not exist, but only *think* we exist, as to say that disease does not exist. We know that these and many other conditions do exist, not as imaginary but as actual evils, all arising out of man's violation of some natural law.

Christian Science teaches that man can supplant God in the exercise of the creative and healing power, which alone belongs to the Creator. Man of himself can do nothing. Let an individual become inflated with the idea that he has powers beyond the ordinary individual, especially healing powers, and it is but a short time before he thinks himself a mighty healer, with powers specially endowed from Heaven. In his pride he would supplant even the Almighty himself. There is a certain class of disease, notably that pertaining to the nervous system, of which worry is only one and a minor phase, in which mental or moral exercise is an essential form of treatment. Hundreds and thousands of individuals, from one cause or another, become chronic invalids. Their diseases are purely imaginary. Physicians know

this full well. Yet if a physician were to tell any one of his patients of this class the plain truth, the patient would be mortally offended and seek other medical advice. The amount of sympathy which the chronic invalid invites upon himself is tremendous. There are multitudes of diseased minds. There are as many, if not more, mental than physical diseases, and these nervo-mental diseases are often cured instantaneously. The mind forces, the power of faith, the all-penetrating power of the will, or will-power, go to prove it.

Imaginary disease can be cured by faith, by belief, by belief in anything; it may be a sugar-pellet, or a bottle of colored water, as in homœopathy; a bitter and vile-tasting mixture, as in the olden days of allopathy; a fetish or charm of any kind, from a horse-chestnut carried in the pocket to a horse-shoe carried around the neck, or put above the door; from a parasitic mind-cure right down through to the good old-fashioned religion itself.

Actual or real disease cannot of itself be cured by any form of mind-cure. Real disease is a result of abnormal bodily conditions, whose cause must be removed before any cure or healing power can be effective. Remove the cause and Nature will almost immediately restore the individual to a normal condition. The tendency of Nature is to cure even without any mental process or mind-cure. Mind-cure in itself, true mind-cure, or the healthy, well-directed, vigorous, and intelligent exercise of the mind, is a most powerful influence for the cure of any disease, and a most potent one in its influence for good or evil as it may be directed, but the thinking of health must be supplemented by the living of health, where actual disease conditions exist.

It is a law of the mind that "the concentration of attention in one direction inevitably suspends it in another direction."

It is also a law of sensibility that when the attention is diverted from any sensation, as of pleasure or pain, of hunger or thirst, the sensation becomes thereby weakened, and when fully diverted, entirely suspended. Concentration and holding the attention upon any sensation or desire tends, on the other hand, to increase and intensify it. This concentration and repetition of ideas and thoughts is the basis of Mind-Cure. In this way vicious habits, enslaving appetites, and abnormal desires of every kind are overcome, and a wonderful degree of self-control over the bodily sensations and functions is acquired. Diverted attention is illustrated in divers ways, but in no way better than when soldiers in the excitement of battle receive severe and dangerous wounds of which they are entirely unconscious until after the battle is over. For the same reason the sense of fatigue from long and wearisome marches will suddenly disappear on coming in sight of the enemy. This, the diverting of attention, also probably best explains how the martyrs of old, while burning at the stake, were seemingly so withdrawn from the sphere of sensation as to be wholly unconscious of physical suffering.

This also explains how Christian Science cures. At the outset the condition is not an actual one, but only an imaginary disease. In trying to grasp the mazy intricacies of Christian Science, the invalid entirely forgets himself and his ailments, and finally returns from his wanderings in the depths of imagination, impressed with the fact that he never had any disease, but only thought he had it; all of which would be quite true.

Undoubtedly thousands of individuals suffering with imaginary diseases, have been cured by Christian Science, mind-cures, magnetic healing, etc., etc. Let them be cured by all and any means, the more the better; but let the actually sick man suffering

from a disease like typhoid fever, or diphtheria, or from consumption, cancer, or other chronic disease, not be deluded by a system which says:—

“ You need pay no attention to diet. All you need to do is to believe. Believe that the disorder is simply a bad idea, a morbid notion. Dismiss from your mind the notion that you are ill, and you will be well.”

This is false doctrine, and if followed out deprives the sick one of the only possible chance there is for life. His only chance for recovery consists first in living health, by following a proper dietary, and other hygienic rules; then let him think health as much as he wishes. The body and mind, and the mind and body, are inseparable companions in good-health or ill-health conditions.

A real disease, let us say for instance, tuberculosis, commonly called consumption, can never be cured by any “ healer ” by saying “ Think only health and you will be well.” If organic disease is curable in this manner by any healer, there is absolutely no reason whatever why he should not be able to resurrect the dead as well; one is just as easy as the other.

The sum and substance of Christian Science, whatever good there is in it, is to be found in the New Testament. Then again much of its so-called Science is no science at all. If one wishes to get pure Christian Science, he has but to turn to the New Testament, where, throughout its pages, he will find some of the soundest reasoning and logic to be found anywhere. The greatest exponent of Christian Science was Christ, who was essentially a healer of both body and Mind. The teachings of Paul, which are second only to those of Christ, if put into practice are far ahead of the new Christian Science, or in fact of any other modern mind-cure doctrines.

The essence of true Christian Science is echoed in James v. 15:—

264 *The Art of Living in Good Health*

“And the prayer of faith shall save the sick, and the Lord shall raise him up.” This is only one of hundreds of the most beautiful passages bearing on the subject of faith and hope.

People do not study the New Testament sufficiently and intelligently. There they would find doctrines far more sound and lasting than any of the mushroom varieties which have misled and carried away so many individuals from rational teaching. One writer has put it thus:—

“Christian Science is suggestion plus absurdity; divine healing, suggestion plus faith in God; Dowieism, suggestion plus prayer and holy terror; Weltmerism, suggestion plus imagination: osteopathy, suggestion plus massage; homeopathy, suggestion plus nothing; allopathy, suggestion plus tub-fuls of drugs that either kill or cure; regular or rational medicine, suggestion plus the best horse-sense available, or suggestion and medicine mixed with the best quality of brains obtainable.”

In all instances the quality of brains—the brain power—must be in good order to make any of these mind-cures effective. Without this all mind-cure systems fall to the ground.

This is an age of mind-cures as well as an age of confusions,—the false-prophet age, when the inexperienced pupil would supplant the master, stealing his mantle for the influence of its shadow, the parasite living upon the real. This leads up to a consideration of the various cults and fads so much in vogue at the present day, some of which by their speciousness have misled and deceived thousands of individuals.

There are many mind-cures which may be condensed into two classes, the true and the false. The false mind-cures are parasites, imitations, seeking the shadow of the true, in order that they may be able to parade under false colors, so that the peo-

ple may "imagine a vain thing." The false mind-cures, like all imitations, are based upon the true, taking as much from it as is necessary for a foundation and the sake of appearance. With a little change in dressing or make-up, and the addition of a few abstruse and abstract names and phrases, a supposedly new system is thrust upon an unsuspecting and gullible public. The false cures, whatever be their names, depend upon the principles involved in the true mind-cure for their results, whether they be known as Christian Science, mental healing, or prayer-cure.

Chronic invalidism is one of the conditions wherein chronic invalids are sick because they *think* they are sick. Their sickness is purely imaginary.

Unquestionably many of the so-called mind-cures belonging to the mental-science, magnetic-healing class have accomplished wonderful results in chronic invalids, simply by diverting the attention of the invalid. In imaginary diseases all that is necessary to do to accomplish a cure is to divert the attention of the individual from himself and his ailment, and he soon gets well from a disease which had no existence—save in his imagination. This is the reason why the so-called mind-cures have, apparently, performed such wonderful cures. Humanity, at large, has a wonderful imagination for imaginary diseases. This is a fact of which the patent-medicine man is fully aware. This, which might be called the mind-cure of the patent-medicine man, with his bottle of colored water, is just as efficacious in many instances as the more philosophical forms of the false mind-cures. The cure is even more lasting in the patent-medicine instances where a picture appears in the newspaper showing the once-near-to-death invalid clothed in his dress suit, the very embodiment and picture of health. Imaginary disease can be removed by any form of mind-cure, by a bottle of patent medicine, by a belief

266 *The Art of Living in Good Health*

or faith in anything; but not so real disease. Real disease cannot be cured by any of them, but only by a compliance with the laws of health.

What may for the sake of simplicity be termed a variety of mind-cure, is hypnotism, or mesmerism, in regard to which a great deal of misconception exists, largely owing to the extensive newspaper notoriety given it, which is usually of an inaccurate and misleading character. No individual can be hypnotized against his will. It is only when the individual voluntarily surrenders his will to that of another that he can be hypnotized. This is really auto-hypnotism or self-hypnotism. Under certain conditions almost anybody can be hypnotized. Experiments have been made in France which go to show that about 95 per cent of people can be hypnotized if they are willing; the susceptibility to suggestion or hypnotism depends entirely upon the willingness of the subject and the degree of passivity, as well as the power to concentrate the thought or attention on the intended seance or sleep. Without this willingness or co-operation no one can be hypnotized.

In other words the imagination, the same imagination which builds the castles in the air, of the individual who wishes to become hypnotized is excited to activity by the hypnotizer. Just as an individual can imagine disease or health conditions, so one can imagine, when he is under hypnotic influence, that he is going to do or think certain things, by surrendering voluntary control of his own will to follow the suggestions of another.

Hypnotism belongs strictly to the field of the sciences, and as such it should never be brought to the level of a circus-and-clown performance, as frequently occurs in the public hypnotic exhibitions and displays. These displays or exhibitions should be prohibited by law, as dangerous and degrading, not only to the particular individual, but to the public at large as well.

Hypnotism should never be used under any circumstances, excepting by a thoroughly qualified and conscientious physician, and then only with a definite and specific object in view, with the full concurrence of the patient's friends and relatives. Public exhibitions of hypnotism are one thing, and its use in the hands of an experienced and conscientious physician is quite another.

There are many competent writers who doubt the utility of hypnotism as a curative or therapeutic agent, and think that its results are achieved at the expense of demoralization. My own observations with hypnotism as a therapeutic agent, extending over a period of eighteen years, is that when judiciously used in carefully and well selected cases, it is a most powerful curative agent, and results may be attained by its use which are incapable of achievement by any other known means. ✓

u The basis of the curative powers of hypnotism is the exciting of the imagination.

u Suggestion or hypnotism powerfully appeals to or excites the imagination, and in one form or another is the influence used by every successful physician. Whether the suggestion is given in the waking or sleeping condition is not of so much material difference as was once thought. Psycho-therapy, or true mind-cure, as now rationally used by the physician, is a powerful means for the successful cure of mental diseases. The curative agent is faith in the doctor, with or without his medicine. In France, Charcot, Luys, Bernheim, Liebault, and many others, use hypnotism in a purely scientific manner and with marked results. The American temperament is not so easily excited or imaginative as that of the French, so that hypnotism is used with more success in France than in America.

Religious faith should be the best preventive against the maladies of the soul or mind, and the

268 *The Art of Living in Good Health*

most powerful means of curing them. In the religious state of mind, man becomes invulnerable. Feeling himself upheld by his God, he fears neither sickness nor death. Whatever comes he remains unshaken in the midst of disease and suffering. He knows no fear. This was what gave fortitude to saints and martyrs of former times. A Christianity such as they were possessed with gave them moral courage which has been the admiration of the world.

Man is naturally religious in the true sense of the term. A man may not feel inclined to subscribe, in his opinions, to all which the so-called orthodox churches teach, and yet be a perfectly righteous man. Individuals of this, and in fact of every other class or creed, should do as Tolstoi, the great Russian philosopher, advises: procure a copy of the New Testament and read it — mark, learn, and inwardly digest it, for himself. Certainly “every man can work out his own salvation.” We are not made up of a moral and a physical part. Man is a unity — spirit, soul, body — all in one. This moral, intellectual, and spiritual life are so interwoven that they cannot be separated. Hence the care of the body is essentially incumbent upon us, otherwise its neglect reacts upon our intellectual and spiritual parts. This fact is too much lost sight of in present-day teachings. It will be remembered that whenever Christ healed the sick His injunction was “Go, sin no more”; not to go and pray. Christ knew that a sinless man, or one who is striving for this condition, is always in an attitude of prayer.

Perfect physical health produces perfect mental health, and perfect mental health produces perfect bodily health. The two are dependent upon each other. The two conditions bring man into harmony with Nature.

There is much misconception and misapplication of prayer. So many individuals seem to lose sight

of its true intent and purpose. Probably ninety-nine out of every one hundred individuals pray for those things which are purely selfish, and which if granted would turn the world upside down. Many of the things prayed for are frequently within the power of the individual to acquire, simply by putting forth the effort.

Many individuals tell us that their religious belief takes no special form; just what they mean by this is not quite clear, but let such a one be confronted with death and it is wonderful to witness how the most hardened sinner outrivals the veteran saint in the fervency and frequency of his prayers. As a result of early training, religion is knitted into the very fibre and being of every individual, to such an extent that every person believes in religion, in a God in some form or another.

The following, condensed as an abstract or little sermon from the writings of one of the most able authors of the day, is so admirably and logically put that we cannot do better than reproduce it in its more prominent essentials:

“The basis for true mind-cure is to be found in genuine religion, sound common-sense religion. The prejudice against religion entertained by so many individuals is largely the result of confusing religion with superstition. Many individuals hold themselves aloof from religious associations and activities, not because they are opposed to their principles, but rather and because they have been educated to look upon religion as something unnatural, sentimental, or theological. This is a grievous mistake, and one which does the individual himself great injustice and injury.

“Men say, What is Nature? To which it may be said, Nature is simply a philosophical name for God, who is the active force in Nature, the ‘All in all.’ There is an intelligence at work throughout the uni-

verse, and this power (God, or Nature) is ever working in us. The same forces that are working in the growth of trees, in the lightning, in the storm, in the tidal wave, in the hurricane, and in all great processes of Nature, are at work within us. There is as great a miracle in a vast cornfield as in the feeding of the five thousand. The power that expands the little grains of wheat and kernels of corn into leaves, rearing them up in stalks, and manufactures five hundred kernels out of one, is just as mysterious as the power which expended the five loaves to feed five thousand people. It is the same thing. One of these phenomena we call natural, the other a miracle; because we are accustomed to see the one and not the other.

“True prayer is unselfish, and is not an effort to inform God of something which He is not inclined to do, nor to remind him of something which He might neglect, as might be inferred from the way in which many Christian people pray. Prayer is the expression of a recognized need which may be physical, mental, or spiritual. One is not prepared to pray, in the true sense of the word, until he has reached the attitude of mind of one lost in a wilderness, who, when he finally gives himself up as lost, is ready to listen to or accept any suggestion which may be given him by one whom he knows to be familiar with the country, and unhesitatingly and submissively follows instructions. Trouble, perplexity, disease, and distress are the means by which man is brought to his knees, by which the wilful human soul is led to submission to the will of the Infinite. Prayer, then, does not change God, but changes man. Prayer does not modify God's plans or purposes, but brings man into harmony therewith, and is an advertisement to man of what God has in store for him. This is the physiological, the scientific as well as the natural basis for faith. We must pray with the spirit and the understanding. We are certain to receive the

things for which we sincerely pray, for our desire to pray is put into our hearts by the all-wise Being who knows our needs, and desires to supply them, and adopts this mode of preparing us to receive the things needful for our welfare.

“It may be said, then, that the act of prayer is the natural method by which man is led to turn toward the Creator, to receive the things for which we sincerely pray. We are certain to receive the things for which we sincerely pray, provided we pray with the spirit and the understanding. When a man believes that God is ever present with him, and that not the smallest hair of his head may fall without God noticing it; when he feels that God’s life and power are working within him; when he feels that the same Power cares for him which maintains the sunshine, that keeps the earth turning regularly on its axis, and the planets circling in their orbits; when he believes that this Power is always leading him onward toward that which is truest, most beautiful, sweetest, and best, and to that which will bring into our lives the greatest joy, peace, and satisfaction, then, indeed, will he feel that he has his feet upon a firm foundation; he can lift his head above the doubts and apprehensions of disease, fancied or real, and with David can declare ‘Who forgiveth all mine iniquities, Who healeth all my diseases.’”

The majority of those who pray ask that the plans of Providence be made subservient to their ideas, and not that they, as individuals, should be brought into harmony with the divine mind. True prayer is or should be unselfish, and does not necessarily mean that we should always be begging for purely selfish aims. There are several kinds of prayer, some of which seem to be beyond the view of the average Christian: the prayer of communion, the prayer of meditation, are forms of prayer which soar beyond selfishness.

272 *The Art of Living in Good Health*

The very act of prayer, in and of itself, whether we get the things for which we ask or otherwise, has a beneficial effect upon one. Belief in God as expressed in prayer is the true and only lasting perfect mind-cure. Thus the exercise of belief, faith, and hope is the salvation for the discouragements, disappointments, and worries which occur in the life of every individual.

Behind all other factors and all other causes determining health and disease, lies the predominant one of the mental thought or attitude; so that what we are mentally and physically is largely the result of our thought habit. For this reason we should control or direct our thoughts always for good.

No better illustration of the relationships which exist between the mind and body, and body and mind, can be furnished than that of the effect of a holiday upon the brain-worker, or the tired and over-worked office man, who has been confined for a long period of time to his indoor occupation. All ailments disappear as if by magic, as a result of the cessation of the wear and tear, and the rest given to the mind. The body responds almost immediately to this restful condition of mind, seconded by the bracing and refreshing effects of pure air, sunshine, and the other conditions incidental to outdoor freedom.

The value of a holiday to every person cannot be overestimated, and it has no adequate substitute.

There are certain emotions such as hope, faith, and cheerfulness, which exercise a wonderful as well as powerful influence upon all the bodily functions. Hope, particularly, is one of the most powerful stimulants with which we are acquainted. The cheerful emotions make a perfect condition of health. As an offset to these we have the highly depressing and enervating emotions of fear, anger, worry, or their sub-divisions, which are temporarily paralyzing or killing in their effects.

Fear is not the only emotion that can do us deadly harm. Many a violent paroxysm of rage has caused apoplexy and death. Grief, long-standing jealousy, and corroding anxiety are responsible for many cases of insanity. Emotion thus kills reason.

Killing Emotions

Grief is one of the best known and most generally recognized of these killing emotions. There are many instances of individuals having pined away and died in a few weeks because of grief at a death. Even joy kills when its impact is too sudden. The daily papers frequently relate the news of great good fortune having a fatally exciting effect.

Even if the emotion is not strong enough to kill, its effect may be most injurious. A fit of anger will destroy appetite, check digestion, and unsettle the nerves for hours, or even days. It upsets the whole physical and mental make-up of an individual. Anger in a mother may even poison a nursing child. Extreme anger or fright may produce jaundice, a result of circulatory disturbances.

It will be observed that excitement may become a vice, and become harmful in its effects when carried to excess. Undue excitement in many individuals produces a condition of unrest and discontent, hence it is to be avoided.

Jealousy will upset the entire system, and is one of the most deadly enemies to health, happiness, and success. Victims of jealousy often lose their health entirely, and do not regain it until the jealousy is removed, and sometimes become so demoralized mentally that they commit murder, suicide, or become insane. A strong, continual hatred will sometimes not only destroy digestion, assimilation, and peace of mind, but also ruin character.

These bodily effects of the emotions, and many others, are in part due to certain chemical products formed in the body by the emotions, and are analo-

gous in their effects to the venom of poisonous snakes, which is likewise secreted under the influence of fear and anger. A snake has a receptacle or sac in which to store the venom; man has nothing of this kind, so that the venom spreads through all the tissues in spite of efforts to eliminate it.

The emotions of sadness, pain, and grief affect the bodily secretions and excretions. It is a matter of common observation that during these depressing emotions the respiration goes on at a slower rate, the circulation is retarded, digestion is impaired, the cheeks become pale, the eyes grow lustreless, and all the other bodily functions are affected to a greater or lesser degree.

The system makes an effort to eliminate the metabolic products of tissue-waste. The effect of the emotions is to be seen, in that, during acute grief, tears are copiously excreted; that, during sudden fear, the bowels are moved and the kidneys are caused to act; that, during prolonged fear, the body is covered with a cold perspiration; and that, during anger, the mouth tastes bitter, — due largely to the increased elimination of sulpho-cyanates. The perspiration during fear is chemically different, and even smells different from that which exudes during a happy mood.

It can be shown in many ways that the elimination of waste products is retarded by sad and painful emotions; not only this, but that the depressing emotions directly augment the amount of these poisons. On the other hand, the pleasurable and happy emotions, during the time they are active, inhibit the poisonous effects of the depressing moods, and cause the bodily cells to create and store up vital energy and nutritive tissue products.

There is a valuable lesson to be learned from all this; during sadness and grief an increased effort should be made to accelerate the respiration and perspiration, so as to excrete the poison more rapidly.

At such times one should specially seek the open air, and engage in work until free perspiration ensues, and, by bathing, wash away the eliminates of the skin several times daily; and, above all else, use all the expedients known—such as a visit to the theatre, reading, etc.—to produce the happy and pleasurable emotions. Whatever tends to produce, prolong, or intensify the sad emotions is wrong. Happiness creates energy, promotes growth, and prolongs life.

Experience shows that moral circumstances are potent for good: pleasing and delightful emotions and serene and joyous impressions will restore the drooping spirits, reanimating and invigorating the whole system; indeed the excitement of hope, with immunity from the wear and tear of habitual harassing thoughts, plays a part in recovery from disease and depressed conditions, to an extent little appreciated by most individuals. These things were well known to the ancients.

Æsculapius, says Galen, supplies us with evident proof that many severe and morbid diseases may be cured simply by impressions made upon the mind; in fact he advised those whose bodies had been overheated by exciting passions to listen to the reading of poetry, to the singing of hymns, or to assist at the representation of a farce. These are the principles which should be employed in the healing of morbid conditions of the mind,—illustrating the power of music.

The emotions and other feelings give us all there is of enjoyment in life, and their scientific study and rational training constitute an important step in the art of using the mind more skilfully and efficiently. *By proper training, the depressing emotions can be practically eliminated from life, and the good emotions rendered permanently dominant.*

We must live in the happy memory of what was once enjoyed, rather than with useless regrets. Nurs-

ing grief month after month, or year after year, as so many do, is a crime against oneself, and against all others with whom one comes in contact. It does no good to anybody. The departed one cannot appreciate or take any satisfaction in the perpetual mourning, and everybody who lives near the mourner is depressed and injured by the unnatural conditions. Such mourning is only self-pity, a form of selfishness.

The imagination, wrongly used, is one of our worst foes, and imagining evil is one of its worst uses. Imaginary trouble destroys health and happiness. Many people live in perpetual unhappiness and discomfort, because they imagine they are being abused, slighted, neglected, and talked about. They think themselves the target for all kinds of evil, the object of envy, jealousy, and ill-will. The fact is, most such ideas are delusions and have no reality whatever. This is a most unfortunate state of mind to get into. It kills happiness, it demoralizes usefulness; it throws the mind out of harmony, and life itself becomes unbearable. Melancholia and suicide not infrequently result from such imaginative brooding over fancied wrongs.

“Sensitive people who think such thoughts make themselves perpetually wretched by surrounding themselves with an atmosphere reeking with pessimism. They always wear black glasses, which make everything around them seem dark and dismal. All the music of their lives is set in the minor key; there is nothing cheerful or bright in their world.

“These people have talked poverty, failure, hard luck, fate, and hard times so long that their entire being is imbued with pessimism. The cheerful qualities of the mind have atrophied from neglect and disuse, while their narrow-minded tendencies have been so overdeveloped that their minds cannot regain a normal, healthy, cheerful balance.

“Such persons carry a gloomy, disagreeable, un-

comfortable influence with them wherever they go. Nobody likes to converse with them, because they are always telling their stories of hard luck and misfortune. With them times are always hard, money scarce, and everything is 'going to the bad.' After a while they become cranks, with morbid minds, and people avoid them as far as they possibly can.

"Sometimes a whole household becomes infected by the presence of one morose, discontented member, and its peace is ruined. Such a contrary person is always out of harmony with his environment, has no pleasure himself, and, as far as he is able, prevents others from having any. Such states of mind not only induce disease, but they prevent benefit from ordinary curative processes.

"Many individuals spend much of their time in hunting themselves over for some new ailment, and when they have found it they are extremely happy. Immediately they hang it about their necks, where it becomes an additional millstone to drag them down. Paradoxical as it may seem, they are never so happy as when they are unhappy. Nothing does so much to obstruct the work of restoring normal conditions as for the individual to wage continual war with his situation and surroundings, to be out of tune with his environment. Giving medicine or treatment to a person whose mind is in the turmoil of discontent, is like pouring water into heated oil. Irritation and disturbance are the consequences. Healing is the work of divine power, and in the use of divinely appointed means for the recovery of health, it is as necessary to be in harmony with the application of those means, as though the Divine Master were Himself applying them. A good and wise Providence is seeking to work out for us a noble end; and contentment means being in harmony with what is being done for us, whether agreeable to our feelings or not."

278 *The Art of Living in Good Health*

There are those who are always carping and criticising. If we could only see and think of ourselves as others do, the probabilities are we should forever remain silent. Then again there are those who are always lamenting past experiences and lost opportunities. For one unfortunate experience a "worrier" may have had, others have had ten times as many; and as for opportunities, there are hundreds of others ahead of us if we are only hopeful and keen-sighted enough to take advantage of them.

Carping and Criticising

Cultivate optimism in general, and particularly loving thoughts toward all people you meet, and you will soon find it hard to be angry with any of them. Whatever the killing emotion that you are allowing to destroy or mar your happiness and to shorten your life, the remedy can be found within yourself, in your own thinking and acting.

It matters not what may be the cause of the trouble in the anxious mind, the results upon the body are the same. Every function is weakened, and under the continual influence of a depressed state of mind, they degenerate. Especially is this true if any organ of the body is handicapped by weakness from any other cause. The combination of the two influences will soon lead to actual disease.

The greatest barrier in the way of the healing process, especially if the malady be one that is accompanied by severe pain, is the mental depression that is associated with it, and often becomes a factor of the disease. It sometimes stands in the way of recovery more than do the physical causes, and obliterates from the consciousness of the individual the wonderful healing power of nature, so essential to recovery.

"A most injurious and unpleasant way of looking for trouble is fault-finding, or continual criticism of other persons. Some people are never generous, never magnanimous toward others. They are stingy

of their praise, showing always an unhealthy parsimony in their recognition of merit in others, and critical of their every act."

Man seems naturally to be a fault-finder, jealous if he is not as successful as his neighbor. He should strive to excel, and then there would be no need for jealousy.

One cannot afford to go through life looking for trouble, for faults, for failures, or for the crooked, the ugly, and the deformed; nor can we afford to criticise or condemn others, or find fault with their mistakes and shortcomings—fault-finding, indulging in sarcasm and irony, picking flaws in everything and everybody. Looking for things to condemn, instead of to praise, is a very dangerous habit to one's self.

We all like sunshiny, bright, cheerful, hopeful people; nobody likes the grumbler, the fault-finder, the back-biter, or the slanderer. The world likes the man who believes the best and not the worst of people.

"It is just as easy to go through life looking for the good and the beautiful instead of the ugly; for the noble instead of the ignoble; for the bright and cheerful instead of the dark and gloomy; the hopeful instead of the despairing; to see the bright side instead of the dark side. To set your face always toward the sunlight is just as easy as to see always the shadows, and it makes all the difference in one's character between content and discontent, between happiness and misery, and in our life, between prosperity and adversity, between success and failure.

"We must learn to look for the light, then; positively refuse to harbor shadows and blots, and the deformed, the disfigured, the discordant; hold to those things that give pleasure, that are helpful and inspiring, — and we shall change our whole way of looking at things.

"A great many people think they would be happy if they were only in different circumstances, when the

280 *The Art of Living in Good Health*

fact is that circumstances have little, if anything, to do with one's temperament or disposition to enjoy the world.

"People who have lost their best friends, who have all their lives been apparently unfortunate, who have struggled against odds and have themselves been invalids, have yet borne up bravely through it all, and have been cheerful, hopeful, and inspiring to all who knew them.

"If one has been in the habit of talking down his business, the times, his friends, and everything in general, let him just reverse the process, talk everything up, and see how soon the changed thought will change the atmosphere about him, and improve conditions.

"The balanced soul is never suspicious, does not expect trouble, and rarely meets with it." — Abstract of remarks by J. Lincoln Brooks, in "Success."

The amount of unhappiness in the world is simply appalling. Much of it is from sickness or bodily suffering, while another very large part of it is mental in character. Many individuals of the nervous temperament are naturally restless. There are many agen-

Discontent cies tending to keep up or excite this spirit of restlessness or discontent. The newspapers by their sensationalism are responsible in a way for much of this. Talk of gold mines, and every imaginative individual who reads about them wants to try his luck at once. As a result of discontent or restlessness we find people everywhere who are dissatisfied with their lot, who think they would be happy if they could only get somewhere else, or into some other vocation. It's the old story of the "green hills far away." The one in Maine wants to live in California, the one in California wants to live in Maine. The man in England wants to come to America, the one who has come to America wants to return to England.

A clever writer in a prominent periodical hits the nail on the head as follows:—

“They see only the thorns in their own vocations, the roses in those of others. The shop girl would be an actress; the cook would change places with her mistress: the butler with his master. The lawyer would be a doctor; the doctor, a lawyer.

“The farmer bemoans his hard lot, and longs to exchange his life of drudgery for the career of the merchant or the manufacturer. The country boy leans on his plow-handle and looks toward the city with hungry eyes. If he could only be free from the slavery of the farm, stand behind a counter and wear good clothes! Happiness, opportunity, fortune, everything, lies yonder. Around him misery, toil, poverty—nothing desirable. The city youth rails at fate for confining him to the limits of brick walls and the dreary details of merchandise—buying and selling. Oh, if he could only go to sea and travel to distant countries, become a captain in the navy, or skipper or owner of a merchant vessel! Life would be worth something then.”

It is the same spirit of restlessness or activity which characterizes man the world over,—the spirit of travel, of ambition, of the expectation of doing or becoming something better, of becoming possessed of more power or wealth,—which entails in its final results the spirit of discontent.

“How much energy has been lost, how many lives have been spoiled by this fruitless longing for other fields, other opportunities out of reach? What is the use of dreaming of what you would do if you were in somebody else’s place? What is the use of trying to reach into your neighbor’s pasture when you do not know what bitterness may lie at the root of it, hidden from your sight; when you have never tried to develop or to call out the sweetness and juiciness which reside in your own?”

282 *The Art of Living in Good Health*

“Do not try to be somebody else. Do not dream of great far-away opportunities; do the best you can where you are. Should a better opportunity present itself to you, seize it at once; but wait in contentment until it presents itself. If you find yourself bound within a narrow sphere by aged parents or crippled, dependent brothers or sisters, or weighed down by a mortgage on the home, do not say, ‘What is the use of wasting my life in this limited environment?’ Some of the grandest characters in all history have blossomed and borne magnificent fruit in just such limited fields as you now think yourself in. The potency, the virtue of the opportunity is in the man who can see and use it.”

Grumbling and nagging are two of the worst mental habits or vices which can possess one. One writer has said that “a grumbler is enough to drive a man to drink, while a ‘nagger’ is enough to drive him to commit suicide. A nagger, presumably a woman in this case, ties all your faults around your neck, like a tin can to a dog’s tail—the harder you run and the more you howl, the more you get of it.”

It seems as natural for the present-day man to grumble, complain, and nag as it is for him to eat. Man’s vicious mental habits must be a result of his methods of living, because we find when we go to the animal kingdom that harmony prevails everywhere, which cannot be said of man.”

If it be true that a “nagger” is exasperating enough to drive one almost to the point of committing suicide it becomes a matter for serious consideration, because we know there are hundreds and thousands of nagging individuals in the world, each one of whom must make some home unhappy. Many persons who are given to nagging and fault-finding are very much like wasps and hornets, who sting nearly every person with whom they come in con-

tact; and when they are unable to sting and pour forth their poisonous venom, it reacts upon themselves to a far greater extent than is commonly supposed — resulting in explosions of temper, anger, hatred, jealousy, as well as saturating the system with an adder-like poison. No sensible person should allow himself to be provoked into doing something which he will subsequently regret.

The question naturally arises, Is there no "balm in Gilead" for the one who is compelled to live a lifetime with a constantly nagging companion? Happily, there is relief. The cure of nagging and fault-finding individuals can certainly be accomplished, and when from any cause there may be an incorrigible case, there are certain preventives or procedures whose employment makes it possible for one to live with these truly unhappy and afflicted individuals in comparative peace and comfort. The solution of the question is purely a matter of self-control, and if it is possible to induce the nagger to join in with you it will be but a short time before affairs will be revolutionized. If there is ever an opportune time for the exercise of self-control it certainly presents itself whenever one is brought in contact with persons having nagging tendencies. To take these opposition individuals too seriously is to make a great mistake, and one which is likely to cause the loss of one's temper — the very thing to be avoided, or the day will be lost. One should always treat the remarks of nagging persons and fault-finders as something not worth paying attention to, or better still, as if they were uttered with humorous intent. Under no circumstances should any person allow himself to think of such remarks as worthy of serious attention; they should be entirely ignored. The man or woman who can control the tongue under such conditions of provocation is certainly an extraordinary individual. More can be gained by poking fun

284 *The Art of Living in Good Health*

at a nagger than can possibly be attained by employing opposition tactics. In some instances the use of a "nickname" or to mimic may help act as a quietus; or another plan worth adopting occasionally is to leave the room or house whenever an individual commences the vicious habit of nagging. Yet it is not always convenient to do this. If there ever was a truthful and pertinent application of the saying "silence is golden" it finds its use in the nagger's home. One must make himself believe that he is "stone deaf," and yet to do this requires the exercise of herculean efforts of self-control, for it must be admitted there are limits to the powers of human endurance. "It's an ill wind that blows nobody good," and it is just here that a simple little idea or appliance comes to our aid and helps us out of our difficulties, in the shape of artificial ear-drums, which make one deaf, just the same as do the highly advertised ones, costing five dollars a pair. No one need be compelled to hear unpleasant remarks, for by simply placing the finger tips firmly within the ears one has the quickest and most effectual automatic device in existence, for producing deafness, always on hand and specially made for the purpose. There is a tiny nipple-like rubber contrivance, made for boiler-makers to prevent their hearing deafening noises, which fits snugly into the ears, and the use of such an article or the putting into practice of some of the ideas just mentioned will save many an exasperation.

Then again we have those who are always finding fault with the weather. In doing this worriers make themselves ridiculous in the extreme. They set themselves up as authorities on Nature's necessities and demands. Surely the Creator knows these requirements better than any wry-faced worrier.

Exactness, or precision, is an extremely commendable virtue. Education, custom, or habit, one or all of them, may have made an individual perfect in this

respect. Yet it is this very perfection of exactness, in many instances, which acts as a constant source of irritation or worry, to one given to the worrying habit. This very precision ^{Hair-splitting} makes one a slave to himself. No better illustration of this can be furnished than in the trivial matter of using a postage stamp. There are thousands of individuals who have never put a postage stamp upside down on a newspaper or letter. They could not bear to see it any other way than just so, right side up and squarely in the corner. It is a good habit, but it can be overdone.

These same individuals cannot bear to hear the slightest noise out of the ordinary, to see the slightest speck of dirt on an article of furniture, a fly in the house, a weed on the lawn, the grass a trifle too long, nor any one of a dozen other trifling affairs, nor the slightest article out of its place or at variance from the regular custom of any kind; and yet it is exactly these trivial, inevitable things which make life so unhappy to many people; and being unhappy themselves they render unhappy everybody else with whom they come in contact. Everything must be in just such and such a position, the perfection of exactness. This sort of thing can be overdone to such an extent that it becomes tiring to everybody. Whether we approve or not we must be able to control ourselves so that we may view the irregular or unaccustomed, the absurd or the uncouth, with equanimity; otherwise we shall be more or less unhappy.

One must learn to relax, become somewhat careless, as it were, or less exacting of one's self as well of others, or less super-sensitive, and be able to shut the eyes to these irritations or disturbances; otherwise unhappiness is made for all. Sensitive, or we might say super-sensitive, individuals are those who are liable to belong to the nervous or worrying class. Things cannot always be left just so exact, proper,

and correct in every detail, and the sooner one is enabled to make himself oblivious to his surroundings and able to shut his eyes even to the most glaring inconsistencies, the happier he will be. A nervous or worrying individual of necessity, must always be unhappy, because things are never right from his standpoint. He must try and make himself believe that everything is just right, the weather is always right, everybody and everything is just right. The nervously inclined person himself however is always wrong, always out of tune, never right with himself or any one else.

As an instance indicating the contrariety of human nature it may be said that persons who cannot endure the trifling things of life are the very ones whom we find able to squeeze a number six foot into a number three shoe with the greatest comfort imaginable; can wear a tight-laced dress at a ball, with a train so long that every man looks as if he were dancing the Highland fling in trying to avoid the encumbrance; or can wear a pompous hat beautifully poised upon the top of the head and covered and loaded down with flowers, feathers, and other trimmings, rendering it so heavy that if a man were to wear a similar weight upon the top of his head it would appear as if he were afflicted with torticollis or what is commonly termed wry or bent neck. But all these things, whether trifling or not, are borne exactly as we are "minded." It is surprising how much or how little we can bear, all of it depending upon the training or no-training of our mind powers, especially in early childhood. Many of these persons are always restless and uneasy, and rarely keep still for any considerable length of time; in fact they are the very personification of ceaseless activity, of mind or body or both. As a rule the mind of such persons is of the imaginative kind, always jumping to conclusions and making false proph-

ecies of the "blue ruin" character. Being possessed of an active mind they are also possessed of an active foot, "they are always on the gad." Certain individuals of this type are slave-drivers in the two-fold meaning of the word, in that they not only drive themselves by their excessive imagination, but they also drive incessantly all those with whom they come in contact. They shoulder the responsibilities of the whole world upon themselves, and in doing this they load themselves with a burden which, when added to an organization already overloaded, makes the whole structure top-heavy, so that it is likely to come down with a crash and lead to or end in the undermining of the nervous system. The individual who can mind his own business is a rarity in these days. This is easily explained when it is understood that man is a most curious being. The individual whether man or woman, who concentrates his mind on his own interests is likely to prove a success.

A typical hair-splitter is one of the most exacting and exasperating persons in the world. It is one of the peculiarities of human nature that such persons expect more from their fellow-men than they themselves are able to render, and we know or hear of these people finding fault upon matters which are far more conspicuous in themselves than in their neighbors. There is a remedy for all this, though none are so blind as those who will not see. The following sayings must certainly apply to people of such bad mental habits as complaining, hair-splitting, unjustly criticising, fault-finding, grumbling, nagging, and all other similar traits: "Judge not, that ye be not judged." "And why beholdest thou the mote that is in thy brother's eye, but considereth not the beam that is in thine own eye?" It was beautifully answered in these words: "Thou hypocrite, first cast out the beam out of thine own eye; and then shalt thou see clearly to cast out the mote out of thy brother's eye."

The cultivation of self-control means the exercise of the will power. If we would acquire this will power we must do so by beginning to put it into practice. Those who are given to worrying must begin by neglecting the trifling affairs of life. Trifles do make up a large part of our existence. Yet those who would be happy must learn to rise above trifles, and live in an atmosphere secure from fretting and care. None of us can escape cares, but they need not be of the fretting, consuming, and corroding kind. If little things go wrong, it is much better to accept them without too much disturbance of our mental poise. Life should not be clouded because one has been unable to keep an engagement through inclemency of the weather, or indisposition of health; or because some one has failed to keep an engagement with us; or because we are late for dinner; or because we miss a train and are an hour later in reaching home. These and other trifling causes of irritation look very small when compared with the great joys and great sorrows of a human life; yet we make a fuss over them, upset the surrounding peace, making ourselves and all those around us very uncomfortable. Let us meet life's trifles with calmness and self-control. There are numbers of ways of acquiring control of one's self. No set plan can be adopted, each individual having to apply the method which fits his own case. A suggestion may be of interest, as a trial, to those who are nervously or fearfully inclined.

We are all careful to safeguard our money and our other valuables. We are also careful to safeguard our lives, and it is probably on this account we lock the doors of our houses at night to protect ourselves, and our valuables, on account of the fear we have that some one will take our valuables or threaten our lives.

Instead of putting your watch or other valuables

under lock or key, or under the head of the bed, as is so commonly done, leave them exposed or hanging up in the room. In doing this, hope and believe that no individual will become possessed of such an evil idea as to think of stealing from you. In the morning you will awaken to find everything just as you left it. One's fears are oftentimes groundless, yet we find it hard to free ourselves entirely from fear. We are so afraid of our fears, which are in many instances but vain imaginings.

This simple exercise of faith inspires one with confidence and hope. Faith dissipates fear. Fear or nervousness is unknown among Japanese women. They know nothing of indigestion. They have perfect control of their nervous system and are calm and self-possessed. Perhaps we can trace their placidity and cheerfulness to their simple, wholesome diet.

Self-control has many phases, but in no department is its observance more important than in that of the teaching of young children. The laws of sex and life should be taught them early, and before the sexual passions appear. Children must know about the physiology and hygiene of sex. They must learn to control their passions and be told the grave dangers of excesses. Young men must be taught how to live according to the laws of health.

Self-control is purely a matter of practice in repression. If one gets angry easily, he must repress or control himself; if impatient he must practise patience, not only with himself but with others as well, not forgetting the children. One of the most difficult individuals to understand and get along agreeably with is one's self. Self is sometimes like a bucking broncho — unruly.

The deep significance of this — the fact that we do not fully understand ourselves — can best be grasped by a thorough appreciation of the words: "The heart is deceitful above all things, and desperately

wicked; who can know it?" The only infallible way of obtaining control of one's self can be explained in a very few words. In all seriousness it may be said that whenever exasperating conditions of any kind occur to you it will be in order to clench the teeth, keep the tongue quiet, and the mouth closed. In curt words, it is to "keep your mouth shut"; not an easy thing to do, as experience teaches us. The following quotations tell us what we have to expect: "And the tongue is a fire, a world of iniquity." "Behold, we put bits in the horses' mouths, that they may obey us; and we turn about their whole body. . . . But the tongue can no man tame; it is an unruly evil." The individual who can control himself under any and all conditions is certain to make a success of this life.

The very great importance of being able to control one's self has hundreds of expositions in our daily lives, and to such an extent that a book might well be written exclusively devoted to the subject. The lack of presence of mind, or the lack of the power of control (self-control) has repeated illustrations, but in none more marked than when a fire takes place in a public building, as a church, theatre, or hall, the people rush and stampede like a herd of wild cattle on the plains. Many lives are lost in these holocausts. A little presence of mind or self-control properly exercised, and not a life would be lost. Self-control is something rarely cultivated, for the reason probably that nearly every person is in a great hurry or rush to make money or to do something for which it is thought a mad race is necessary. This idea has been well expressed by some one who when asked what was his pursuit in life replied: "To catch the seven o'clock train in the morning and the six o'clock trolley at night."

The watchword of the ancient philosophers who were striving to ennoble themselves by control was

1 "Know thyself," and the maxim which was engraved in letters of gold upon the front of the temple of Delphi, was also "Know thyself," and the words of the Oracle were: "If thou knowest thyself (canst control thyself) thou shalt live happily," — words which are equally true to-day as in the days of yore.

Self-pity is one of the greatest afflictions that can happen to any individual. It begins by a surrender of one's pluck and moral courage in combating the battles of life. It is the **Self-pity** giving up of hope, the loss of which is dangerous. Without hope life would not be worth living. In becoming the victims of self-pity we invite disease, mental disease, and its resultant condition of "chronic invalidism." We become cowards in our own estimation.

Adversities and afflictions sometimes come thick and fast, but we must not fear, "though the earth be removed and the mountains be carried into the midst of the sea." We must help ourselves.

One form of self-pity or selfishness is shown in those who mourn, nursing grief month after month or year after year. This is a crime against one's self and against all others with whom one comes in contact. It does no good to anybody, either the living or those who have gone before. It is positively harmful to the one who grieves, as well as depressing to one's friends. The attitude to be maintained in such matters should be one of resignation, and is wholly expressed in the words "Thy will be done."

The world presents equal opportunities to every individual. It all lies with one's self; we must trample and crush down obstacles. We must be self-reliant, courageous, energetic, indomitable. The one who succeeds is the one who works — incessantly.

Seneca has said: "Beware of aggravating your troubles yourself, and of making your position worse by your complaints. Grief is light when opinion does

not exaggerate it; and if one encourages one's self by saying 'This is nothing,' or at least, 'This is slight; let us try to endure it, for it will end,' one makes one's grief slight by reason of believing it such." And further: "One is only unfortunate in proportion as one believes one's self so.

Some one has said: "Whining is poor business; it identifies you at once as the under dog, and does not get you any sympathy at all." The man who whines confesses his weakness, his inability to match his environment. He is unable to equal his neighbor, or if so he fails to accomplish it for some reason or another. It is too much for him. He cannot command the situation. All he can do is to kick and complain and be jealous of the one who succeeds. The habitual whiner never accomplishes anything.

The man or woman who uses up vitality in complaining, and kicking against fate, who is always protesting that there is no justice in the world, that merit is not rewarded, that the times are out of joint, and that everything is wrong is put down rightly as a weakling with a small, narrow mind. Large-minded men and women do not spend their energies whining. If they meet an obstacle they go through it and pass on about their business. They know that all their time and strength must be concentrated on the work of making a life. The only individuals worthy of sympathy are the sick, the crippled, and maimed, who are handicapped in life's struggles. Even many of these, doubly handicapped, are more successful than many able-bodied, listless men, who are too shiftless to help them themselves. The man who succeeds is the one who works incessantly — this is a truism.

Sometimes it is a difficult thing for a man to live with himself. Affairs are not always improved when he takes a partner unto himself. A lack of understanding between the two, in many instances, leads to

differences which are commonly called marital incompatibilities. This infelicity usually occurs in what is called a "misfit" family.

"Misfit" families are not so numerous as some people would have us believe, but they are certainly to be found more or less frequently. One writer states it thus:—

"They are composed of people who are incompatible in temper and uncongenial in behavior, and who have not enough of either philosophy or religion to get on together without friction and antagonism. If it happen that in our home there is one person who darkens the sky by her cloudy words, or another who disturbs the peace by dynamite explosiveness, and if, in God's Providence, there is no other home to which this peculiar person can go, then she must be accepted and borne with. Never should her frailties and foibles be exposed to the public. Every family should turn the key upon its skeleton, if there be one, and keep its infelicities, small and great, from the knowledge of the neighbors. Nothing is gained by exploiting one's misfortunes, and if there is a basis of love and self-respect, even a misfit family may secure a good measure of contentment as the days go on."

Each one is so apt to think that his own conditions, his own trials, sorrows, disappointments, or struggles, as the case may be, are greater than those of the mass of mankind, or possibly greater than those of any one else in the world. We forget that each has his own peculiar trials or troubles to bear, or struggles in habits to overcome, and that his is but the common lot of all the human race. We see and feel keenly our own trials or adverse conditions, but we almost entirely forget those of our neighbors. We may set it down as an indisputable fact that there are thousands who would only be too glad to change positions with us if they could.

**The Power of
Cheerfulness**

We have only to put ourselves, in imagination, in our neighbor's place, to get on the other side of the fence. A brief experience of it and we are only too glad to return to our own side, pleased that our own trials and troubles are not greater. We must resolutely shut our eyes to all the disagreeable things in this world; and keep them wide open for all the pleasant and beautiful things. There will be no occasion to worry then. Worry weakens the mind and engenders indecision. Indecision and procrastination are twin brothers, both of which lead to nothingness. Better be firm and decisive, on a stand, even if we make a mistake, rather than vacillate, waver and do nothing.

If any one has troubles he must learn to ignore and to rise above them,—if discontented, to do the best under the circumstances. Be contented in your discontent until an opportunity presents itself to convince you on trial that all is not gold that glitters, that happiness and contentment are conditions of and within one's self, and not always to be found in places. The world presents equal opportunities for every individual. The one who succeeds is the one who works incessantly.

Be your natural self as far as you can, and do not trouble yourself about what others think or say of you. Do what you think to be right. Endeavor to live your own life, irrespective of others. Be cheerful, "a light heart lives long." Think only healthful thoughts, "as he thinketh in his heart so is he." "It's worry, not work, that kills." Work like a man but do not work to death. Avoid excitement. Do not carry the whole world on your shoulders. Do not rush and hurry; one can afford to take a little time in doing the trivial things of life. Never despair.

"It is not easy to be cheerful when everything one undertakes seems to go wrong, especially after one has done his very best. When the business enterprise

that looked so promising ends in disaster; when the little dinner party, so carefully planned, fails, or at least is not the success you hoped it would be; when the position for which one has worked and waited so long does not materialize; when your plans — plans which it has taken years of toil and sacrifice to carry to the point of success — are suddenly overturned by some unforeseen occurrence — these or any of the thousand and one disappointments, great and small, which come to the most sheltered lives, to the greatest of fortune's favorites, are trials to one's soul. But should one sit down and weep and wail and bemoan his hard luck because things go wrong? The ordinary person gives up, but the extraordinary one never gives up; he tramples down and crushes obstacles — otherwise he would not be extraordinary. If you rise superior to your disappointments, whatever they may be, you are adding a hundred per cent to your power to conquer future difficulties."

✓ Above all, be an optimist; keep the heart young; cultivate kindness, cheerfulness, and love; with Henry Van Dyke determine to go forward and to be glad of life, because it gives you a chance to love and to play, and to look up at the stars, to be satisfied with your possession, but not contented with yourselves until you have made the best of them; to fear nothing but cowardice, to be governed by your admiration rather than by your disgusts, to covet nothing that is your neighbor's except his kindness of heart and gentleness of manners, to think seldom of your enemies, often of your friends, and every day of God; and to spend as much time as you can with body and spirit in God's out-of-doors. If we follow these little guide-posts we shall learn that to live is a delight, to breathe a pleasure, to think a luxury, to sleep is soothing rest, and we shall find life to be as beautiful as the sunshine — a reflection of Heaven itself.

Neurasthenia, nervous exhaustion, nervousness, and

296 *The Art of Living in Good Health*

worry are all of the same cult. When it is remembered that neurasthenia is a condition of nerve fatigue or exhaustion, and that it may affect any one or more organs of the body, it may well be expected to have a legion of symptoms. So it has. There is nothing organically wrong with nervous individuals, but they are nearly always weak or tired, perpetually tired, but not sick. That tired feeling about which so much has been said and written is nothing more or less than nerve fatigue. Let the imagination of the nervous individual come into play, and there will be nothing missing from the entire category of disease which the sufferer may not experience, or think he experiences.

The nerves are distributed to over five hundred muscles alone, as well as to countless other structures. This is why the symptoms of neurasthenia are as numerous as the nerves themselves. They may be palpitation of the heart, general weakness with poor circulation, cold hands and feet, indigestion, dyspepsia, mental irritability, lack of concentration and will power, marked defects of sensibility, numbness, sleeplessness, catarrh (especially of the nose and throat from irregular circulation), with the list of ailments but one half told.

The object of directing special attention to nerve-fatigue symptoms is that sufferers may not be terrorized by certain advertisements whose sole object is to make money out of a confiding public.

XXIX

THE SUPERSTITION OF MEDICINE

THE superstition of medicine, or the belief that medicines cure disease, is a relic of what may be called a dark age, an age extending back almost a thousand years before the birth of Christ. The history of medicine shows that it was closely interwoven with the development of religion; not only this, but that medicine has been intimately mixed up with philosophy and mysticism as well. To delve into the superstition of medicine to any great extent would mean the writing of a book of hundreds of pages, so that the merest idea is here given of it. The history of the Egyptians and Babylonians, and other ancient peoples, tells us of some extremely peculiar beliefs of these peoples about diseases. The gods were considered directly responsible for the appearance of disease. Marduk, one of the Babylonian gods, was the expeller of all maladies, while Nergal was one of a number of the gods of pestilence. The Egyptians believed that the cat-headed goddess Bubastis dealt out to mothers the blessings of fertility, while amongst the Greeks it was the duty of Aphrodite to attend the entrance of all mortals into this world. She was also responsible for everything that belonged to love, in all its departments, good, bad, and indifferent. In view of these facts the priests of the times were also the physicians. Whenever the population groaned under pestilent chastisements, aid and deliverance

298 *The Art of Living in Good Health*

was sought in the sanctuary of the gods from the infallible priest. The priests held the key to the situation — of life and death; they were supposed to be able, always, to secure the assistance of the gods for humanity, harassed by pain and affliction. According to the primeval cult of Zoroaster, all evils, consequently also all diseases, were derived from the principle of darkness, embodied in the person of Ahriman, and only the sacerdotal caste of the magicians or Magi, who sprang from a special Median tribe, was able to heal them. The essential constituent of every medical treatment consisted in incantations, mysterious exercises, sacred hymns, and the repetition of the word "Ormuzd," the name of the highest god, who had the power of healing. One of the generally practised methods of medical science amongst the ancient Greeks was the "temple sleep," in which the patient, after making the obligatory offering, was required to remain a night in the temple, and his dream during that night was the medical advice of the divinity in its most direct form. If the patient did not dream, the priest fixed up one for him — by intercession with the gods. The priesthood at this time claimed for themselves the power of completely controlling Nature, and in the eyes of the people the priest was not only a physician, but also a miraculous being, crowned with the halo of the supernatural; and this was the rôle he actually assumed in many ancient religions.

In Italy, previous to the beginning of Rome as a power, the priest assumed the position of physician, prophet, interpreter of dreams, raiser of tempests, etc. This was exactly his position among the Celtic tribes of Gaul and Britain, and a similar position was accorded him in the Oriental world, particularly amongst the Medes and Persians. In the process of time certain cunning fellows amongst the laymen, concluding that the profession of the priestly physician and con-

jurer was a profitable one, took up the work, so that there thus arose a special profession of sorcerers, miracle workers, magicians, and medicine men, who claimed to cure all ailments equally as well as the priests had done. Magic art in the treatment of the sick assumed astonishing dimensions under the Roman emperors. The emperor Hadrian himself and many of his court were treated by physicians who claimed miraculous powers. "Just as the ancients believed that various incomprehensible mystic performances caused certain mysterious powers, absolutely unknown, to exert a curative influence upon certain diseases, so do many modern people believe exactly the same to-day."

Magic treatment was believed to be especially efficacious if the exorcisms had been written upon paper, gold, or precious stones, in which case they were suspended around the neck of the patient. These ancient mystic observances, or their modifications, have also been persisted in to the present day. In antique magic the rope of the hanged criminal played a conspicuous part in the sympathy treatment, and continues to do so in modern times; just as the medical significance of the crossroad has survived. The mystic influence of the figures 3, 7, 9, and 13 haunts the minds of the masses in this century as it did in the days of antiquity.

Coming down through the ages we find an outcome of the temple sleep, as practised in the Hellenic or ancient Greek civilization, known as church sleep, which reached scarcely less popularity than it had enjoyed a thousand years previously in the world of the ancient Greeks. The cures said to have been made by the medical saints were simply miraculous.

Some saints had a decided inclination for medical specialties. In case severe epidemics were prevalent, it is likely that the churches very often resembled actual hospitals.

So long as the patient was in close proximity to the saint, all was well; but on returning to his home his affliction would reappear. The difficulties and dangers of travelling in the middle ages made it necessary that some method should be invented whereby medical aid by the saints could be administered to these far-away cases, more or less as an absent treatment. This was arrived at by the use of relics, which became known as the cult of relics, in which it was said that it was believed that God endowed the bodies of martyrs who died for the Christian faith, or of saints distinguished by extraordinary piety, with a miraculous power of wonderful efficacy; not only this, but that all objects which had come in contact with the persons of the saints were wonder-working and possessed of curative power. Some wonderful cures are said to have been made by the saints and the saint-relics.

The healing of the sick through saint-relics was in vogue even as late as the sixteenth century. A favorite remedy was the stone-powder taken from the tombstones of the saints; when put into wine or water it was said to possess an astonishing curative power. Another wonderful remedy was the charred wick of the wax candles which had burned in church. The pulverized wick was also said to possess wonderful curative powers. The wax which dripped from candles that were placed near the Holy Sepulchre was also credited with extraordinary curative powers, more especially when employed as an external remedy. The same remarks apply to the oil from lamps hung in the holy places, which was used principally for anointing.

The water which had been used before Easter to clean the altar of the saints was also considered to be a famous remedy. The Countess Eborin, believing that her hour had come, was quickly removed to the church of St. Martin and thoroughly washed with the

water that had been used in washing the altar. And behold! the disease disappeared and the countess lived.

It is also recorded that the grave of the Evangelist John exuded a sort of white manna, which, owing to its wonder-working curative power, was distributed all over the world.

In the early New Testament times there was a belief in supernatural beings — the demons. It would seem that the belief of the first three centuries in demoniac possession was an epidemic contagious disease, which was treated by an exorcist or official caster-out of demons.

The Christian exorcists, in conjuring, only made use of prayer and of the name of Christ; these two factors were considered sufficient to cure the patient of his hallucinations, and they accomplished it. Paul, in Colossians ii. 8, calls attention to the danger of the pure and simple teachings of Christ becoming corrupted by the conjurers of demons and magic exorcists: "Beware lest any man spoil you through philosophy and vain deceit, after the tradition of men, after the rudiments of the world, and not after Christ."

It is interesting to notice that what is called madness in the New Testament is generally supposed to be what is now known as epilepsy or fits, — the disease of possession or seizure.

The first-century Christians believed that God was the best physician, not only of the soul, but of the body as well. Accordingly they neglected medical aid and treated all disease only by prayers, by anointing and by laying on of hands. This is the mode of treatment as contained in the Epistle of James v. 14-16: —

"Is any sick among you? Let him call for the elders of the church, and let them pray over him, anointing him with oil in the name of the Lord; and

the prayer of faith shall save the sick, and the Lord shall raise him up; and if he hath committed sins, they shall be forgiven him."

"Confess your faults one to another and pray one for another that ye may be healed. The effectual fervent prayer of a righteous man availeth much." Various accessories and aids were used to increase the therapeutic value of prayer. Thus the Gospel was placed upon the affected part of the body, or clothing of a particularly pious man was spread over the sick one. It appears that the coat of the Apostle Paul was held to possess such healing power. We read in the Acts of the Apostles xix. 12: "So that from his body were brought unto the sick handkerchiefs, or aprons, and the diseases departed from them." Then again we read of the curative virtue of the shadow of the Apostle Peter. "Insomuch that they brought forth the sick into the streets, and laid them on beds and couches, that at least the shadow of Peter, passing by, might overshadow some of them." Acts v. 15.

During the second century of the Christian era, there appeared Neo-Platonism, a religious philosophical system whose conception of disease was based primarily upon the assumption that the universe is filled with demons and evil spirits. By prayer an individual or healer was enabled instantaneously to restore to health such incurable patients as the blind, deaf, and the lame; and even the power of raising the dead was conferred upon the healer, who, however, for these special gifts was compulsorily obliged to abstain from the use of meat, and above all from the society of women. Conjurations and various kinds of mystical mummery were also methods used to dispel the evil demons. Thus to banish disease certain words were employed which were said to be derived from the temple of Artemis in Ephesus, meaning darkness, light, earth, air, sun, truth. Christian

Science is a legitimate outcome of this and other pagan religio-philosophical systems.

While on the one hand there were saints — medical saints — who performed miraculous things for the good of the people, on the other hand we have the influence of the devil, the Christian successor of the ancient evil spirits, as exerted upon the medical views of the masses. The devil and his subordinate infernal spirits were considered the “disturbers of peace” in the health of humanity. Disease was their work, or that of the magic arts of evil men. The imagination of mankind during the entire middle ages, as well as a long part of modern times, credited the devil with some of the most wonderful machinations conceivable. The great epidemic of St. Vitus’ dance of the fourteenth century was considered to be the work of the Prince of Hell, and to tell even a part of what else was attributed to him would involve the writing of several books. If there was one thing more than another for which his Satanic majesty had a reputation, it was the creating of discord between men and women; and next to this was his penchant for creating disturbances in the pulpit, as well as in the congregations.

Martin Luther was a strict believer in the doctrine which taught men to hold the devil responsible for the origin of all diseases. He expressed himself as follows: “No disease comes from God, who is good, and does good to everybody, but it is brought on by the devil, who causes and performs all mischief, who interferes with all play and all arts, who brings into existence pestilence, Frenchmen, fever, etc.” Then again he said in regard to his health: “I believe my diseases are by no means due to natural causes, but that ‘Yunker Satan’ plays his pranks with me by sorcery.” Luther was a better authority upon religion than upon disease or medicines.

In the process of time the belief in demons, a

variety of medical superstition, finally developed into an epidemic of insanity, into the belief of witches or witchcraft. The witchcraft delusion on the American continent, existing in the latter part of the seventeenth and the beginning of the eighteenth centuries, originated in the hysteria of imaginative children, and eventually became a popular madness. Good men and women were jailed, tortured, and even executed. In England, witchcraft had even a more formidable history.

The difference between a disease and a symptom is something the average man or woman does not even yet know, otherwise we would not hear so much of the cure of incurable diseases by unheard-of or out-of-the-way procedures, or by certain wonderful patent medicines.

Imagination is responsible for probably more than one-half of the existing number of diseases. There are thousands of individuals laboring under the hallucination that they are sick. They think or imagine they are sick.

To all intents and purposes an individual who imagines himself sick might as well imagine himself possessed of a hobgoblin or demon. Hobgoblins and demons and many so-called incurable diseases existed centuries ago, as now, not as matters of fact, but of fiction, — fiction of the mind. In short, they were the products of a vivid imagination, and as such were curable by influencing the imagination.

Astrology at one time played a very important part in relation to human affairs. It was claimed that the sun, moon, planets, and zodiac regulated not only man's life, either for or against his welfare, but the activities of these bodies were said to commence even at the very conception of his being. Each part of the human body was considered subordinate to a distinct sign of the zodiac. This is the basis for the use of the Sign of the Zodiac as illustrated in all patent-medicine almanacs.

Pliny the historian tells us that Alexander the Great entertained an implicit belief in magic. The erroneous beliefs entertained by supposedly gifted men is readily explained in that they were the product of their own time, and could not be in advance of the thought and sentiment of their day, any more than can we be ahead of our own times in the same respect.

It is interesting to review the many practices and beliefs which gained credence in the days gone by.

The drugs used by the magicians, as remedies, included almost everything under the sun. Many of their extraordinary and abominable medicines were used purely for effect: their filthiness was certain to make an impression of some kind upon their patients. The viler the medicine, the more likelihood there was of its expelling or driving out the demon or devil. It will be remembered that disease was supposed to be a demon or an evil spirit which had gotten into a man and must be driven out. This chain of thought carried down through the ages forms a link, and a very strong link, between then and now, and this idea is an inheritance of centuries of superstition and ignorance, and is responsible for the superstitious faith or belief which leads men to swallow millions of gallons of patent medicines, to wear electric belts, magnetic shields, and other medical contrivances, the rabbit's foot, horse-chestnuts and other amulets or talismans, which are supposed to exercise some special magic influence over disease.

The superstition of medicine has filled the world with fear, and to a large extent created ills it has pretended to cure. In modern times this superstition has been more particularly appropriated and perpetuated by the manufacturers of patent medicines, whose aim is not only to keep the people in gross ignorance, but to terrify them as well. Were it not for this combination of power of wealth and the press,

306 *The Art of Living in Good Health*

it might be possible to stem the tide of superstition by educating the people differently. Physicians are powerless in the matter, though they would prefer to see the masses educated to realize their superstition; yet they know full well that the idea of the curative power of medicines is inborn, and knit into the very fibre and being of humanity, and will remain so as long as patent-medicine firms continue to broad-cast and brazenly trumpet forth what is the greatest myth in existence — the curative power of medicines.

With the disappearance of this myth, mankind would become at once interested in learning the means — the only means — whereby health and longevity of life are produced, that is by an observance of the laws of health. But so long as patent medicines are so powerfully exploited as curing incurable diseases, the only thing to do is to war against it until the people find out that it is all only a broken reed.

It may be remarked, in passing, that physicians are here because of the existing condition of affairs, and not from any great pleasure or profit derived from the practice of medicine; many of them now realizing that their time and abilities might have been spent to better advantage in other vocations.

Many villanous attempts have been made to decry the doctor, than whom no more worthy or upright citizen exists; he still stands with honor in his own community, despite these spiteful attacks, and is likely to remain with us until humanity learns how to live.

Patent medicines are a curse for two important reasons. First, so long as they are exploited by the power of wealth and the press, it is practically an impossibility to get the ear or hearing of the masses, to teach them the truth about matters concerning health. Truth is overwhelmed for the time being by ignorance. Secondly, in the use of many of the

**The Curse of
Patent Medi-
cines**

patent medicines, drugs of a highly poisonous character are needlessly introduced into the system. These poisons may be alcohol, morphine, opium, or cocaine.

If all patent medicines contained nothing more harmful than colored water or sugar of milk, no great harm would ensue from their use, other than deluding the people; but unfortunately many of these medicines are loaded with alcohol; others of them, particularly the cough mixtures, contain morphine or opium in some form or another; another class of medicines contain cocaine; while yet another very largely used class of medicines contain alcohol in strength in many instances almost equalling ordinary whiskey. Verily the venom of the deadly serpent lurks in nearly all medicines.

Many aged persons take a little cough medicine, just to make them sleep well. In doing this they are ignorant of the risk incurred in their becoming so addicted to the use of the medicine, that they will be unable to stop its use. This is just what occurs in numberless instances, thousands of wrecks having resulted from the use of the patent-medicine cough-cures, containing as they do in nearly every instance morphine or other opiates.

Handling a loaded revolver would be safety itself in comparison with taking any of these remedies; yet the drugging goes merrily on.

If patent medicines have ever exercised any curative power whatever, it has been solely and entirely through the exercise of the imagination, or the faith of the one taking them. This might be called the mind-cure of the patent medicine. Any newspaper or periodical publishing the advertisements of patent medicines necessarily fathers them, inferentially at least. A belief in advertisements claiming that Bright's disease, diabetes, tuberculosis or consumption, or cancer, are curable by certain medical

308 *The Art of Living in Good Health*

nostrums, would take us back to the time when ignorance was rife—in fact it would turn the dial of time three thousand years backwards. Statements of this kind are not only criminal, but an insult to the public.

It would be just as reasonable to claim for these medicines that they can replace lost arms, legs, and eyes. The man with the wooden leg is as much justified in taking a medicine to replace it as is the man who takes medicine to cure consumption; one is just as reasonable as the other.

Exceptions to the use of patent medicines may be made in the case of external remedies, as liniments, ointments, etc. Home-made remedies of mint or catnip tea are far preferable to any remedy the composition of which one is not fully familiar with.

The government should protect the people by passing a law prohibiting or restricting the sale of all patent medicines, used internally and containing dangerous remedies; just as exists regarding the sale of arsenic, strychnine, etc.

The point to be emphasized in all that has been said regarding the use of medicines is that man should endeavor to live the laws of health so far as he can. If guilty of an occasional dietetic or other over-indulgence, let him get back to his natural condition as quickly as possible. There are many simple and harmless medicines, which are as efficacious as any patent medicine in existence. Of these the old-fashioned senna tea, or Epsom salts, or the immortal castor oil, happily now made palatable, occupy the front rank, while iron as a food-medicine is a sheet-anchor.

Then there are many other harmless drugs beautifully put up in pill or tablet forms, but these, as all other medicines, should only be taken on extraordinary occasions, and never as a routine practice.

In acute inflammatory conditions of the bowels,

simulating appendicitis, no other remedies are so efficacious, at the very beginning of the attack, as a large-sized dose of Epsom or Rochelle salts, or a palatable castor oil. These are indicated because of their quick action, a matter of say two or three hours. Other cathartic medicines, pills, tablets, etc., are too slow in action to be of service. Medicines must be regarded as temporary aids to nature. Used in this way they are invaluable and often of life-saving importance. What has been said as to the curse of patent medicines lies in the futility of their use in chronic and incurable diseases, when other means would be of greater benefit, and above all in their poisonous constituents, which are responsible for drug-enslaving habits.

Nature never forgives any violation of her laws. No individual can have from ten to twenty bilious attacks a year, for a series of years, without finally being made to realize the vengefulness of Nature; the same applies to the dyspeptic, and in fact to every one else who violates natural laws. "It's a long lane that has no turning," and this is never better illustrated than in those who violate natural laws. Retribution is certain to come sooner or later to all such, in the form of chronic incurable disease. For this reason every individual should cultivate health, the possession of which is the greatest asset or wealth in existence. The individual who lives health has no occasion to use patent medicines, nor in fact medicine of any other kind. The wise man realizes that health is the first great wealth, contentment is the second, and wealth—monied wealth—in comparison with the others, is the least and last great wealth.

In this age of enlightenment we know that natural phenomena are a result of natural, not supernatural causes; that disease is a result of the violation of natural law, and is cured or arrested by an observ-

310 *The Art of Living in Good Health*

ance of this same law, and not by the systematic use of medicines or drugging.

The lesson to be learned from a general consideration of the superstition of medicine is that there are no supernatural agencies whatever influencing health or disease conditions, but that the body makes its own blood continuously out of the air, food, and water supplied to it. If the materials are insufficient or defective, the blood will be imperfect — lacking some elements, excessive in other elements, or loaded down with poisonous matters. This, in a nutshell, constitutes disease or health.

XXX

THE ART OF LIVING: LIVING TO EAT, EATING TO LIVE, THE ART OF LIVING ONE HUNDRED YEARS, THE TWENTIETH-CENTURY HEALTH CODE

“If thou wouldst enjoy a long life, labor to bring thine appetite to reason.”

SOME people find a large portion of enjoyment when they can just sit down and enjoy themselves to their fullest extent and capacity, unlimitedly, in eating and drinking, apparently forgetful of the fact that this is not only a perversion of Nature's laws, but is certain to be visited by retribution. Enough is not as good as a feast for such individuals.

**Living to
Eat**

In fact some people eat just like some animals, in that they eat as much and as often as they possibly can. They lose sight of the true purpose of food, which is the upbuilding of the body, and not the gratification of the sense of taste to the extent of gourmandizing.

The sense of taste, combined with the sense of smell, is intended as a guide to enable man to make a proper selection of food. When properly used it also tells him when he has had sufficient to eat. A wholesome appetite, with an unperverted sense of taste, when naturally satisfied, is one of the joys of life. The natural sense of taste becomes blunted by the use of mustard, pepper, and other condiments. For this reason they are best dispensed with, or used with extreme moderation.

312 *The Art of Living in Good Health*

It is related of Diogenes the Cynic that, meeting a young man who was going to a feast, he took him up in the street and carried him home to his friends, as one who was running into imminent danger if he had not rescued him. Evidently Diogenes knew the dangers of excess in eating, if the youth were to have placed before him fowl, fish, and flesh; entrées, spices, and salads of twenty different herbs; confections and fruits of numberless fruits and flavors; oil, wines, and sauces of a hundred different ingredients. Certainly a dangerous mess.

Parenthetically it may be stated that the disagreement of incongruous mixtures of foods largely or wholly disappears when these foods are subjected to thorough insalivation; an exception, however, being made in persons of impaired vitality. And again, that in the healthy individual there is practically no such thing as an indigestible food, provided that the individual observes the laws of mastication and insalivation.

Contrast the above mixture with what an eminent physician advised: "Make your whole repast out of one dish. If you indulge in a second, avoid drinking anything strong until you have finished your meal. At the same time abstain from all sauces, or at least such as are not plain and simple." A man could not be well guilty of gluttony if he stuck to these few obvious, easy rules.

The underlying idea or foundation principle intended to be expressed throughout this book is the avoidance of excess of whatever character,— eating, drinking, thinking, or acting.

In no period of the world's history has there ever been so deep an interest in the subject of how to live as at present. Man has arrived at that stage in his existence when he is beginning to realize that attention to the proper nourishment of his body means health and happiness, and that he can live without disease; dis-

**Eating to
Live**

ease resulting in all cases from a violation of certain natural laws, the observance of which produces perfect health.

Heretofore much of the food eaten by man has been wholly unadapted to his wants, — equivalent to just so much hay and stubble. At least two-thirds of the vegetables in common use are only fit for animals with their three or four partition stomachs. No animal but man will partake of an endless variety and mixture of food-stuffs. There are many foods relished by man that the hog and goat refuse to touch. The horse, cow, cat, and dog are most particular in their diet, and in this respect man has much to learn from them. The sense of taste must be more highly developed in man, and consequently more susceptible to perversion under certain conditions.

Animals are guided in the selection of their foods by the unerring guide — instinct. Man long ago dispensed with the services of this same guide, and is now realizing that it was expensive economy.

The art of living has a platform with a very broad base, and the question of what one's habits of living shall be will depend very much upon from what point of the platform the question is viewed. In any case there are certain fundamental principles from which we cannot depart if we would have health and longevity. On the other hand, there may be differences of opinion upon certain points, and on such more or less latitude and freedom of thought must be allowed if we hope to be benefited by a consideration of the various points to be brought to view.

After the various theories advanced — of mal-assimilation, auto-intoxication, the poisons of a meat diet, uric-acid poisoning, the perils of white bread, the dangers of sugar, the perils of overeating, of tea and coffee drinking, and many others which are opposite to the commonly accepted ideas — the reader must have reached a point where he is considering whether

eating in itself is not a more or less dangerous procedure. So long as one has a good appetite and lives naturally, there need be no occasion for any individual becoming unduly exercised over matters of diet, provided common-sense is used. There are extremes and extremists in diet.

“The first requisite to success in life is to be a good animal.” Health, strength, and vitality do not come by chance, but by obedience to natural laws. Study the laws of health. Select at least a half-dozen principles which you will obey, and hold to them rigidly. Form at least so many correct life habits. No universal rules will apply to all individuals. There must be adaptation to individual physical peculiarities, but a few general life habits are of permanent advantage to all.

The question of diet is one that might be spread over many pages, but after all that has been said and done, the idea which must ultimately prevail in all that pertains to diet is simplicity, moderation, temperance.

Self-control in diet is a fine art, to be practised by the dyspeptic and sought after by all, and much to be preferred to fine gold and rubies.

Adhere as closely as possible to the Twentieth-Century Code of Health, and you cannot go far astray.

That one may attain the age of one hundred years is no visionary or chimerical statement. According

to physiological or natural law, the duration of man's life should be five times the period necessary to reach full growth.

We see this law exemplified every day in the brute creation; but a centenarian

among men is a rarity. Yet the very fact that there are men living in almost every community who have reached an age between ninety and one hundred years is abundant proof that the natural age of man is one hundred years. Individuals reaching these ages live simply and naturally.

**The Art of
Living One
Hundred
Years**

Barring accidents, humanity educated to know how to live would always live to one hundred years of age.

Age is not entirely a question of years. Cazalis long ago originated the oft-repeated aphorism: "A man is as old as his arteries." Old arteries are usually hard and brittle, and accordingly they are as short-lived as is their possessor. The man of seventy-five years of age having elastic arteries is much younger than the man of forty years of age who has lived the life of a rake.

It has been said that man, by his habits of living, kills himself by slow suicide. Unfortunately this is only too true.

Metchnikoff expresses it as his belief that the natural term of life in these days should be about one hundred and thirty to one hundred and forty years. Likewise he also gives it as his opinion that when man has lived out the full term of his natural life, the instinct — what may be termed the natural instinct — of death asserts itself. On this basis is readily understood man's unwillingness to depart this life at any such premature age as eighty or ninety years.

Undoubtedly the natural duration of life varies, and cannot be expressed by a definite figure. In most cases it ought to be more than one hundred years, and only in rare cases ought it to be much less than that term. It is probable that the Biblical phrase "old and full of days," refers to the instinct of death, developed in well-preserved old men who had attained ages of from one hundred and forty to one hundred and eighty years. This Biblical phrase is, evidently, not commonplace, because in the case of other celebrities, as Jacob, Aaron, Ishmael, and Moses, who died at the earlier age of one hundred and twenty to one hundred and forty years, the phrase is not used, the time for the natural instinct of death not having asserted itself.

Men die because, in spite of their boasted reason,

the majority have not sufficient judgment to regulate their lives. Very few, indeed, die of old age, as intended by nature. There is nothing in physiology or biology to show why man should not live or continue his existence forever. Man, the head of the animal kingdom, lives fewer years proportionately than any of the inferior creatures. The reason may be stated in one simple word — *excess*. It may be either physical or mental, but the fact remains that excess is the foe of longevity. Men appear able to regulate everything but their own conduct. It is excessive indulgence of the appetites and passions that hurries the majority of men to the grave long before they have completed the allotted span. With good reason have the sages invariably preached moderation.

An interesting fact has been developed in connection with the study of the causes which produce old age, and that is the medicinal value of fermented milk — soured milk, koumyss, and buttermilk, in that they arrest or destroy the phagocytes or the microbes producing old-age conditions. These soured milks are inimical to the microbes of putrefaction, and hence explain why lactic acid is so useful in maladies, diarrhoea, dysentery, etc., associated with putrefaction of the intestinal contents. This also explains the reputed medicinal value of buttermilk amongst the laity.

As explained in the paragraph on Old Age, fruit juices and fruits enjoy an equal reputation for destroying microbes which are inimical to human life. The diet of old age should be simple and digestible, consisting of cereals, breads made of whole wheat flour, zweiback, fruits, particularly apples, grapes, and pears, and fruit juices. Fresh bread, biscuits, and all other indigestible food should never be used.

The question is often asked: What about health foods? The basis of all health foods is the same as that of bread — that is, wheat; with possibly a slight

admixture of oats or barley. The majority of these foods may be likened to unleavened bread in composition. They are usually made from the grain by baking and special heating apparatus, without the use of yeast processes. They may be malted or unmalted.

The majority of health foods are commendable, and while not so economical as toasted bread, yet they afford considerable variety to our diet, as well as possessing many conveniences to those travelling. Health foods are best eaten in the dry form and not as mushes. Whole-wheat bread, when properly toasted, as in zweiback, either sliced or ground up, is not excelled by any of the other health foods.

We have already more kinds of food than we know what to do with. It is not a question of this or that particular kind of health food being adapted to our wants. We must learn to chew, and to use the foods we already have.

The Bible, though essentially a book of morals, teaches in an emphatic manner the principles of health. These principles are not laid down or itemized exactly in a specified manner, as is the case in books specially written upon the art of living, but none the less, if one reads between the lines, in addition to what we may well infer from the lives, precepts, and sayings of many of those who wrote its pages, notably the sayings of Christ and the writings of Paul, a complete Code of Health may be formulated, worthy of emulation by those who desire to live a life of health, even on its purely physical side, though, as has been repeatedly pointed out, the physical cannot be separated from the mental side of life. Whatever conduces to health of the body must conduce to mentality, equivalent to happiness, and happiness is heaven — earthly heaven at least.

The individual whose stomach is the seat of acidities, burnings, pains, gaseous disturbances and com-

318 *The Art of Living in Good Health*

motions in general, cannot be in any genial frame of mind; in fact he is suffering torture both of mind and of body.

We are, in a measure, just what food makes us; happy and contented, or full of strifes, domestic broils, bickerings, ill-temper, irritations, and general unhappiness. For this reason, if none other, it is politic to study and observe the laws regulating health.

A resumé of the ideas and principles involved and expressed within the covers of this book leads up to the construction of what may be summarized, condensed, or crystalized into a universal health creed, a close adherence, or even an approach to which should result in perfect health and happiness to every individual.

1. Breathe deep and full.
2. Masticate and insalivate your food thoroughly. Be sparing in the use of proteid foods.
3. Drink freely of pure water between meals, and of an amount always consistent with comfort.
4. Bathe sufficiently to keep the skin clean and active.
5. Exercise freely, regularly, and vigorously in the open air.
6. Sleep early and moderately long. Learn to relax—the mind as well as the body.
7. Avoid stimulants, whether alcohol, tobacco, narcotic drugs, or drugs generally.
8. Avoid excesses of all kinds.
9. Cultivate the power of cheerfulness. Don't worry. Make haste slowly. Practise *self-control*, which includes temperance and regularity, deliberation and concentration—the foundation stone, the arch, and the superstructure of this Health Code.

The following remarks may be considered in the nature of an extension or an enlargement of the 20th-Century Code of Health.

Take special breathing exercises for from five to ten minutes out of doors, or before an open window upon rising, before retiring, and during exercise. Ventilate your office or rooms, **Breathing** day and night. Cover well and sleep with windows open, or partly open, even in winter.

Eat regularly, lightly, slowly of *plain foods*, using plenty of cereals and fruits. Flesh meats are best replaced by nuts, peas, beans, or lentils. **Eating** Proteid foods should be partaken of sparingly. This includes flesh meats, eggs, nuts, the legumes—peas, beans, lentils—and cheese. Raw diet—the natural uncooked foods—should form a considerable part of the diet. Use variety in different meals; avoid unwholesome mixtures at the same meal. Stimulants are unnatural and unnecessary. Never force yourself to eat, but wait for an appetite, skipping a meal if necessary. No set diet will fit all cases; food must be adapted to the individual. Age, occupation, season of the year, and many other agencies call for flexibility in diet. Eat two moderate meals per day, seven or eight hours apart. If anything further is desired, a little raw fruit before going to bed, as an apple, pear, peach, a bunch of grapes, or whatever else agrees with the individual, may be taken.

The natural appetite requires no condiments, yet to wholly condemn condiments would be unjustifiable. In general it may be said they are not **Condiments** necessary for the human economy, yet there are special times and circumstances when condiments may play an important rôle in dietetics. Unquestionably during convalescence the milder condimental flavors contribute towards exciting a weak or flagging appetite. What is more appetizing, at times, than a crisp piece of celery, which is but a form of condiment? Equally appetizing is a properly made salad. The milder condiments, as in mint, coriander, and caraway, are always preferable to the

more powerful and pungent flavors of mustard, pepper, and horse-radish, yet the use of these later in a homeopathic-like or diluted form may be justifiable under certain circumstances. As commonly used horse-radish, mustard, pepper, hot sauces, pickles, and other spiced foods are directly injurious, and it is for this very reason that many authorities wholly condemn the use of all condiments. Condiments undoubtedly furnish variety; and variety is the spice of appetite, which is not to be lightly ignored. It is for this very reason that within certain limits condiments are permissible, but should never be used as a routine practice, and only in moderation; otherwise the natural taste which every food possesses is soon lost or overcome. The use of condiments should amount to an occasional pinch of salt or a dash of mustard, or spice, but never a regular habit.

Pastries and sweets, as a result of insufficient insalivation, are liable to putrefy within the alimentary tube, and may become the cause of many disorders. Tea, coffee, and alcohol are all stimulants exercising a powerful reaction against the health and life of an individual. If tea or coffee is used it should be weak and in moderation.

Take one-half pint or more of cool or hot water, as you like, upon rising and retiring.

The best time to bathe is immediately after moderate exercise, before cooling off. The more frequent the bath, the shorter it should be. Rub vigorously after a cool bath so as to produce a bright glow of the skin. Use a graded bath, beginning with tepid water, and finishing with a cool dash or spray. See that the feet and legs are thoroughly warm after the bath. Never take a bath within two hours of a full meal or just before such a meal. Remain indoors a quarter of an hour after a bath, or until the circulation has become fully equalized.

There may be said to be decades as applied to the food of man during his lifetime. There is a food for babyhood, for childhood, for adult life, middle age, and old age. These points have been discussed in various chapters of this book, but may further be supplemented by stating that the quantity of proteid food required is probably rather more for the growing individual than for one who has attained full growth; that after fifty years of age the character and the quantity of the food are likely to undergo modifications as to simplicity and lessening of the quantity; that the diet of old age becomes essentially one of simplicity and digestibility.

The last word has been said upon worry, when attention is once more directed to it, in asking the strict observance of the last rule of the 20th-Century Health Code. All else **Worrying** may be scrupulously adhered to, yet if the worrying habit is continued, the benefit to be derived from the practice of such a code will be more or less nullified. As has been explained under Mental Habits, worry manufactures worry poison; and this when absorbed into the blood is killing. This is the precise principle involved in the saying: "Sufficient unto the day is the evil thereof."

There can be no doubt that human life can be considerably prolonged by careful attention to certain laws and regulations which are expressed in the preceding code of health.

The entire ten articles of the 20th-Century Code of Health may be condensed into a B C D or "vest pocket code" which is worth memorizing; it is

BREATHE DEEP;
CHEW LONG;
DRINK ENOUGH;
EAT LITTLE.

The healthy, reasonable man has good habits. He eats at regular hours all the foods on an ordinary

table without theories as to their digestibility. He feels entitled to take a siesta or midday nap, or a rest of twenty minutes or more—a very commendable practice even in these days of feverish rush in the race for gold and excitement. He must not have his attention fixed too firmly upon his food, or he will suffer mentally and physically, it being a law of life that the physiologic acts, digestion, circulation, etc., must not be the constant object of thought. The one who thinks much about his digestion will soon suffer from indigestion; one must not think too much about the body, otherwise it will fail him. He goes to bed more or less early; he looks after the cleanliness of his skin without undue anxiety on the subject of cold water; he is not intemperate, nor does he do anything that might be hurtful to him. He lives naturally and with unshaken confidence in his powers of resistance. And thus unconsciously he acquires the secret of insalivation and mastication, and solves what is to others the riddle of digestion—almost the whole secret of good health.

His mental attitude is just as natural and simple. He must be interested in everything, develop his aptitude, and learn how to enjoy life fully,—“a sound mind in a sound body.”

He cultivates the power of cheerfulness, so that if he lives to the age of Methuselah he is perpetually young and happy.

A hundred years or more ago Brillat-Savarin, a brilliant Frenchman, wrote a book entitled “The Physiology of Taste,” a classic even to this day, in which he goes to show that “the education of the tastes and the appetites should be an index of the degree of civilization,” that “the man of good instincts and refinements should know how to eat and drink, and to converse” (a lost art to-day); to appreciate a beautiful landscape, to enjoy the flowers—in all things to deport himself

sanelly and soberly; that true pleasure lies not in gluttony and other inordinate appetites, but in the knowledge and practice of reasonable conduct in all the manifold aspects of existence. Among the aphorisms in Savarin's delightful work are such pithy expressions as these: "The most momentous decisions of personal and of national life are made at the table." "But for life the universe would be nothing; and all that has life requires nourishment." "The fate of nations depends on how they are fed." "The man of sense and culture alone understands eating." "One should eat slowly and in minute portions." This is, in essence, the scientific mastication of to-day. "Digestion, of all the bodily functions, has most influence on the morale of the individual." "The great majority of us eat and drink too much," — a dictum which cannot be too loudly trumpeted in this day and generation. Savarin was probably the first exponent of the modern science and art of gastronomy (the art or science of good living) which has been enormously developed since his day. But among the many volumes on food and dietetics now extant, among the mass of literature on practical cookery to be found in the magazines, no writing will be found more scientific or more useful than that which this genial and kindly Frenchman, a century ago, left us as a legacy of good cheer.

THE NECESSITY FOR HEALTH EDUCATION

WHEN one thinks of the hundreds and thousands of people searching for health—the just and rightful heritage of every one—there must be something radically wrong with the habits of the people to account for such an abnormal condition. We need not go outside of our own country in order to understand what this illusory search for health means; for two millions of dollars are spent annually by the people of this continent on medicines, which might better be poured into the Atlantic Ocean than “guzzled” down human throats.

The sights which greet the tourist who visits any of the large sanitariums of this country must create in his mind a sense of humor—of the grimest kind; and this sense of humor must be doubly exercised when visiting any of the highly patronized “spas” or watering places on the continent of Europe; or again when visiting any of the numerous Kurhaus and Heilanstalt health resorts and healing institutions commonly distributed throughout the mountainous districts of Austria, Switzerland, and Germany. At all these places evidences are to be seen on every hand of men and women who have violated some law of hygiene, and have gone perhaps thousands of miles away from home in search of health. The undeniable fact is that suffering humanity may be cured at home with a proper dietary and the employment of other educational measures. Health is like the pearl of great price,—the most precious of assets,—a rarity

which once lost is recovered only with difficulty if at all. Unfortunately this great truth is realized only through sad experience. It is for this reason that health should be jealously guarded so that it may not be imperilled or lost.

Right living means, for the majority of the people of America, the adoption of the principles of food-reform or a change in their habits of living. Hence a precise knowledge of what constitutes food reform is essential. This reform must begin at the beginning, which means at the point where food is selected. After this comes the question of the preparation of the food, which involves a knowledge of chemistry, or the food is spoiled in preparation; many foods should never be cooked, while other foods may be cooked with advantage. When mankind becomes fully impressed with the importance of taking as much care of the human body as is given to a watch or bicycle, or jewelry, or other finery, it will be but a short time before a much needed revolution must take place in the race; and there can be no more profitable way to commence reform in one's self in dietary matters than to study it as it should be taught to the children. The old way of allowing children to grow up without definite habits of eating should be a thing of the past. For it is a matter of vital importance that the little child should be taught correct habits of living in early life. In planning out a method for teaching the children, one unconsciously plans out a method of living for himself, and the first thing to do in such a case is to teach the children, first, last, and always, the practice of self-control in eating, how not to overeat,—which is attained by a practice of the principles of mastication and insalivation.

**Food
Reform**

The majority of individuals who decide to try dietary reform are likely to meet with some surprising

326 *The Art of Living in Good Health*

obstacles, and from unexpected quarters. Bigotry and other forms of opposition are likely to be met with at every turn. The eccentricity of the individual who contemplates a change in his habits of living is likely to be made the subject of considerable unpleasant comment by the members of one's own family as well as by outsiders. Some individuals who have tried what is called reform-diet have occasionally returned to their original methods of living. This has probably resulted from making a too radical or too sudden change in their habits of living, or more likely the force of habit has been responsible for it. A diet which is unnatural to the human individual or race may become natural through a long period of use, — that is, the system may become naturalized to unnatural foods. The human economy possesses wonderful powers of adaptation, otherwise the human race would have been obliterated long ago. Man is largely a creature of habit, — the result of education or training, or of the lack of such. Hence the importance of teaching the child correct life-habits from the very start. It is said that at the age of sixteen, Benjamin Franklin read a book on vegetable diet and became an abstainer from meat. This hobby was undertaken not because of his stomach, but for the sake of his mind, his diet consisting of a crust of bread, a handful of raisins, and a glass of water. With such a diet, he was able to study during the dinner-hour. As he naïvely expressed it, "I made the greater progress from that clearness of head and quicker apprehension which usually attend temperance in eating." Occupation, work, and exercise (practically one and the same thing in so far as the intake of food is concerned), and diet, have a reciprocal relationship to each other which may be simplified like the sliding scale, — more work, more food ; less work, less food. Obviously the brain worker and the business man require less food — as well as food

of a different character — than the farmer or the lumberman. And as to environment, the diet of the Esquimaux to-day is adapted to their wants when living in the Arctic regions, though to-morrow at the equator it would not be a diet of blubber or whale-fat. And again the diet to-day of an individual living at the equator would be essentially fruits, and yet to-morrow in the Arctic regions it would be blubber fat — just the reverse. Between these two extremes, which include occupation and environment, there are gradations in diet, which finally meet in the law of average. Hence it will be noted that the two factors, occupation and environment, have a marked influence upon the nature of man's diet.

Four-fifths of the disease which afflicts humanity is *preventable*, and such disease occurs almost entirely as a result of the violation of Nature's laws. In the majority of instances these violations occur as a result of the lack of training, or from neglect in the early education of the child. The child that is properly fed and properly educated never knows a day of sickness.

The legislators of the land might be profitably employed in securing the enactment of a law to teach the people how to live. If the child does not know how to live, it is certain that the adult will be no wiser than the child, and that disease of some kind will likely ensue as a direct result of ignorance of or neglect of the laws of health. This is the explanation of disease in the concrete form, and if explained a million times it would always begin and end just as it has been explained. And the quicker men and women become acquainted with and take to themselves the principles of food-reform, and adapt these principles to their particular requirements, the sooner will the individual realize that only in this way will he be enabled to get out of life all that there is to be gotten out of it, — happiness and contentment. So that the

328 *The Art of Living in Good Health*

✓ general statement holds good that man is made sick largely from his habits of living,—from what he eats, drinks, breathes, and thinks; and the moral to be learned from all this is,—to learn how to live, then you will never know what it is to be sick. If disease results in the manner just described, is it not the bounden duty and business of every man and woman to learn everything possible about the care of the human body, as well as to see to it that the children are likewise made familiar with the same principles of living.

✓ We cannot expect to reform or re-educate the adult masses of the present day to any great degree. True, it is never too late to learn, yet the majority of adult people become so set in their ways that they will do nothing or but little towards changing their force-of-habit methods of living.

There are certain glaring facts which meet us at every turn in the discussion of food reform, namely: that the average man and woman is not interested in knowing how to live; that many persons would be unwilling to live this life even if they knew how; and, lastly, that a great many of them are so wedded to their idols that with such millstones hanging about their necks they are almost certain to be carried down to destruction by their habits of living.

The child's mind is plastic and more easily influenced than the adult mind, hence a system of education should be inaugurated for teaching the young child the principles and practices of living, and the only satisfactory method of doing this is through the use of text-books to be used at schools. It is not a matter of importance whether these books tell us of the number of arteries, bones, veins, and nerves in the body, nor of many other facts in physiology and anatomy, but such books should teach all that is to be taught about the science of breathing, of drinking,

**The Begin-
ning of Food
Reform**

of eating, and of thinking. In a word, it should teach us how to live.

There may be differences of opinion as to the best way to secure the adoption and promotion of food-reform principles, and especially that portion of them which refers to the teaching of health; but unquestionably one of the best ways to start such work is to commence at the foundation, — with the education of the little children in the public schools or at the kindergarten, — a method far superior to the founding of a national institute or chair in one or more of the universities. Public schools and kindergartens — the national institutes — exist throughout the land, and here is where all the children can be reached, and at a time when they are receptive to educational influences.

The principles of food-reform stand for the proper education of the little child in all that pertains to the building up of its body, from the physical as well as from the mental standpoint. This means a knowledge will be imparted to the child of knowing how to live, and this should be given preference over most of the other subjects which are now taught. By such an education the average longevity of the race can be considerably increased, leaving aside the secondary question of increased health and happiness produced by such a method of living. Instruct a child along health lines and there will grow up a man with but few equals and no superiors, — long-lived, and to whom disease will be unknown.

It has been said that “the fate of nations depends on how they are fed,” — a statement which is as true of individuals as it is of nations. And the truth of this saying never had a better illustration than in the fall of the Roman empire of the centuries past, or in the rise of the Japanese empire of to-day.

It has been said that gluttony kills more than the sword, and its effects have been instanced in many

other nations besides the Roman people. Unquestionably the downfall of the Roman empire occurred directly as a result of its luxurious habits and of a total disregard of the principles and practices constituting food-reform; and the same may be said of other ancient peoples whose downfall was also brought about by gluttony and dissipation.

History shows that food-reform has had an immense bearing upon the welfare and position of many nations in all ages, and there can be no more striking confirmation of this fact than the high position commonly accorded the Japanese race of to-day.

The question naturally presents itself: what is being done in this way for the advancement of the Anglo-Saxon peoples, who must be made to realize before it is too late that race-supremacy depends largely upon the observance of the laws of right living. The day has passed when the individual or the nation as a race can afford to violate laws which lead ultimately to destruction.

If ever men and women of wealth have had a favorable opportunity to do good, to wield a power and to use an influence that will go down through the ages, — of contributing to the health and happiness of mankind, of relieving pain, suffering, and misery, of making disease the exception rather than the rule, of raising the race to a higher level by educational methods, — surely that time is now.

It costs toil and labor, the use of the midnight oil, and many an aching brow and head in order that one portion of humanity may present the truth for the education of the race. Scientists and other investigators, as well as writers and publishers, are devoting their efforts to this end; yet, however much these workers may do upon their part, the partnership which should exist is not complete without the aid of the man of wealth to help shoulder the burden. It

requires much money to spread the ideas calculated to bring about the higher education of the race; without it the mill grinds slowly. Primarily it is the business of the State to put progressive ideas into the youth of the land in this the twentieth century — the age of advancement; but the legislators are too busily engaged in opening up the gold mines of the Yukon or Alaska, in developing the railroads, canals, dockyards, and irrigation schemes, or in looking into the business methods of the various trust and other corporate institutions, to have any spare time for considering what must seem to them a trivial or minor thing in comparison — the health of the nation. Yet, paradoxical as it may seem, hundreds, thousands, and even millions of dollars are spent annually in the way of making appropriations for the prevention and spread of disease among animals, yet comparatively little has been done towards attaining the same ends in the case of humanity. As has been pointed out, preventable disease, which constitutes about four-fifths of all the disease which afflicts humanity, invariably results from a neglect or inattention to the laws of health. If these laws were taught to the little children and observed by them, it would mean practically the disappearance, root and branch, of all preventable disease. The prevention of disease is almost wholly one of education — not of the adult but of the little child, and it does not require profound studies in bacteriology, biology, or chemistry, or of the other sciences, in order that the race shall know how to live to the best possible advantage. The study of these sciences has not prevented the increase of disease if we are able to believe statistics, which tell us that preventable disease is alarmingly on the increase. The prevention of disease is simplicity itself, — and it must occasion surprise among the thinking people of this country that radical procedures have not long since been put in operation to teach and compel the

332 *The Art of Living in Good Health*

race to observe the laws of health. If we would limit, destroy, or kill disease we must do it just as we kill a tree — by cutting it off at its roots, and not by cutting off its branches. Destroy the cause, and the effect, disease, will disappear. This is all to be brought about by teaching the rising and coming generations how to live. The practice of such knowledge is the prevention of disease. To expeditiously bring about this result, the broadcast expenditure of money is required. This done, within one hundred years from the time of its inception the number of hospitals, asylums, jails, reformatories, and other similar governmental institutions would be reduced by at least one-half, as a result of the innovation.

n^o
✓ The first essential in the race of life is to know how to live. Give a child this equipment and it will be given a firm foundation upon which to build a successful life and thus become a healthy member of the race. Undoubtedly large sums of money have been contributed by the State for educational purposes, and in notable instances the state grants have been supplemented by the generous donations of a few private individuals, but it may be said that the necessity for the specialized education of the race does not seem to have met with the attention which its importance demands, and that but little if any money has been set aside for the specialized education of the little children in the one particular direction — the teaching of health. This is an age of specialism, and the teaching of the little children along these lines is certainly a specialty of the first rank as well as of the highest importance. It may be noted in passing that the books upon hygiene and physiology, as generally used in the schools at the present day, are at least a quarter of a century behind the times, and this of itself necessitates the writing of a new book; for be it remembered that "How to Live" is a thing of to-day and not of yesterday. And it may be said that the

teaching of health in so far as it affects little children is non-existent. What the child needs most is a "primer" especially written for it and adapted to its mind-powers and bodily wants. This booklet should be one on Practical Living — the "essentials"; extras may come later. So far as I am aware, there is no publication in the English language which covers the requirement properly. This presents an opportunity for some philanthropist or some magazine or newspaper proprietor to donate a prize for the best elementary publication upon the subject—to be a practical book on health and hygiene and specially adapted for the use of the little children—and thus help advance the educational interests of the country.

If such a book were to be placed in the schools of America to-day, it would revolutionize the habits of the race in a manner that would make the American nation the superior nation of the world,—a ruling and a truly Christian nation. The race that would succeed to-day and that expects to win to-morrow must practise the principles of food-reform, or fall behind in the race of progression and possession, of advancement and achievement. A nation grown on these lines of training must always remain a superior one, and these are the lines upon which the Anglo-Saxon race must train itself or fall behind in the struggle for race supremacy. And the time for starting this great work was never more opportune than now. The children of the coming generations cry out for it, and we should be false to our trust did we not hear their cry. The future generation has a claim upon us in this matter just as we had a claim upon our forefathers, who recognizing this, fought for our liberties and their rights. That some person will not only esteem it a duty, but a privilege as well, to contribute of his wealth for this great and important work and thus do his part in the education of the race is as certain as the sun shines,— thus completing the

partnership with the other members of his fellow-men who have contributed and are still contributing of their powers and resources for the uplifting and improvement of the human race. The adoption of such methods of living by the race would mean a decided increase in the longevity of the race; for it may be stated as generally true that no man or woman should cease living this life until at least seventy-five years of age, ninety years being probable, with one hundred or one hundred and twenty years as a possibility; and such longevity is attainable only by right living.

The effect of the rapid pace which modern humanity is living is to be observed in the premature gray hairs, "bald-heads," and the decayed teeth which affect at least one-half of the American people of to-day. These are the three greatest story-tellers or historians of the people's habits of living—whose works are in full view and which admit of no question. Such conditions are the external evidences of dissipation or of disease in some form or another. What the internal evidences of disease may be is a question which time alone decides—though the tongue, which is a mirror of the internal economy, reflects humanity as being more or less poisoned and suffering from what is commonly called mal-assimilation. A question which will occur to many persons after reading such a book as the one now in hand is—Is there anything to be gained by trying to put into practice such principles as are given herein? Will it add to happiness, length of life, or give anything else sufficient to recompense one for undertaking such methods, and is there not a danger, in adopting these principles, that one gives up the substance for the shadow? The answer to all such questions is that the person who learns how to live, which can only be accomplished by putting into practice the laws of health, will be repaid a thousand-fold in the fact that

he will have happiness and many years added to his life, that he will be free from disease, and will be able to give to his fellow-men the benefits of his ripe experience and knowledge. Nothing great is ever accomplished in this life without sacrifice of some kind. The ordinary man is prepared to live just as he is, but the exceptional or extraordinary man is not satisfied without adopting better things.

It has been said that the secret of a long and a healthy life is to eat little and to eat seldom. To many persons this would seem to be a huge joke, yet it is a fact which is stripped bare of any sentiment, the significance and fuller recognition of which would materially make life happier for hundreds and thousands of the human race. To be able to reach the point where one can eat little and eat seldom involves the practice of the principles of self-control.

XXXII

LIFE

*"Between two worlds life hovers like a star,
'Twixt night and morn upon the horizon's verge."*

FOR ages philosophers and scientists have sought to solve the mystery of life — the world's greatest miracle — but the mystery still remains. The theories of spontaneous generation of life and all other speculations of a like character have ended where they began, in generalizations and indefinite nothingness. Human knowledge is at sea regarding the origin of life itself. Scientific investigations during the more recent years go to prove that animal and vegetable life are one and the same thing. The same power that upholds nature in every leaf, flower, grain, bird, insect, and animal, is also working in man. The same great laws that control the sun, moon, and stars, also control human life. It is the same mighty power exhibited throughout the entire universe. The power that converts the little acorn into the great oak is exactly the same power that creates and is operative in man. Human life is the miracle of miracles, resulting as it does from the development and growth of two cells, the union of the male and female elements, so infinitesimally minute as to be microscopic in size. Truly no greater miracle can be imagined than the growth and development of man from the primitive cell up to and through the process which makes him the ruler of the universe, subject only to the Creative Power. God the Omnipresent is in every

atom of creation seen and unseen. He is in the blade of grass and the towering tree; in the starry heavens above and in the sparrow's fall; in the lightning's flash as in the lullaby; in the air we breathe and the thoughts we think. Even the trees as they grow experience a delight in the process of being, their leaves always upturning towards the light to receive the vitalizing light-life which produces the wonderful transformations necessary for the full development of the plant. Man cannot separate himself from the Omnipresent God, for if but one atom in the universe existed apart from God, the whole of Creation would disintegrate. And this idea finds expression in the following beautiful lines:

"Earth's crammed with Heaven,
And every common bush afire with God."

There can be but one satisfactory explanation of the marvellous phenomena of life, in all its varied manifestations, and that is, it is an Infinite Intelligence, Nature, or God, working out His purposes.

The explanation of Nature is God. If we would understand or appreciate the infinity and immensity of this power we must go to astronomy. By the aid of the telescope we view the starry heavens with their vast orbs of light, the sun, the worlds and stars untold. One is simply overwhelmed with the immensity of the starlit heavens. Nature speaks to us in the most majestic and awe-inspiring tones: "The heavens declare the glory of God, and the firmament showeth his handiwork." (Ps. xix. 1.)

The old division of man's life into three parts — body, soul and spirit — is now largely justified by physiological psychology. Science and religion are at one in this as in many other respects. The mere body life consists in *existing*, the soul or animal life in *moving* and spending the life force; and the high-

338 *The Art of Living in Good Health*

est, or spirit — intelligent, moral and intellectual life — is what really constitutes *living* to a man.

That wonderful philosopher and writer, Paul, evidently fully understood this when preaching to the Athenians, in his threefold description of life: "For in Him we live (spirit life) and move (soul or animal life) and have our being (bodily life)."

Many of us have never known life excepting as we have come up with childish ideas. Let us learn to live it now, as men, with ideas in accordance therewith. We must live life as a beautiful possibility. Let us live it long and well, in health, happiness, and contentment, and we shall have realized

"What a glorious thing human life is, and how glorious man's destiny."

INDEX

A

- AIR, value of pure, 9, 10, 238
- Albuminates. *See* Proteids
- Alcohol, a poison, 214
- Alcoholic liquors, and overeating, 164
 - evils of, 213
- Alcoholism, cure of, 214
- Almond butter, 97
- Almonds, malted, 102
- Anger, evil effects of, 273
- Animal life, sacredness of, 195-199
- Animals, food of, 4, 313
- Appendicitis, caused by meat eating, 51
- Apple snow, 128
- Apples, nutritive value of, 85
- Apricots, nutritive value of, 86
- Asparagus, nutritive value of, 111
- Assimilation of food, 17, 33
- Astrology, 304

B

- BACHELORS' breakfast, the, 127
- Bananas, nutritive value of, 85
- Bath, the cold water, 223, 225
 - the friction, 225
 - the natural, 226
 - the night, 227
 - the scrub, 224
 - the vapor, 227
- Bathing, importance of, 221-229
 - proper methods of, 222-229, 320
- Beans, nutritive value of, 110, 113. *See also* Vegetables

- Beetroot, nutritive value of, 111
 Bible health teachings of, 317
 teachings in regard to flesh-foods, 191-195
 Bicycling, as exercise, 230
 Bile-poisoning, caused by cane-sugar, 151
 Biliousness, caused by sugar, 154
 Bills of fare, proportioned, 134-136
 Blood, curative power of, 206-209
 germ-destroying principle of, 211
 Brazil-nut butter, 97, 103
 cream, 130
 milk, 104
 Brazil-nuts, malted, 102
 Bread, chemical composition of, 44
 fruit, 127
 natural, 123
 nutritive value of, 40
 unbaked, 126
 unleavened, 127
 Breakfast, the bachelors', 127
 omission of, 189
 Breast milk. *See* Mother's-milk
 Breathing, exercises for, 12, 236
 importance of correct, 9-11, 319
 Butter, nutritive value of, 61
 Buttermilk, nutritive value of, 61

C

- CABBAGE, nutritive value of, 110, 112
 Caffeine, in tea and coffee, 217
 Cancer, caused by meat eating, 51
 Cane-sugar, digestion of, 142, 146, 148, 150
 digestion retarded by, 150
 disease caused by, 148
 fermentation of, 148, 150
 peculiar characteristics of, 146, 155
 substitutes for, 155-157
 Carbohydrates, composition and functions of, 31
 excess of, 34
 in cereals, 40, 43
 in fruits, 93
 in nuts, 96, 108

- Carbohydrates — *continued*
in vegetables, 110
proper proportion of, in diet, 134, 175
- Carrots, nutritive value of, 111
- Catarrh, caused by salt, 160
caused by starch foods, 138
- Cereals, 129
- Cereals, chemical composition of, 32, 39, 43
cooking of, 41, 120
nutritive value of, 39-44
- Cheerfulness, power of, 293-295
- Cheese, chemical composition of, 32
nutritive value of, 63
- Chemistry of food, 31-38
- Chestnuts, cream of, 107
nutritive value of, 98
- Chewing. *See* Mastication
- Children, diet for, 75-77
education of, in regard to health, 328-330, 332-334
mental training of, 245
overfeeding of, 163. *See also* Infants
- Chocolate, preparation of, 219
- Cholera infantum, 74
- Christ, attitude toward meat eating, 194
- Christian Science, errors of, 259, 263
real power of, 262-264
- Clothing, importance of proper, 231-233
color of, 232
- Cocoa, composition of, 119
dangers in use of, 219
xanthins in, 35, 48
- Cocoanut butter, 98
- Cocoanut-milk, 98, 107
- Cocoanuts, nutritive value of, 98
- Coffee, caffeine in, 217
dangers in use of, 216-218
xanthins in, 35-48
- Color of clothing, effect of, 232
- Complaining, evils of continual, 292
- Compress, hot, sweating by, 228
- Condiments, use of, 319
- Constipation, cure of, 91
- Consumption, causes of, 238
out-of-door cure for, 238

- Cooking, effects of, on food, 119
 of cereals, 41
 of eggs, 81
 of fruits, 84, 86
 of nuts, 99-108
 of starch foods, 120
- Corn, nutritive value of, 110, 111
- Corsets, disease caused by, 209
- Cotton, as material for clothing, 231
- Cow's-milk, modification of, necessary for infants, 66, 68, 72. *See also*
 Milk
- Cream, chemical composition of, 63
 nutritive value of, 62
- Cucumbers, digestibility of, 111

D

- DATEs, nutritive value of, 86
- Demoniacs, belief in, 301-303
- Devil, belief in the, 303
- Diabetes, cause of, 152
- Diaphragm, action of the, 10
- Diet, errors of, cause of disease, 179, 183, 203-212
 of Trappist monks, 176
 for children, 75-77
 for old age, 316
 for summer weather, 177
 fundamentals of, 125
 reform of, 325-330
 regulation of, 174-180, 314
 suggestions for proper, 134-136, 188-190
 variety in, 125, 136
- Digestion, action of saliva in, 20, 27-30
 importance of good, 27
 in infants, 67
 mastication essential to proper, 20, 121, 153, 322
 of cane-sugar, 146-148, 150
 of fluids, 16, 17
 of starch, 141-145
 retarded by cane-sugar, 150. *See also* Indigestion
- Discontent, evils of, 280-282
- Disease, cause and nature of, 303-312
 caused by corsets, 209

Disease — *continued*

- due to errors of diet, 179, 183, 203-212
 - imaginary, cure of, 261
 - influence of thought on, 250
 - mastication as a cure for, 25
 - prevention of, by health education, 331
- Diseases, caused by cane-sugar, 148**
- caused by meat eating, 51-53
 - caused by salt, 160-162
 - caused by tobacco, 215
- Drinking, proper habits of, 13-16, 21, 30, 320**
- Drug habit, cure of, 220**
- Drugs, in patent medicines, 307**
- the use of, 213-220
- Dry foods, best for proper mastication, 25, 26**
- increase flow of saliva, 28

E

- EATING, proper habits of, 19-30, 173-185, 311-314, 319. *See also***
- Overeating
- Education in regard to health, need of, 324-335**
- Egg-nogg, 81**
- Eggs, chemical composition of, 32, 48, 80**
- cooking of, 81
 - decomposition of, 81
 - nutritive value of, 80, 81
- Emotions, cheerful, 272**
- demoralizing, 273
 - physical effects of, 272-276
 - training of the, 274-276
- Evil, imaginary, 276-278**
- Exercise, importance of, 230, 231**
- Exercises, for breathing, 12, 236**

F

- FAITH, the antidote to fear, 247, 255**
- Faith in God, as cure for disease, 268-272**
- Family life, responsibilities of, 253, 293**
- Fasting, benefits of, 199-202**
- dangers of, 202

- Fat, excessive production of, 155**
Fats, composition and functions of, 32
 in cereals, 39, 43
 in milk, 60
 in milk-products, 63
 in nuts, 108
 proper proportion of, in diet, 134, 175
- Fault-finding, evil effects of, 278-280**
- Fear, causes of, 246**
 cure of, 247
 demoralizing tendencies of, 246-248
- Fermentation of cane-sugar, 148-150**
 of starch, 139-148
- Fibrin of meat, 47**
- Figs, nutritive value of, 85**
- Fish, chemical composition of, 43**
 putrefaction of, 50
- Flesh foods. See Meat**
- Fletcher, Horace, experiments in proper mastication, 19**
- Flour, inferiority of modern, 40**
- Food, amount necessary for daily use, 126, 134, 174-177**
 chemistry of, 31-38, 44, 47
 effects of excess of, 167-169, 182
 fuel value of, 177
 natural, 125
 of animals, 4, 313
 proper combinations of, 183-185
 reform in, 325-330
 simplicity in, 190
 variety in, 125, 136
- Fowl, chemical composition of, 43**
- Friction bath, the, 225**
- Frugivorism. See Vegetarianism**
- Fruit cures, 90**
 diet, advantages of, 201, 212
 juices, nutritive value of, 83
 preparation of, 130
 soups, 130
 sugar, digestibility of, 143, 145, 156. *See also* Carbohydrates;
 Sugar
- Fruits, chemical composition of, 82, 83, 93**
 cooking of, 84, 86
 cure for constipation, 91
 nutritive value of, 82-93

Fruits — *continued*

- proper use of, 88, 90
 - selection of, 178
 - sweet, substitutes for cane-sugar, 155-157
 - tropical, 84
- Fuel-value, of cereals, 43**
- of foods, 177
 - of fruits, 93
 - of nuts, 96, 108
 - of vegetables, 110

G

- GALAZYME, 61**
- Gall stones, caused by starch foods, 152
- Games, as exercise, 231
- Gas on the stomach, causes of, 148
- Gastric juice, affected by mastication, 23, 24
- Gautier, on vegetarianism, 5, 6
- Germs, destroyed by pure blood, 211
- destroyed by saliva, 27, 28
 - without influence on healthy person, 180
- Gluten of cereals, 47
- God, faith in, as cure of disease, 255, 268-272
- omnipresence of, 336-338
- Grain, malted, 101
- Grape-fruit, nutritive value of, 87
- Grapes, nutritive value of, 86
- Grief, evil effects of, 273
- Grumbling, evils of, 282-285

H

- HABIT, power of, 181**
- Hair-splitting, evils of, 285-287
- Health education, need of, 324-335
- foods, value of, 316
 - influence of mind on, 244-296
 - Twentieth Century Code of, 314, 318-323
- Heat-producing power of foods. *See* Fuel-value
- Honey, digestibility of, 146, 156
- Hope, power of, 272
- Hot compress, sweating by, 228
- Hygeia salad dressings, 128
- Hypnotism, 266

I

- IMAGINATION, evils of, 276, 277
 power of, 246, 265, 304
 Indigestion, caused by starch, 137-157
 Infants, feeding of, 64-79
 Invalidism, chronic, effect of mind-cure on, 265

J

- JAPANESE, vegetarianism among, 4
 Jaundice, caused by starch foods, 151
 Jealousy, evil effects of, 273
 Jellied nuts, 127

K

- KEFYR, 61
 Kidneys, effects of salt on, 160
 Koumiss, 61

L

- LAIT de poule, 81
 Lentils, nutritive value of, 110, 113
 Lettuce, nutritive value of, 111
 Life, mystery of, 336-338
 Light, curative effect of, 232, 238
 Linen, as material for clothing, 231, 232
 Liquids, amount necessary to the body, 15
 digestion of, 16, 17
 sipping of, 21
 Liver, functions of the, 150, 152, 169
 Loeb, Jacques, physiological researches of, 117

M

- MACROPHAGES, destructive character of, 210
 Magic, as a healing art, 297-299, 301, 305
 Malted grain, 101
 nuts, 101
 Malt-sugar, digestibility of, 144

- Man**, naturally religious, 268
naturally a vegetarian, 2-8, 125
threefold nature of, 337
- Marriages**, unhappy, 253, 293
- Mastication**, importance of proper, 19-21, 22-27, 121, 153, 322
learning proper, 25, 26
of starch foods, 140
- Meal**, preparation of, 39
- Meals**, proper time for, 190
- Meat**, chemical composition of, 32, 43, 46, 48
ethics of eating, 195-199
excessive use of, 53-57
ill effects of eating, 7, 8
nutritive value of, 45-58
poisons in, 49
putrefaction of, 49
uncleanliness of, 56
uric acid in, 35
- Medicine**, proper use of, 207, 308-310
- Medicines**, of ancient times, 305
- Mental culture**, importance of, 244-296
- Mental healing**. *See* Mind cure
- Milk**, chemical composition of, 32, 60, 63, 69
natural food for infant, 64, 67
nutritive value of, 59-79
poisons in, 68
sterilization of, 60, 68, 69-71
uncleanliness of, 59. *See also* Cow's-milk, Mother's-milk
- Mind**, laws of the, 262-264
power of the, over body, 244-296
training of the, 244-296
- Mind cure**, basis of, 262
false, 264-268
true, 268-272
- Mineral matter**, in cereals, 39-43
in nuts, 108. *See also* Salts
- "Misfit" families, 253, 293
- Mock turkey**, 104
- Morality**, physical, 165-167
vegetarianism an aid to, 199
- Mosquitoes**, protection against, 241
- Mother's-milk**, chemical composition of, 67
natural food of infant, 64, 77-79
- Mushrooms**, nutritive value of, 112

N

- NAGGING**, evils of, 282-285
- Natural bread.** *See* Bread
- Natural foods.** *See* Raw Food
- Nectar**, 130
- Neo-Platonism**, philosophy of, 302
- Neurasthenia**, causes and symptoms of, 296
- Nervous exhaustion.** *See* Nervousness, Neurasthenia
- Nervousness**, causes of, 257
cure for, 256
- Nicotine**, in tobacco, 215
- Nitrogenous substances.** *See* Proteids
- Nut-banana confection**, 106
- Nut-butter**, 96-98, 100, 103, 106
sandwiches, 103
- Nut-cheese**, preparation of, 106
- Nut-creams**, 100, 103, 107
- Nut-fruit**, 128
cereal soup, 131
confection, 106
soup, 131
- Nut-grano**, 105, 106
- Nut-hash**, 131
- Nut-meato**, 104
roast, 104
steak, 105
- Nut-milks**, 100, 104, 107
chemical composition of, 60
nutritive value of, 61, 78
- Nut-prune confection**, 105
- Nuts**, blanching, 99
chemical composition of, 32, 96, 108
digestibility of, 94
jellied, 127
malted, 101
nutritive value of, 47, 84, 108
preparation of, for food, 96, 99-108
proper method of eating, 95
with tomato, 132
- Nuttose**, 107

O

- OATS**, chemical composition of, 40, 43
- Old age**, causes of, 118, 210, 314-316

- Old age — *continued*
 diet for, 316
- Olives, chemical composition of, 93
- "One-Meal" plan, among ancients, 186
- Onions, nutritive value of, 112
- Opsonins, germ-destroying principle of blood, 211
- Oranges, nutritive value of, 87
- Out-door life, importance of, 237-243
 methods of living, 240-243
- Overdrinking. *See* Drinking
- Overeating, evil effects of, 33-38, 57, 163-172, 182, 205
- Overfeeding of infants, 65
 of children, 163

P

- PATENT medicines, evils of, 306-308
- Peaches, nutritive value of, 87
- Peanut-butter, 97
- Peanuts, malted, 102
 nutritive value of, 96
- Peas, nutritive value of, 110, 113
- Peasants of Europe, vegetarianism among, 6
- Pepsin, action of, 207
- Peter, Apostle, the vision of, 193
- Phagocytes, beneficent character of, 211
- Pineapples, nutritive value of, 85
- Plato on meat-eating, 3
- Plums, nutritive value of, 87
- Poisons, destruction of, by liver, 153, 169
- Potatoes, nutritive value of, 110, 112
- Prayer, as a healing power, 301
 true nature of, 268-272
- Proteids, composition and functions of, 31, 47
 excessive use of, 34, 169
 in cereals, 32, 39, 43
 in eggs, 32, 80
 in fruits, 93
 in meat, 32, 46, 48
 in milk, 32, 60
 in milk-products, 63
 in nuts, 32, 96, 108
 in vegetables, 32, 109, 110
 proper proportion of, in diet, 134, 174-176, 200

- Prunes, nutritive value of, 87
 Ptomaines, destruction of, by liver, 153, 169
 formed by proteid metabolism, 170-172
 in meat, 49, 50
 Pulses, The. *See* Beans, Lentils, Peas

R

- RAW-FOOD diet, arguments against, 119-121, 122
 arguments for, 116-119, 121
 bills of fare, 134-136
 economic advantage of, 121
 Raw foods, preparation of, 126-133
 Relaxation, importance of, 254
 Religion, power of, 268-272
 Restlessness, evils of, 280-282
 Rhubarb, nutritive value of, 87
 Rice, chemical composition of, 40, 43
 nutritive value of, 42

S

- SAINTS' relics, superstitions in regard to, 299-301
 Salad dressings, 128
 vegetables, nutritive value of, 112'
 Saliva, as a germicide, 27
 importance in digestion, 20, 27-30
 Salt, as an emetic, 160
 diseases caused by, 160-162
 not necessary to man, 158-160
 physiological effects of, 159
 preservative powers of, 159
 Salts, composition and functions of, 32
 in foods, 161
 in fruits, 93
 in milk-products, 63
 in vegetables, 109, 110
 proper proportion of, in diet, 161
 See also Mineral Matter
 Sandwiches, nut-butter, 103
 Scrub bath, the, 224
 Self-control, cultivation of, 288-291
 importance of, 250, 254, 258

- Self-pity, evils of, 291, 292
 Sipping of liquids, 21
 Skin diseases, caused by salt, 160
 Slaughtering, proper methods of, 54-56
 Sleep, means of inducing, 235
 necessity of, 234-236
 out-of-doors, advantages of, 239
 proper time for, 235
 Sleeping bag, advantages of, 240-243
 Sleeplessness, causes of, 149, 235
 cure for, 235
 Spartans, laws of, in regard to health, 245
 Starch, digestion of, 41, 141-145, 137-157
 effect on diabetic patients, 120
 foods, cooking of, 120
 Sterilization of milk, 66, 68, 69-71
 Stomach, gas on the, 148
 structure of the, 144
 Strawberries, nutritive value of, 88
 Strength, increased by vegetarianism, 4-6
 Sugar, cause of biliousness, 154
 cause of excessive fat production, 155
 craving for, unnatural, 138-140
 digestibility of, 137-157
 effect on diabetic patients, 153
 See also Cane-sugar ; Fruit-sugar ; Malt-sugar
 Sugar-making function of the liver, 152
 Sugars, digestibility of different, 150
 Summer, proper diet for, 177
 Sunshine, curative powers of, 238
 Super-sensitiveness, evils of, 285-287
 Superstitions, in regard to medicine and healing, 297-306
 Sweating, by hot compress, 228
 by the vapor bath, 227
 Sweets. *See* Cane-sugar ; Sugar

T

- TEA, caffeine in, 217
 dangers in use of, 216-218
 xanthins in, 35, 48
 Teeth, condition of, dependent upon mastication, 27
 Temperature, diet altered in accordance with, 177

- Thirst, caused by salt, 161
 training the sense of, 13
 Thought, influence of, on health, 250
 "Three-meal" plan, disadvantages of, 188
 Tobacco, evils of, 214-216
 a poison, 215
 Tomato, nuts with, 132
 nutura, 105
 Tomatoes, nutritive value of, 89
 Toxins, in meat, 49
 Trappist monks, dietary of, 176
 Tuberculosis. *See* Consumption
 Twentieth-Century Code of Health, 314, 318-323
 "Two-meal" plan, advantages of, 187

U

- UNCOOKED food. *See* Raw-food diet
 Underclothing, importance of proper, 232
 Underdrinking. *See* Drinking
 Unleavened Bread. *See* Bread
 Uric acid, excessive formation of, 34-38
 in meat, 48

V

- VAPOR-BATH, the, 227
 Variety, in diet, 125, 136
 Vegetables, chemical composition of, 32, 109, 110
 digestibility of, 111, 114, 185
 nutritive value of, 47, 109-115, 132
 xanthins in, 35, 48
 Vegetarianism, definition of, 1
 in the animal kingdom, 4
 natural to man, 2-8, 125
 superiority of, 4-6, 195-199
 wide-spread prevalence of, 1-7
 Ventilation, need of better, 11
 Vinegar, produced by fermentation of starch foods, 139

W

- WALKING, as exercise, 230
 Walnuts, malted, 102

- Water, composition of, 32**
 in cereals, 43
 in fruits, 93
 in milk, 60
 in milk-products, 63
 in nuts, 108
 in vegetables, 109, 110
 the natural drink, 13-18
 purity of, 17
- Weaning, proper methods of, 74-77**
- Wheat, chemical composition of, 40, 43**
 nutritive value of, 40, 125
- Witchcraft delusion, 304**
- Wool, as material for clothing, 231**
- Worry, avoidance of, 321**
 causes of, 249, 253
 cure of, 249-253
 demoralizing tendencies of, 248-257

X**XANTHINS, 35, 48****Z****ZWEIBACK, 26**

