

THE BIONOMY OF POWER

By

JOHN -X- LOUGHRAN

THE BIOLOGY OF YOUTHFULNESS

152 WEST 52ND STREET, NEW YORK 18, N. Y.



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PRINTED IN THE UNITED STATES OF AMERICA
AMERICAN BOOK-STRATFORD PRESS, INC., NEW YORK

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REMOTE STORAGE

"Know you not that you are the Temple of God."
(Cor. 3:17.)

The potent truths set forth on these pages can help you create vitality—health—and the outward signs of *youthfulness*.

The BIONOMY OF POWER has to do with certain Principles that help stave off premature old age and *self-caused* ill health.

As Principles they are scientific; they have the sanction of commonsense; and—best of all—they help bring the practical results which are the sole test of TRUTH.

The efforts of many men and women who have applied these FUNCTIONAL DISCIPLINES and youth-retaining precepts have been rewarded with a totally unexpected degree of success.

John X. Loughran.

"In the future, science promises to those races who will take advantage of the newer knowledge of nutrition, a larger stature, greater vigor, *increased longevity* and a higher level of cultural attainment."

—DR. JAMES G. McLESTER,
Former President American Medical Association.

World of Tomorrow

THE BIONOMY OF POWER will launch you upon the road of joyful, creative living, a functional preparation for the bright new world of tomorrow.

Make no mistake about it. The world of ten years hence will be full of wonders. It will be a new and Eden-like world of scientific marvels, the new age of Atomic Power.

Seen through rational eyes, 1955 will be as bizarre as the imaginings of fictionists. With atomic energy available, nations will no longer fight for the possession of oil fields or coal mines. The splitting of the uranium atom, U-235, will release energy millions of times greater than now obtained by the burning of coal or oil.

Velocity of travel will speed up prodigiously for even now the Atlantic Ocean is only 400 minutes wide. The shift to light metals and plastics will usher in a new age of featherweight portable homes. Even now, the amazingly lighter metal magnesium is being extracted from the sea, great mother of power and life.

Beautiful garments, more gorgeously hued than Joseph's coat of many colors, will be fabricated from common weeds: glass will be unbreakable, will float, will everywhere admit (rather than screen off as now) the vital ultra-violet rays of sunlight. Your own personal transition into this new world will be as revolutionary as mankind's shift from the bronze age to the age of steel.

In that day, but a few years ahead, sicknesses of today will be regarded with the disapproval that we now reserve for drunkenness. Senility, appearances and actions of decrepit old age will gradually become the exception rather than the rule. Threescore and ten years of living will no longer be a bar sinister to the joys of living in power and health.

I cannot make it too plain that all of this concerns you most singularly. Not in any far off time, but now, for the world of tomorrow is already in the actual process of becoming.

Wonderful as the time is that is just ahead, the joy of living, the inner development of soul and intellect will be found only along the road of your own creative thinking, functional healthful living and action.

I know that you desire energy and power for now and the world of tomorrow. Reflect then upon this: If you will pay the price now in learning and disciplining your mind and body, you will soon come to know the joy of living in its truest sense.

You will soon be caught up with the magic and force of science and Nature as they help reactivate you toward health, attractive appearance and an undreamed of sense of power and mastery. All science, all Nature, all force, all power stem from God!

"This I have found, that God made man right."
(*Ecccl. 7:30.*)

The Supreme Physician

THE STATE of health is the *natural state of man*.

No one has ever set a higher premium upon a wholesome, healthy body than the Supreme Healer Himself when he marked this planet with the footprints of His Deity, 2000 years ago. A good part of His Ministry was given over to the curing of disease. Before Jesus healed the soul, He healed the body.

The lame, the halt, the blind, the afflicted, the paralyzed were first made whole physically. Jesus viewed wholeness and unity of the body as the first step toward perfection. He incarnated for us the idea of normalcy of health. The Supreme Healer recognized health as the normal thing, so He dispersed sickness and infirmity.

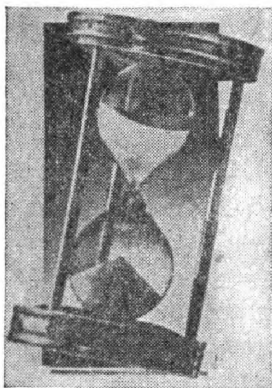
The day of miracles has come again. Science, the laboratory and Nature are re-enacting a new drama of healing. The rising sun of the biological sciences is pouring light into the previously dark places of mankind's knowledge.

We are learning painfully but with crescendo speed that as part of the inscrutable scheme of things, God has imprisoned titanic powers in the tiny food minerals, the plant hormones, the metabolic vitamins, the growth seed auxins, the protein building blocks and the reproductive nuclei of vital foods. To the food scientist of today, human nutrition is no longer the MYSTERIUM TREMENDUM.

INTRODUCTION

Map of Life

AT THE outset, I want you to learn a great truth. This is it. Disease preys most violently, minute by minute, on *undernourished* life-plants, animals and humans alike. In Nature, punishment fits the crime! Sickness follows Nature's spurned laws.



All substances can play a double role. The elements that make the dangerous explosive T-N-T can be utilized to make valuable soil fertilizer. The element Chlorine can be used as an antiseptic to *save* lives. The same element in another form can be used as a poison gas to destroy lives.

Food also can play a double role. It can be used intel-

ligerly as a means to health. Utilized ignorantly, food can help promote illness, ugliness and senility.

By altering the ordinary food material with additions of certain minerals at poultry farms, owners get more and better eggs. By balancing pasture and orchard soils with corrective minerals and organic humus, the farmer gets amazingly better crops. Owners of healthy prize winning animals guard the feeding schedules with zealous care and closest scrutiny.

Agriculturists, botanists, zoologists, thremmatologists all escape professional ruination, yes, actually achieve miracles of growth and development by watching the food intake of plants, soils, birds and beasts. **YET—OF ALL CREATED THINGS—HUMAN BEINGS SHOW THE POOREST INSTINCT IN FOOD SELECTION.**

Generally, men and women do not know (and hence ignorantly ignore) the fact that the blood cells change **EVERY 28 DAYS**. This is a transcendant truth of first rank. You can use it for power.

* * *

It is taken for granted that you desire superb health. You likewise want strong resistance to common ailments that plague and hinder so many, making of daily living an onerous burden. A recapture of strength and resistance will prove possible for you when you master the **FUNCTIONAL DISCIPLINES** herein described.

To blame your heredity or the microbes for poor resistance is easy. To live cleanly and develop your full normal power is more difficult, but utterly worthwhile as you will later attest.

I know that you want a normal attractive figure alive

with force. You want muscles that are well molded, supple and strong. Muscles tend toward normality when they are properly fed, nourished and vitalized by technically correct and engineeringly sound action. So-called "daily dozens," unscientific "setting up exercises" will not effect the results wanted; neither will being told to "relax."

Re-education of muscles that have first become dynamic through vital blood building food will start the desirable end result. Then, understanding of muscle "quality"—mastering creative muscle management—will become the keys of the process. Creative rest (not mere relaxing) will be mastered in the gradually achieved technique.

This technique will be unfolded step by step along with the gradual changes to be effected in blood and tissue chemistry through vitalized food selection. It is essential to understand that there is a real science of muscle re-education that molds the body to new contours and postural deportment.

There is a method of posture, a new way of walking, of standing, of sitting and lying down. These, when learned, become not mere muscle movements, but habits engraved deep in the grain of the nervous system. Unsuspected power springs from this process.

The man or woman who is fortunate enough to learn how to hold the pelvis correctly (in relation to the rest of the body) has gained something so wonderful that it may be conservatively called a secret of physical power.

In these lessons you are to learn that tables of accepted averages of blood pressure are erroneous in relation to superb health. Increased readings of blood pressure merely in relation to birthdays are, it is true, AVERAGE. This does not mean that they are NORMAL. The *aver-*

age individual is far from normal and usually far from being truly well.

* * *

As to eyesight, here we come upon one of the most tragic contradictions in human reasoning. This contradiction escapes the notice of the average person. Truly indeed, in the matter of eyesight, many doctors and most all lay people plod behind the "oxen" of wornout ideas.

With the naked sight, you can see the stars, perhaps even out to the island universes of newborn worlds. Yet, it is likely, if you are the average person, that you find it difficult to read the fine print of a newspaper or telephone book a mere 12 inches from your eyes.

Your eyes are your most treasured organs of sensation, beauty and joy. They were given to you by God to see with (unaided by glasses). Potentially, *and properly used*, they are perfect and wonderful organs, literally wonder structures of precision and joyous sensation.

Other things being equal and assuming that the nutrition of the eyes has been accomplished by a healthy bloodstream through right food, you can immeasurably improve your vision—perhaps ultimately discard your eyeglasses.

Your eyes must be re-educated to perform their natural function. Your eyes are not only the "windows of the soul," but also the "mirrors" of your blood and food chemistry.

It is a simple matter to learn how to improve your "visual purple" with certain food substances and thus see better in the dark and at twilight. With equal precision, the retina and optic nerves improve under intensive, potent nutritive elements of food.

Going further, you must learn to re-educate your eyes and their tiny muscle attachments to overcome what may be in your instance, virtually a lifelong habit of "staring." To put it succinctly, you must learn how to "unstare."

The routines and technique will be presented during this course of study in such a manner that the work on your part will be fitted to your unfolding capacity and improvement.

It is obvious that all of these things cannot be mastered or achieved at once. When you went to school during the days of childhood you learned the multiplication table before you tackled spherical geometry and calculus. But the burden of learning fell upon you then. So with these studies.

Superb health cannot be left to chance nor can there be the wishful waiting for health that cometh not! To gain health and its consequent happiness, you must master a day-to-day endless chain of dynamic living. Your progress will be patterned upon and related to **THE RENEWAL OF YOUR BLOOD CELLS EVERY 28 DAYS!**

No sculptor working his art in cold marble ever worked with material to rival the curving muscle, the impressionable cell, the ever-renewing bone substance, the renewed joys of the five senses, that are all the material of your creative work ahead.

No artist ever worked with colors to rival the pigments used by the presiding God-imaged spirit in your body now; the red of your arteries, blue blood of the venules, yellow and greens of the vital digestive fluids, purple of the spleen, black of the optic choroid, browns, blues or greens of the iris, blacks, browns or reds of the hair.

You are asked to consider reflectively and with appreciation that functioning in your body at this moment are

chemical actions far beyond the ken of the world's greatest wizards of chemistry—mysteries of colloid particles and Brownian Movement, the wizardry of hormones, enzymes, proteins. All these, and more, be it ever remembered, work toward health and against disease.

As an artisan, artificer and finally an artist of improving your health and acquiring more aspects of youthfulness as time goes on, you are going to work with the warm living blood, cells, tissues and organs of your own body. It is your job to see to it that the natural healing forces in your body (the *vis medicatrix naturae*) work toward and assist you toward a new destiny of health and a new sense of power.

* * *

Health cannot be bought. It cannot be conferred by another. Health and happiness cannot be voted in by legislative decree, neither can the abundant life come to you that way.

Neither king nor congress can guarantee the delivery of health, personal force and happiness to you. But, hour by hour, remorselessly, joyously, implacably, lovingly, God, Nature, Science and you CAN and will!

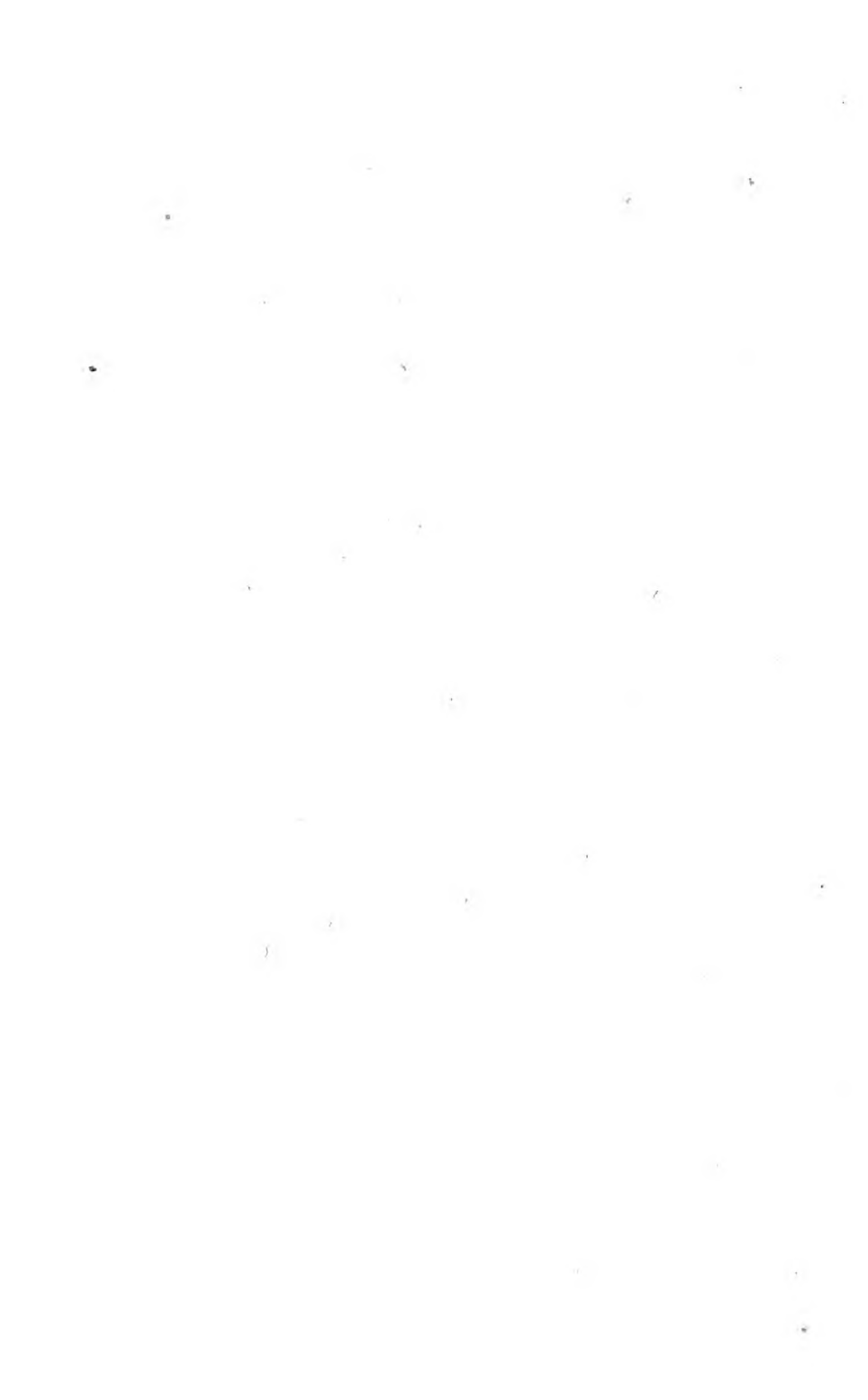
"The Temple of God is holy, which you are."
(*Cor. 3:17.*)

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THE BIONOMY OF POWER



CHAPTER ONE

THE BLOOD

"The Blood, Which Is the Life Thereof"

HOW OFTEN we have heard the words "the blood is the life." No single sentence regarding health and life contains a more faultless truth than these simple words. First uttered thousands of years ago and recorded in the Scriptures for endless generations of mankind, present day science attests their eternal biological truth.

The blood and its vessels form the red and blue network of your life and health. The liquid tissue in your bloodstream is a river of life and death potentialities every moment of your life.

Your blood is composed of CELLS and PLASMA. The red cells are like little boats that float in the stream of your blood. In the bone marrow are the shipyards that build these tiny boats. It is a magical, endless process. Its beauty can be glimpsed—never fully realized. Its most profound mysteries, its bottomless motivation by Almighty God will ever elude the most searching scrutiny of scientists.

In a manner of speaking, you are not born once and die once. All human cells die, yet are reborn constantly. Every day from the cradle to the grave, 3% of the living red blood cells (calculated by science to be about 900,000,000,000) yield their lives to what has been called

"the march of old age." Yet, newly born replacement red blood cells are manufactured in your bone marrow and through the rapid transit system of your blood vessels, rushed up to keep the total number of cells at normal level.

Here is a truth that should be kept on the mental surfaces for constant thought. Your blood cells of a MONTH AGO are no more. Your body of several years ago is, practically speaking, no more. You and your personality, your mind, your soul, these remain, but your body has vastly changed—has been practically re-formed and reborn.



Single cell becoming two. New fresh life is born in our bodies every day, a perennial series of alternating cell deaths and revivals.

The full miracle-working wonders of blood PLASMA will never be adequately told. We are hearing much about it today. Liquid PLASMA, injected into the veins of a wounded person or a victim of SHOCK, is literally a rescue from the grave.

The regenerating powers of human blood are so great that a person may give up a pint of blood and within a few weeks, the loss is entirely made up again. For that matter, the giving of a pint of blood for the worthy and patriotic purpose of the Red Cross blood banks may even stir up and stimulate lethargic repairing forces of the bloodstream in a beneficial manner. So great are the internal rejuvenating powers of the blood that blood donors may give a pint of blood 5 or 6 times a year without harm in any way.

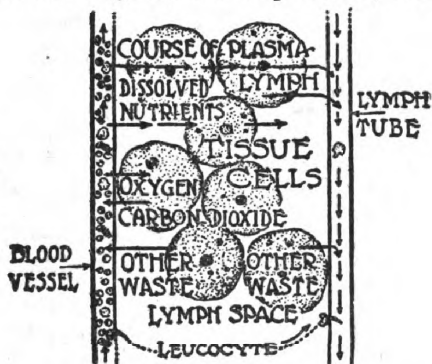
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Without the magical chemical power of the blood cells, all your efforts in caring for your life and health would be ineffectual and without meaning.

When you ask yourself the question—"Can I postpone old age?" be assured that the answer lies not in the calendar, your present age, or your birthdays. It lies in the state of your blood cells, for it would be the most supreme falsehood to believe that your body can be any better than the food materials of which it is composed, repaired and renewed.

You may ponder to yourself, "Can I improve my digestion?" "Can I improve my eyesight?" "Can I strengthen my nerves?" "Can I improve my poor appetite?" "Can I lose weight?" "Can I overcome irritability, or poor muscle tone, or anemia?" "Can I overcome poor skin conditions, or bleeding gums, or increasing loss of strength and vitality?" The questions are legion, the hopes low, the

Study this schematic drawing for it depicts the nutritional history of all growth of life. In this plan is the secret of youthfulness and health.



mental attitude one of discouragement. Yet, the answers to these and many other questions are, for the most part, yes—definitely YES!

If you will forever remember that the BLOOD fetches and carries for all your organs and cells; that your blood

is the composite total of food elements that enter your body, you have the answer to the vast total of questions that people ask about health.

Accept the job of feeding your body rationally. Correct nutritive elements dissolved later into the blood PLASMA represent all the complex material (plus liquids and air) that the cells of your body need to maintain life and health. Rebuild your body from THE FOUNDATION OF THE BLOOD. First, know *how*! Then, know *why*!

"A Man Is as Old as His Arteries"

This familiar axiom implies that old age is a blood vessel problem. Researches into the molecular chemistry of Vitamin C, "the cement of the cells," disclose that there is a considerable degree of truth in that old axiom.

As the tone of the vessels that carry the blood to every part of the body is inexpressibly important, your first task in these studies is to effect improvement over the present "tone" of your blood vessels.

An increased use of fresh fruit, fruit juices and leafy vegetables is generally very helpful in this respect. However, it is more desirable for speedier improvement to cause a very intensive saturation, rather a SUPER-saturation of the body with this "blood vessel protecting vitamin"—Vitamin C.

Vitamin C is the healing vitamin. Action of Vitamin C when administered to wounded persons and those suffering shock has been dynamic and striking. One of the common symptoms of shortage of Vitamin C is a weakening of the BLOOD CAPILLARIES, as well as of the larger blood vessels.

Even the so-called "farmer's rheumatism" of earlier

days, which followed a long winter diet of staples with little fresh food, is now regarded as having been the result of a long sustained lack of Vitamin C during the winter months.

The pregnant woman, afflicted with varicose veins (caused by the stress of carrying her unborn child) is a tragic example of how **UNDERNOURISHMENT** (in this instance of Vitamin C) invites retribution from Nature. A peculiarity of Vitamin C shortage is that the trouble shows up in the area of the body that is worked hardest.

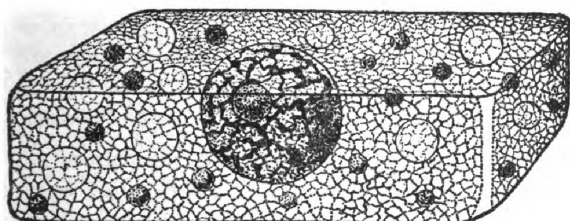


Diagram of a cell. Cell contents are made up of a protoplasmic network with large, dark, nucleus. If we could fully understand a cell, we would understand creation!

Lack of Vitamin C even causes the bones to show a *lattice-like* or *ground-glass* appearance under the X-ray. The average person is in a state of UN-saturation of Vitamin C. The ideal procedure in the early steps of a vital health program is to reach equilibrium regarding Vitamin C. This state is called **SUPER-saturation** and for best results should be achieved quickly rather than by gradual stages. The gradual method may actually fail to bring about the desired result of saturating the body with this blood vessel vitamin of potent repairing power and strength. The **SUPER-saturation** discipline is now set forth.

Practical Discipline

(Super-Saturation With Vitamin C)

Omit solid food for one day, using nothing but an intensive intake of fruit juice. Preferably use orange juice or grapefruit juice. The best method is to take a glass of the juice every hour or hour and a half throughout the day. This means from 8 to 10 glasses of juice during the waking hours, or a total of between 2 quarts and 2½ quarts.

Immediate beneficial results:

- (a) Body intensively started on Vitamin C saturation.
- (b) Digestive tract given a rest from solid food.
- (c) Brain action seems much keener.

This saturation discipline can be advantageously practiced every ten days or two weeks with manifold benefits. It is a highly effective method of absorbing 1000 milligrams, or 20,000 Units of Vitamin C in one day. As 30 milligrams or 600 units of Vitamin C is regarded as the minimum daily need, this fruit juice day involving 1000 milligrams (10 glasses of orange juice) means an intake of 30 times the amount of Vitamin C ordinarily viewed as the minimum needed intake.

* * *

The positive effects of large Vitamin C intake favor improvement of appetite, glandular improvement, cell tissue breathing, resistance to infection, more rapid healing of wounds and shock recovery—and protection against *over-fragility* of all the blood vessels. Vitamin C enables your body to manufacture “collagen,” literally, the life cement which builds the walls of the body cells.

Further benefits: when a liberal diet is consumed *following* a brief abstinence from solid food, such as on this Vitamin C health day, the assimilation of food substance is very strikingly speeded up.

Remarks: Flush the mouth with plain water after each glass of fruit juice to offset the unusually strong exposure of the teeth to the fruit acid. Orange juice and grapefruit juice are both 3 times higher in Vitamin C than tomato juice and 4 times or more higher than canned pineapple juice, so the reason for selecting citrus fruits for the health day is clear. Use other juices only if citrus fruits are not obtainable. The results will not be as striking or effective. If the stomach will not tolerate a full day of this schedule, try to imbibe at least 6 glasses of juice during the morning and afternoon, and have your regular evening meal.

You will emerge from these "Vitamin C SUPER-saturation" days with improved resistance, better blood, better gums, better blood vessels. Just as Vitamin C is necessary for repair of damaged tissue, so it is essential to its NORMAL daily regeneration.

CHAPTER TWO

THE NERVES

"Behold, I have given you every herb bearing seed upon the earth and all the trees that have in **THEMSELVES** seed *of their own kind* to be your meat."

(*Gen. 1:29.*)

ST. MATTHEW in describing the Kingdom of Heaven, furnished the first (and perhaps the best) portrayal of the master vitamin of the human nervous system—**THE B COMPLEX VITAMIN**.

He said, "The Kingdom of Heaven is like a leaven which a woman hid in three measures of meal until the whole was leavened."

To grasp the esoteric truth in Matthew's passage (Chap. 13:33) we need only know that leaven (used as his celestial illustration) is ordinary yeast. As a source of this great metabolic vitamin nothing excels yeast which is a natural storehouse of this great B Complex vitamin. The administration of Vitamin B to a human being who lacks it, literally creates a Kingdom of Heaven, leavening the whole body with power, vitality and strength.

Vast potentialities lie dormant in our brain and nerves. These human powers are unlocked to an incredible degree by the "nerve" factor in natural foods, especially the foods rich in this "power" vitamin, the master B Com-

plex vitamin family. Please note the use of the term COMPLEX, as distinguished from the separated fractions, such as B (1), B₂, B₆, etc. The natural B Complex factors found as a unity in suitable foods have been balanced by Nature herself, and for general health-rebuilding purposes are superior to the chemically pure, synthetic, separate Vitamin B fractions.

Have you ever noticed that at certain periods of certain days, your brain seems more resourceful in coping with and solving problems of life? At other times you vacillate—your brain seeming unable to rise to the job of immediate decision and direct action. A check here of the diet for the several preceding days would likely reveal a low Vitamin B Complex intake.

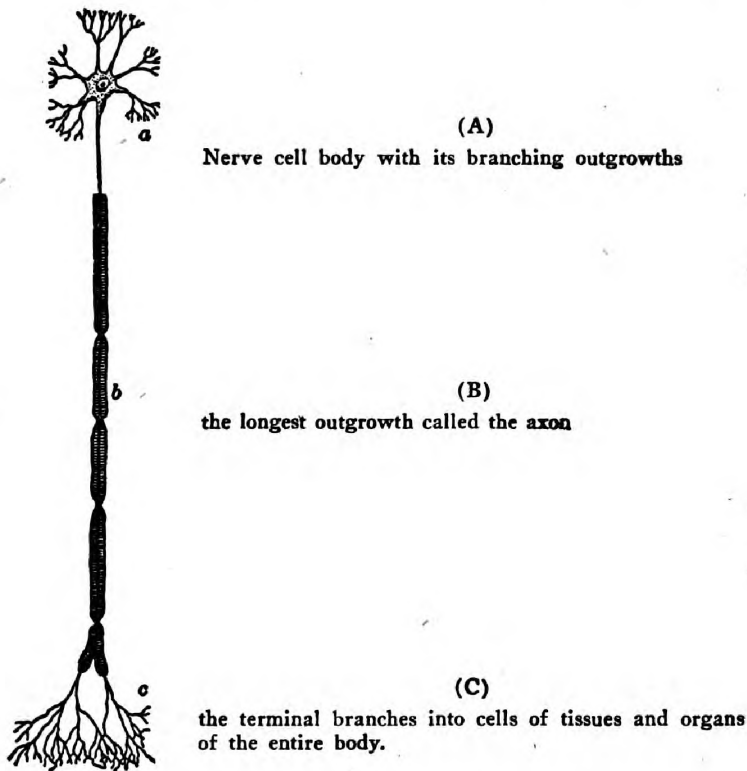
Nothing is more certain than this: what have been called emotional or character or personality differences frequently spring from sharp rises and declines in the amount of B Complex factors in the daily diet.

It has been said that most people never use more than 10% of their potential power. We hear little of the equally important generalization that most people are unable (due to nutritional shortages) to use more than fractional amounts of their inherent, natural power, even if they wished to. Full fruition of our powers can never occur until the diet has been energized with blood, nerve and gland strengthening food elements.

* * *

It is not easy to make explicit the intricacy of the human brain and nerves. For present consideration, let me remind you that in your brain at least 9,000,000,000 pathways connect intimately with as many as 2,000,000 routes into and out of your spinal cord.

All of these astronomical figures mean actual NERVE FIBERS in your body at this moment. Each fiber needs the B Complex food factors every day. Unlike some of



the food factors, even some of the other vitamin factors, the human body needs Vitamins C and B Complex *every day*. Your body has no facilities for storing reserve supplies of these vitamins against future needs. **THEY MUST BE SUPPLIED IN YOUR FOOD INTAKE DAILY.**

A remarkably important practical fact is that aside from actual daily shortages of the B Complex, white sugar compounds and white flour or other refined grains and cereals actually smother the action of the amount present in the nervous system at any given time. These refined carbohydrates are vandals, robbing your body of the beneficial effects of the B Vitamins to a greater or lesser degree.

As 115 pounds of white sugar represents the average yearly consumption per capita in the American diet, it needs no special explanation to prove that wartime rationing of white sugar is *an undisguised blessing in every way*.

White bread, refined cereals and white sugar compounds must be either taboo or very scant in any sincere program of health and reactivation. True, the carbohydrates of any type have fuel and energy value, but the natural sugars and the unrefined grains and cereals are far superior from any standpoint.

* * *

Even a slight deficiency of Vitamin B Complex during the years of childhood may, if uncorrected later on, reveal itself at middle age as neuresthenia, nervousness, lack of ability to adjust to strain and change, early graying of the hair, slow or too-rapid heartbeat, gastric atony, neuritis or even insanity.

My most important suggestion now, before describing the nerve discipline for replacement of the B Complex, is that you examine your past daily eating habits and note what a prodigious number of your foods have been divorced of their vitamins and minerals through refinement or processing. White sugar is the example, par excellence, for it has been refined to such a point of so-called purity,

that the resultant material, consumed so freely by Americans of all ages, has become a chemical monstrosity never found in Nature as such.

An alcoholic victim's symptoms of ill health differ from those of a person who lives on refined foods only in degree. The alcoholic consumes "pure" carbohydrate in his alcohol with no balancing minerals and vitamins. The individual living upon refined food is to a large degree in the same predicament.

The alcoholic has a ruined nervous system, severe indigestion, loss of appetite, low resistance, mental disturbance and **MULTIPLE NEURITIS**. The user of refined, lifeless foods, starving for Vitamin B Complex to a lesser degree than the alcoholic, suffers mild indigestion, capricious appetite, below-par resistance, despondency or habitual worry pattern and **SIMPLE NEURITIS**.

The emphasis in the past has been on quantity of food. Today, it is **QUALITY**. There has been an unparalleled advance in the study of tiny fractions of "quality." Pounds, ounces, hundredweight here have no meaning. Gamma and milligrams are now the infinitesimal weight designations when minerals and vitamins, hormones and auxins are studied and their effects computed.

Many sicknesses of the past have been vainly treated without the suspicion that a **MISSING** food factor was the vicious hidden cause.

All starches and sugars need Vitamin B Complex factors in order to "burn" in the body in the production of energy. Natural, unrefined grains and sugars carry their own B factors into the body.

Refined foods borrow or steal the B factors from other sources, principally from the muscles and nerves.

A nutritional revolution of vast proportions is going to

make a stronger race of American men and women, more youthful, more vital and better fitted to carry on the high destiny reserved for America in the bright new world of tomorrow.

The practical food discipline covering intensive B Complex feeding for nerve strength now follows.

Practical Discipline

(Intensive B Complex Nerve Feeding)

In addition to the change away from white sugar and white flour foods to whole grain breadstuff and cereals, honey, brown sugar, molasses and the natural sugars found in fresh and canned fruits, the nerves may be rapidly strengthened by adding concentrated sources of B Complex to your daily diet.

- (a) Brewers Yeast Powder or tablets contain substantial amounts of B Complex in natural, balanced form.
- (b) Wheat Germ is a rich source of the B Vitamins plus the fertility vitamin, Vitamin E. Wheat Germ also contains valuable amounts of several important minerals.

RATION: 12-15 Brewers Yeast tablets or several teaspoons of dried Brewers Yeast powder (not fortified with thiamin) DAILY bring into your body valuable B factors for the primary purpose sought, namely, increased strength and efficiency of the nervous system.

Two or three tablespoons of Wheat Germ help materially to enrich the daily diet for strengthening the nervous system. Obtain a good grade of Wheat Germ at grocery store, drug store, health food store or department store. Use it as cereal or with cereal and milk, or in milk or fruit juice. The "fertility" factor in wheat germ oil is the factor missing in the devitalized men and women who are unable to beget children. As such, Wheat Germ and its rich store-

house of dietetic principles promotes the nutritional strength of the reproductive glands.

* * *

The effects of a few weeks of Vitamin B routine will be both pleasurable and beneficial. You will feel better, think better and look better. Best of all, **YOUR NERVES WILL BE STRONGER**. With stronger, better-fed nerves, your muscles will act better and your mental-muscular coordination will rapidly improve.

The word "relax" will come to have a changed meaning to you. Many people rest poorly, not because of insufficient sleep or rest, but because the nerves cannot recover from fatigue in the face of shortage of vital food elements. The **B COMPLEX VITAMIN FAMILY** is exactly that—nerve food par excellence.

Do not forget that during this first month of blood vessel, nerve and gland reorganization, as a preparation for advanced steps that will follow in Chapters 5 to 8, all refined starches and sugars should be discontinued or reduced to a very low level of intake.

CHAPTER THREE

THE GLANDS

"There were giants in the earth in those days . . . they bare children to them and the same became mighty men, men of renown."

(*Gen. 6:4.*)

FOR MANY months before you were born, you lived and existed in a tiny "salty" ocean within your mother's womb. Concerning one vitally urgent food element you literally have to return to the earth's oceans to obtain it. This is one of the destiny truths of health through food.

Of the dozen or more mineral building stones that your body needs, only ONE of these elements is honored by Nature with a special gland to facilitate its use. The element is IODINE. The gland is your thyroid, shaped somewhat like a butterfly sitting astride your windpipe.

You have perhaps thought of iodine mostly as a medicine or as an antiseptic useful in sterilizing wounds. Actually, this element is a veritable colossus as a food. In relation to health and your program of reactivation toward greater youthfulness, the importance of this element, IODINE, cannot be exaggerated.

If you live anywhere in the United States above the Parallel 36 degrees, North Latitude, you are getting relatively little IODINE in your food, especially in vegetation grown on soils in that area.

Yet, nowhere among the probings into the secrets of life and good health, can more convincing evidence be found than the evidence of IODINE as a promoter of health and vitality.

* * *

It is not, as commonly thought, only the thyroid gland that needs iodine. Blood, glands, liver—all in turn need their distinctive quotas. When the bloodstream undergoes a fall in iodine below 2300 parts per billion, **THERE IS A DECREASE IN FORMATION OF RED BLOOD CELLS.**

Unfortunately for humans, and excepting for perhaps limited coastal areas of North America, only a very small fraction of the iodine that has been washed into the oceans since man came upon earth ever finds its way back to the land and the soil upon which our foods are grown.

It is impossible to overstate the importance of IODINE to your health. It has been well named the anti-old age element. It is the "Director" of other food elements such as calcium. It presides as a controller of well-being from the cradle to the grave.

Some of the deficiency symptoms arising from lack of food iodine are sterility, subnormal basal metabolism, lowered mental activity, extreme coarseness of the hair and certain types of overweight.

* * *

As before stated, **FOOD IODINE**, for safety of health and dependable supply must be obtained from the ocean. Land vegetation and dairy products are a precarious and uncertain source of supply.

For eons of time, the oceans have been enriched with

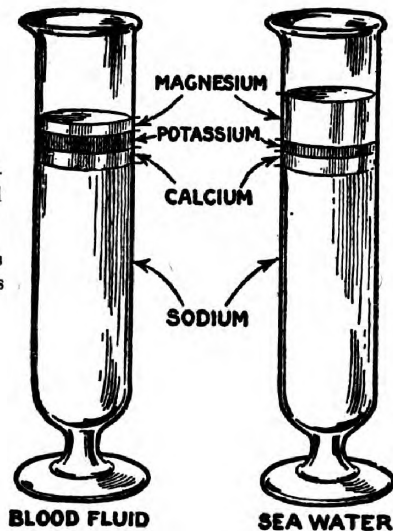
an enormous volume of iodine and other minerals, washed into its basins from the mountains, the flatlands and the soils of the land surfaces.

As the thyroid secretion, thyroxin (a secretion made possible by iodine) is the most powerful force known in body metabolism, the significance of iodine to health is plain.

It has been said that "the age of a man depends on the quality of his thyroid gland." Repeated again for emphasis, the axiomatic meaning becomes clearer when we remember that the thyroid is entirely dependent upon **IODINE** for its healthy functioning.

Diagram showing curious chemical resemblance between blood and sea water.

Further resemblance concerns iodine and other trace elements not shown.



A comparison between foods that come from the land and those from the ocean reveals at a glance how notoriously poor land foods are in **IODINE**.

* * *

Beef	5	parts	per	billion
Fresh water trout	5	"	"	"
Potatoes	18	"	"	"
Eggs	22	"	"	"
Codfish	240	"	"	"
Haddock	290	"	"	"
Agar-agar	1660	"	"	"
Sea vegetation	900000	"	"	"

* * *

Practical Discipline

(Intensive Iodine Replacement)

No simple measure toward health, as well as acquiring the characteristics of youthfulness, pays as abundant dividends as adding a small amount of FOOD IODINE to the daily diet. There are two satisfactory methods, namely, by way of ocean vegetation or by methodically adding salt water fish to the diet.

It should be remembered that fresh water fish contain little if any iodine. Salt water fish of various kinds are rich sources of dietary IODINE. Ocean vegetation, as will be noted on the chart set forth on the preceding page, is a very rich source of dietary IODINE.

As stated, the soil of the earth loses its IODINE in many ways. Fields are ploughed, soils erode, crops are grown. The iodine thus lost, particularly in inland areas, is never restored to the soil. Thus it is that with every crop grown and following every flood and run-off, the earth becomes poorer in this vital element.

Vegetation from the ocean suffers from none of these losses. The ocean bottom to which the sea grown plants are attached is never ploughed, harrowed, eroded.

* * *

RATION: All types of fresh fish from the ocean, as well as canned salmon, tunafish, contain good quotas of IODINE and should be used at least once or twice weekly, if the needed supplies of IODINE are to be obtained from this source.

The U. S. Government reports set forth the minimum daily human need for IODINE as 100 gamma or micromilligrams. This is only 100/28,000,000ths of an ounce, a tiny amount but vitally necessary for good health. However, a considerably larger amount, perhaps up to 2 milligrams, or twenty times this minimum amount would be more desirable.

As to ocean vegetation, the chart shows that this substance is far richer than fish as a source of IODINE. Iceland Moss, Irish Moss, Dulse are rich sources. Pacific Kelp (*pyriferia laminaria*) is extremely rich and perhaps, for other reasons also, the most desirable source. Pacific Kelp may be purchased in health food stores and Department Stores food departments.

One teaspoon of the granular kelp or several tablets daily of this type dried ocean vegetation adequately and safely insures an abundant supply of this vital element. A profusion of other minerals, such as copper, calcium, etc., abound in all ocean plants. This IODINE intake is easily accomplished and forms a health investment more valuable than gold.

CHAPTER FOUR

TOWARD YOUTHFULNESS

"If any man violate the Temple of God, him shall God destroy."

(1 Cor. 3:17.)

IT GOES without saying that no one can be rejuvenated in the precise meaning of the term. Rejuvenation connotes actual youth.

Reactivation is the better description and it is a word that explains itself. To the extent that reactivation efforts are successful, brightness is restored to the eyes, freshness to the skin, co-ordination to the muscles, assurance to the muscular movements, vivaciousness to the face.

* * *

Most people think that old age is a necessary and quite normal affair. While decrepitude is not accepted with pleasure, there is little serious *protest* about it in the average mind.

Sickness is similarly regarded by most people. Unwelcomed, sickness is nonetheless viewed as a necessary evil.

Science, of course, knows very much better than to tolerate such absurd thinking.

Under ideal environment, conditions of correct feeding and cell waste disposal, living cells of every type and kind are capable of living INDEFINITELY in undiminished vigor.

The cells are subjected to precise and accurate nutrition. The cell debris (tissue poisons normal to all living organisms) are flushed away. The process may be summarized by saying that these living cells are energized by correct food and methodically "unpoisoned."

Endless Generations

A professor of a prominent university cultivated, by means of certain effective food solutions, a very common one-celled organism known as the paramecium. He carried the experiments on to the 8500th generation of this simple celled creature.

(A.) Separation of the 2 groups of chromosomes.



(A.)

(B.) The telophase-massing of 2 groups of chromosomes and division of the cytoplasm.



(B.)

(C.) Completed miracle of cell division. Two new cells.



(C.)

We must consider that if a single generation of the paramecium corresponded to an average human life, it would be equivalent to one-quarter of a million years of earth time—WITHOUT NATURAL DEATH.

The simple law here is that when the individual cell has concluded its individual existence, in a human being or

any other organism, the cell simply divides—becomes two individuals—which go on playing the role of life.

At no stage of this process of cell division (in single cell organisms) is there any material left to fulfill the ordinary concept of breakdown and death.

Having this phenomenon in mind, a great biologist observed: "So long as cell reproduction goes on in this manner, there is no place for death. In the passage from one generation to the next, there is no residue left behind." This phenomenon, as such, does not apply in full to the complex cell community of the human body, but the principle carries a significant truth in our attempts at maintaining youthfulness.

Eternal Birthday

The only bit of living flesh that has been endowed by science with "eternal youth" will soon be celebrating the 34th anniversary of its immortality.

Taken in January 1912 from the heart muscle of an embryo chicken by a world-renowned biologist, this eternally-young fragment of living tissue has already lived three full average lifetimes of a chicken. Translated into human terms, this is the equivalent of about 200 years.

I was shown this tissue by the author of the experiment some years ago and its significance has increased with me as the years go on. From the very start, this living heart tissue was tenderly nurtured by means of a special food. Today, the tissue is just as young as the day it was born. It will stay just as young forever, scientists say, provided the present conditions of food and drainage are maintained in each future generation of the living cells.

A curious phenomenon, in this most astounding scientific test since the world began, is that the heart fragment doubles itself in size every 48 hours. From time to time, large slices of the tissue must be cut away and discarded.

* * *

If the ordinary individual does not know it, the scientist KNOWS that we have no further ground for assuming that becoming sick or growing old is expressive of any indwelling NECESSARY process within our cells. **TIME IS NOT THE CAUSE OF GROWING OLD.**

From this emerges the startling realization. SICKNESS and OLD AGE are not natural attributes of the human body. Even at its worst disability, the human can create new values and learn the most useful lessons.

We are all, of course, under the final sentence of death. Yet, there is nothing in the law of human life that makes it necessary for us to die of degenerative disease, senility or decrepitude.

The ugliness of illness, the inconveniences of old age, the unhappiness associated with chronic disease are not laws of life. In a way greater than we think, these states are postponable or preventable.

Scientists do not comprehend any such thing as a principle of illness. There is only THE PRINCIPLE OF LIFE. Disease, being merely the *absence* of health, has no orderly principle as its cause. Disease is a chaos where normal law and order of life is not operating. All of this is set forth to place an accent upon an important mental process and attitude that you must cultivate. In your thinking you must shift the emphasis from disease and old age to health and youthfulness.

Just as wornout tired cells must give up their waste

products in order to take up nourishment, you must eliminate and cleanse your mind of wornout thoughts, wrong ideas and negative conceptions.

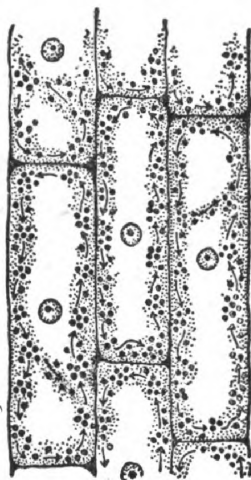


Diagram of protoplasm which moves endlessly throughout life. Tiny arrows indicate the streaming of the protoplasm within the cells.

Two things cannot be in the same place at the same time. This is a law of simple physics. Realize that when health and vitality take possession of a cell, tissue, organ or body, there is simply no room for ill health.

* * *

On the page following, the preliminary considerations of the pelvis and muscle discipline are set forth.

Until the tissues are partially restored by improved blood vessel, nerve and gland function, involved or complex muscle re-education is not advisable nor likely to prove effective. These early attempts to instill the habits of good movement into the nervous system itself are very important and effective. They produce results far out of proportion to their intrinsic simplicity.

Preliminary Muscle Re-education

In postural re-education and vitalizing the body and its hundreds of muscles, the seat of power lies in and around the pelvis. Its chief location is at the SACRUM—the wedge-shaped, triangular bone that forms the strong basis of the spinal column. The ancients regarded this area as the locus of great metaphysical power, hence the name sacrum, meaning sacred.

The human body is always portraying the story of vitality in its muscular actions and these actions, good or bad, are indissolubly related to the position of the PELVIS, the SACRUM, and THE SMALL OF THE BACK.

During the first month of your studies, while you are applying the first three disciplines of The Blood, The Nerves and The Glands, the only formal exercise advisable is s-t-r-e-t-c-h-i-n-g, while lying down. Stretching is Nature's first method for loosening cramped muscles and restoring vigor to tired, taut muscles. A ten-minute session daily, preferably in the morning, LYING down will form a preliminary groundwork for later muscle reactivation, simultaneously with the rechemicalization effected by the first three disciplines.

It is wise to refrain from any other formal exercise such as daily dozens and the ordinary setting-up exercises, as these movements frequently *accentuate* your present bad habits of posture. The whole end of muscle re-education is to align the PELVIS in a horizontal, rather than tilted position; to align the sacrum in a straight up-and-down or vertical position. These changes finally lead to the correction of the "swayback" curve inward at the

small of the back. For ten minutes each morning, while lying down, stretch, twist, turn, relax.



Tilted pelvis is a sign of weakness. (←) Pelvis should be held level as if it were a bowl of liquid which should not spill.

Walking

One of the first evidences of senility is the shortened step. A short step exercises only the legs. When the step lengthens, the muscles of the thighs, the abdomen and the pelvis become increasingly active. The long stride pulls at the vital organs and the pelvic muscles. Hence this most pleasurable and universally available exercise becomes a power action of first rank, when performed with a lengthened stride. The lengthened step produces impulses that induce strength and vigor; gradually helps in re-aligning the pelvis and sacrum, all leading to the desired end-result of obliterating the inward, swayback curve at the small of the back.

These suggestions are preliminary and simple. Nonetheless they must be antecedent to more advanced steps in postural control during the sitting, lying-down and standing positions.

A Middle-Age Group Test

The results of merely corrected feeding on a large group of elderly people are significant in relation to food and reactivation.

A distinguished physician selected several hundred elderly men and women for the subjects of a dietary change from ordinary processed, refined lifeless foods to vital, fresh, natural foods.

These men and women were suffering from rather common degenerative diseases. A wide variety of below-par conditions was present. Among them were heart muscle degeneration, heart pains, high blood pressure, arthritis, chronic stomach and intestinal maladies, chronic headaches.

At the time that each elderly candidate for better health was examined, various tissue weaknesses and old age signs were noted and recorded for later comparison. Many had protruding abdomens and were overweight. Others showed facial areas congested with dilated blood vessels around the cheeks, nose and ears.

Now reflect upon the physical changes that occurred when the refined foods, debased white flour foods, white sugar sweets, and other low standard foods were replaced by diets rich in vital blood-building foods of high nutritional value.

In a comparatively short time it was apparent that a *fundamental* and wonderful change had begun to take

place in the bodies of these elderly "half-sick" people even the muscles of the heart participating in these beneficial changes. Serious digestive complaints, blood vessel and heart impairments were noted as greatly improved in many cases previously regarded as being too far advanced to expect much in the way of improvement.

After the test was concluded with almost universal gratification, it was learned that many of these men and women had previously lost hope of ever having their health improved again.

The principle to be noted in this test, as always, is that the condition of healthy well-fed cells literally drives correctible disease states away. Health merely takes command and there is no place or room for the manifestations of disease.

All other considerations, such as worldly success and material gain, should be secondary to the task of creating **SUPERB HEALTH!**

Day by Day

Determination and courage are ingredients of every phase of life—your work—your success—your health—your striving to keep youthful.

Do not let temporary set-backs dismay you. Do not let mere "symptoms" depress you or your present condition of being discourage you.

The Laws of God and of Nature are working silently but unendingly in your favor IF YOU DO YOUR PART.

It is not what you do merely once in a while that counts so much as the actions you decide to perform every day whether you feel like it or not.

The power of DAY after DAY represents real mastery. The exquisite skill of any great technician or artist may look spontaneous and effortless but in every such case the mastery comes from the day after day routine and practice, leading finally to perfection.

The most honest man is the one who has been honest every day. The happiest person is that fortunate individual who has long practiced the habit of happiness.

No force in you is so great as the stored-up power of what you do *every day*. No guarantee of health is so valid as the day-by-day endless chain of healthy living habits.

The suggestion to *think health, talk health, learn health*—and *live health* is perhaps the most important and significant piece of advice that you will ever be given. Nothing can prove a surer guarantee of achievement.

CHAPTER FIVE

THE DIGESTION

"A healthy body is the guest chamber of the soul ;
a sick its prison."

—FRANCIS BACON.

THE NEXT few chapters will set forth certain little-known facts. Once known, daily living can never again be flat or dull. You will learn that certain previously "taken-for-granted" actions are actually endowed with deep phenomenal import.

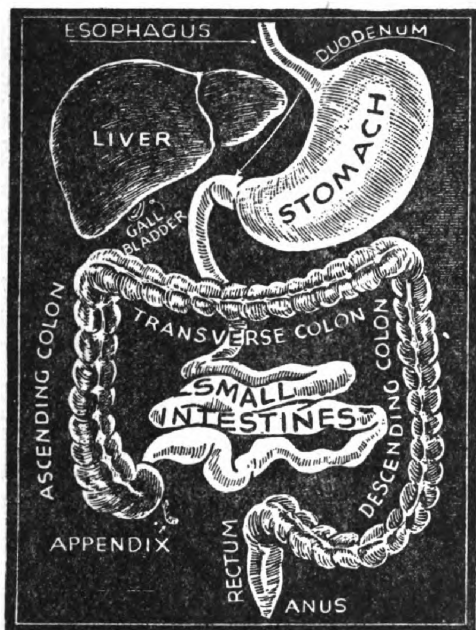
At the outset of this present methodical episode of your efforts towards speeding body changes, do not, like Lot's wife, look over your shoulder at the things you are leaving behind.

It is here sufficient to say that every adult man or woman capable of an instant's clear thinking is painfully aware of the sad consequences (to mind and body alike) when fruitless thoughts about the past are not kept rigidly where they belong—out of the mind.

Worry About Health

It is especially meaningless to *worry* about some body disorder because (via the 3% daily blood cell change) your body is not exactly of yesterday's composition. I will here go so far as to say that even if your chief bodily

complaint has been with you for many years, so long in fact that your "memory runneth not to the contrary," you will still be far better off to at once shut the door tight to that disabling past. This is not only character building but most profitable in a bodily sense.



Let us now launch upon important secrets about such common foods as bread, organic minerals, biologic proteins, certain fruits, how plant minerals really work and why foods affect moods.

Supreme Starch Rule

In the plan of God and Nature, it seems clear that you were intended to have perfect eyesight, powerful heart,

smoothly-functioning joints, a well-poised nervous system and a youthful-appearing body. Perhaps you cannot recall ever having had these attributes, but the degree to which you can attain or approach them, depends partly upon learning about foods—some of which seem to act respectively as friends and enemies.

Chief among undesirable foods, mainly because it is so frequently used, is fresh bread and (even more so) fresh white bread. The effects of soft white bread are much greater than you think. Even the new vogue for "enrichment" of white bread fails to rectify the shortage of vital factors, because in "enriching" only a few of the missing factors are replaced. "Enriching" does not include the valuable wheat germ and its many advantages.

Any discussion about whole-wheat or whole-grain bread versus "enriched" bread may be settled at once by saying that no "enriched" bread compares in any way with bread made from whole-wheat or any other whole-grain.

Day-Old Bread

No freshly-baked bread is nearly so well adapted for human use as stale bread *one or two days old*. The reasons are legion. It would be a great advantage to adopt this rule: see to it that henceforth all bread that you eat will be one or two days old—made from whole grains.

Soft, freshly-baked breadstuffs in any form are swallowed too soon; they are not sufficiently chewed; and they are not sufficiently mixed with the starch-digesting enzymes of the saliva. Hence, the practice of eating only old bread or stale bread ensures a constant outpouring of MAGIC ENZYMES from the mouth glands. When

soft bread is used these enzymes appear in greatly *reduced* amounts.

Furthermore, stale, day-old bread has another very *special* advantage. The gases generated in the baking process generally have passed out of the bread within *24 hours*. This is very desirable and in turn compels more chewing, thus retaining the bread in the mouth for a longer period.

* * *

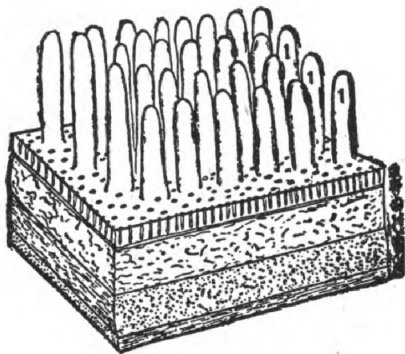
Recently, the scientific press has been filled with reports of the new magic germ-killer, PENICILLIN. This wonder substance, far greater in its effects than the sulfa drugs, is obtained from common bread *mold*. The spores of bread mold are everywhere in the air and attach themselves to bread rather extensively during the first 24 hours after baking, although at this stage they are *unseen*. The body has undoubtedly well-planned uses for this substance that forms rapidly on breads after they have been out of the oven for a *day or more*.

It may be logically contended that the habitual use of day-old bread is not appetizing. The contrary is really true. Starch develops its pleasant *sweet* taste, *only* when it has been chewed for a moment or so.

Mouth Catalysts Make Sugar

To prove that you have a legion of magic little chemists in your mouth and that the saliva has real digestive power, chew a small piece of stale *unbuttered* bread long enough to reduce it to a creamy liquid. You will notice that the bread, which had an indeterminate taste in the beginning, now tastes as sweet as a mild sugar. What has happened

is a chemical miracle not precisely understood even yet. Actually the salivary fluids have changed the *starch* to *sugar*.



Remarkable drawing showing miracle tissues along the small intestines. All your food must be assimilated through these villi, tiny organs of selection.

It may be contended by the "superficialists" of physiology that if starch escapes mouth digestion, Nature has provided a *secondary* starch digestant that is brought forth into the intestines from the pancreas.

As a mere fact in physiology this is true, but it is only a secondary safeguard without anywhere near the value of the original action that should be *mouth-performed*. It is like saying that Nature can maintain life with one kidney, if necessary. True, but no sane person would argue that one kidney works as well as two.

So here we have learned important phenomena about bread, a common everyday food. Millions consume it without scrutiny as to whether it is made from natural, unrefined grains; whether it is oven-fresh or at least 24 hours old; whether it is bolted hastily or given sufficient mouth digestion to bring out its potent values and for the salivary *guardians* of the mouth to evoke the change from starch to sugar. Bread properly used can really be a "staff of life."

All this becomes clearer when we realize that the human body never can in any way utilize *starch*, as *starch*. The body must convert it to sugar before it can be utilized.

* * *

Were you to know all of the vast assemblage of scientific knowledge, it would be empty and valueless if your body falters and misfunctions along in a half-hearted, half-alive, "shadowy" fashion. LEARN and APPLY. STUDY and USE. FATHOM the secrets of your marvelously constructed body and CARE FOR IT scientifically. BE CONFIDENT of what you can do. Never merely study the *theory of living*. LIVE IT EACH DAY.

Everlasting Law

Let us unravel the puzzle of the words *organic* and *inorganic*. The earth and soil contain a great abundance of various minerals. These may be said to be in an unorganized, inorganic form. They comprise what we were taught in school to call the Mineral Kingdom. Now ensues a curious phenomenon which science very faintly understands.

When these mineral elements from the Mineral Kingdom in the soil are brought into the roots and thence into the stems, leaves, seeds, buds and blossoms of the Vegetable Kingdom, Nature in some mysterious way changes the dead, lifeless metals into *living* form.

Your body is *unable* to accomplish this chemical miracle and so the studies of our school days about the three kingdoms—MINERAL—VEGETABLE—ANIMAL—are now emblazoned with a new significance.

We put away the three kingdoms of our childhood and enrobe them with a dietetic truth of first rank; that *only the Vegetable Kingdom* can bring to our bodies and to the bodies of the flesh-foods that we consume, the Minerals of the earth. These must pass from the Kingdom of Minerals, through the second or Vegetable Kingdom of the plants on their journey to us in the third or Animal Kingdom.

True Tonics Must Be Organic

For centuries the use of "dead" (inorganic) iron and other metals as medicines to overcome ill-health has firmly gripped the mind of man.

We are discovering that Nature prefers for her regenerating effect the "organic" blood minerals which she wisely supplies to us in a LIVING form in the alkaline-reacting fruits, vegetables, dairy products and other natural foods, especially in fruit juices, vegetable juices and in dehydrated vegetable powders.

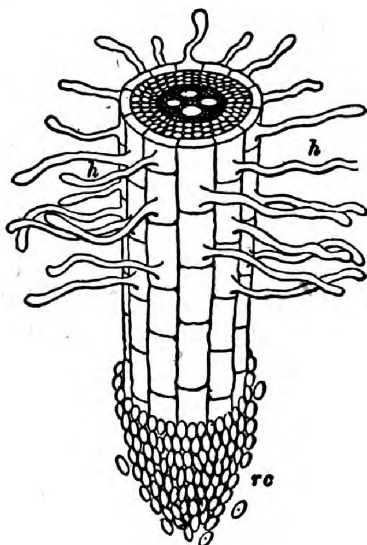
Significance of Virgin Soil

Unfortunately, an alarming fact is that some of the fruits, vegetables and grains that we eat are grown on land that no longer contains enough mineral matter. Depleted soil has become a pressing problem to the food scientist as well as to the agriculturist.

On the other hand, *virgin soil* will produce luxuriant vegetation and plant life because such soil contains an abundance of the mineral matter required for rich plant growth. These minerals were originally locked up in solid rocks and they are present in virgin soils because such

soils are made up of decomposed rocks and vegetation that have been reduced to dust by erosion, freezing, heat, water expansion and the disintegrating influence of organic bacterial life. However, cultivation and crop growing exhaust the soil if replacement is not seriously regarded.

Tip of a young vegetable root. Here is the place where "inorganic" minerals become "organic."



Due to erosion's long-time processes, our farm lands are literally headed for the sea. The weather can remove in a few years the soils which it has taken Nature centuries to deposit. This is happening with a menacing speed to land and soils that must supply us with food.

In Chapters 13 to 16, startling facts in this matter will be revealed; how each individual may successfully avoid injury when consuming foods grown on depleted soils. Meanwhile, our intensive disciplines of nerves, blood and glands plus rearrangement of starchy and pro-

tein foods as recommended on the pages following this, will build preliminary foundations in health for later studies and practice.

Food Minerals—Movers of Poisons

Although it has been known for a long time that the organic food minerals are necessary for the proper formation of bones, of nerves, of teeth, and of the blood itself, it is only within recent years that another life-lengthening function of the minerals has been discovered.

This newly-discovered function of the food minerals concerns their ability to remove tissues and waste poisons from the body.

Remember that all of the laboratory experiments in cell reproduction and cell division of cultures of heart, of nerve and other tissues, have been made possible, not only through proper food substances supplied to the cultures, but also through the *elimination* of tissue *waste* as fast as it occurs.

In this way, we see that the mineral salts of food, in helping to conduct waste material from the cells into the channels of circulation, thence out from the body through the organs of elimination, are inseparably bound up with health and youthfulness. Minerals "bind" the tissue poisons for removal. This is "unpoisoning" by food.

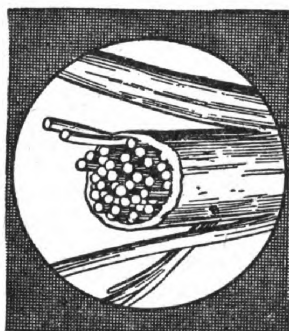
What Precedes Degenerative Diseases

The really unfortunate circumstance about a mineral-robbed and vitamin-deficient diet is the fact that a series of *painless* yet progressively more serious changes pre-

cede the final catastrophe of a degenerate disease. Such a refined, lifeless diet is *slow death*, for poisons remain in the body uneliminated.



Above: 2 nerve cells highly magnified.



Right:
Nerve fibers in their protective sheath.

Refined foods work in dishonorable silence and painlessly. Understand that **WASTE MATTER** in the body cannot be *washed out* by water (entirely), pressed out by exercise (entirely), or breathed out (entirely). Waste must be chemically neutralized by food minerals. Toxins, old age material and cell poisons must be combined with and escorted out of the body by **MINERALS**. Hence the statement, **MINERALS "move" POISONS**.

Plant Magnetism

FRUITS AND VEGETABLES GIVE OFF INVISIBLE RADIATIONS WHICH HAVE THE POWER TO STIMULATE THE GROWTH OF ALL LIVING CELLS WITH WHICH THEY COME IN CONTACT. This truth was a sensation in scientific circles when it was announced a few years ago.

Botanists have shown that young vegetables such as carrots, tomatoes, onions, lima beans and many others, if placed near an older vegetable (even as much as $\frac{1}{4}$ of an inch away) will give off such energy that the cells on the side of the old vegetable nearest the younger one will multiply much more rapidly than elsewhere.

Scientists have measured this effect by counting the number of new cells produced in the older vegetables. Increase has been shown to be as high as 70% in some cases. Old cells that have *ceased growing* showed the greatest increase.

As a student of the BIONOMY OF POWER you have shown a keener and more intelligent curiosity about your life than comes to most adults. The HOW of anything is answered by science; the WHY by the philosopher. Applying any knowledge is the *art* of the affair. To understand the HOW and WHY of your life and living is one of the higher forms of wisdom and so, in your own march of time you grow in stature as a scientist, philosopher and artist of your own daily living.

Vitamins "Move" the Minerals

Vitamins may be regarded as the "mobilizers" of the minerals. Vitamins make the food minerals (such as copper, calcium, iodine, iron, etc.) *go to work in your body*.

Neither minerals nor vitamins can function without each other! The vitamins are thus "regulators," controlling to a great degree the functions of the digestive organs. Many people who "dose" with drugs and medicaments for digestive troubles actually **NEED** food vitamins and minerals. Vitamins are "building-up" substances in your body, favoring cell growth, reproduction and good health. Vitamins have a **LIFE AND DEATH IMPORTANCE**.

Thus understood, minerals and vitamins are what engineers call human "factors of safety." The minerals help "move" the poisons—the vitamins help "move" the minerals. The two together (plus proteins) create gland hormones.

Thus minerals, vitamins, proteins are the building blocks of the glands and affect our health, personality and even our moods.

It is well to view illness as essentially a trouble of cell chemistry; perhaps too much acid food material or not enough alkaline: perhaps a vitamin deficiency or a state of mineral starvation; perhaps a combination of all three. **THE BLOOD CHEMISTRY WILL FINALLY TELL THE TALE.**

Blood is chemical substance and its chemistry is made by food, air and water. To cure a disease, as such, is often the wrong approach. It is more fundamental to feed and regenerate the body and blood, for as a celebrated physiologist decreed—"Every pathological condition is fundamentally a nutritive one." If you will get this central theme and thought, your course of present studies will be multiplied in their good effects. You will multiply your progress when you stop "chasing symptoms" and trying to "cure" effects. Do not delay in grasping this big, central thought of your work and effort.

Warfare of Acids and Alkalines

"As he that taketh away a garment in cold weather and as vinegar upon nitre . . ."

(*Prov. 25:20.*)

This proverb which mentions the effect of vinegar on nitre is thus a description, thousands of years old, of the familiar chemical reaction in which an acid reacts with "bubbling" on an alkaline.

In our nutritional efforts, we must be aware of the constant warfare in our body between acids and alkalines. Breadstuffs, meat, fish and other proteins are essential to life and can be dispensed with only with great peril. Yet they are *acid* in reaction. We must learn to be skillful in selecting alkaline foods in order to neutralize and offset the acid-ash foods, bringing into play within our bodies the very same chemical reaction mentioned in Holy Writ.

The $\frac{1}{3}$ - $\frac{2}{3}$ Plan

We must not make the grave error of believing that the taking of *inorganic* alkalies such as bicarbonate of soda, milk of magnesia, etc., (because they exert temporary neutralizing effects) secure any *permanent* and beneficial alkaline alteration of the body cells. *The true and lasting remedy must be an alteration of the diet; not an exclusively alkaline diet but a dietary that has an excess of alkaline material over acid.* The action will be explained in the paragraphs on biologic proteins.

We must learn that the blood can regenerate itself to the extent that we charge our bodies with live alkaline mineral "building stones" that stimulate *cell* purification. As a result of *balanced* nutrition, the building processes

go on in your vital organs; your heart, lungs, kidneys, digestive apparatus and *glands*. Old age and other poisons are reduced and eliminated. "Half-health" or ill health incline to give way to youthfulness and well being.

Starches and Proteins Together?

Although protein foods are acid-reacting they are indisputably necessary to life. Unlike starchy, sugary and fatty foods (which can be stored in the body), protein foods *cannot* be stored for future use, and if they could, they would prove toxic to the human body.

Yet with all this, a daily intake of protein food is necessary. The amount need not be great, actually not over *two ounces* daily.

The Animal Kingdom furnishes proteins such as meat and fish, milk, butter and eggs. In the main, these proteins are of higher biologic value than the plant proteins such as grains, beans and other legumes.

* * *

Extensive clinical work shows that vegetarians who refrain from using animal proteins place a more or less difficult burden upon the body. *All* the protein used each day need not be of animal origin, but in order to gain the building effects of complete proteins, some animal protein should be represented in the daily minimum of 50 to 60 grams (approximately two ounces).

However, a most important practice (almost reaching the eminence of a health secret) is to know that protein foods, whether of animal or vegetable origin, are acid in reaction. **THEY SHOULD ALWAYS BE USED AT A MEAL CONTAINING AN ABUNDANCE OF ALKALINE** (base-forming) fruits and vegetables. So

whether the main protein food at one of the important meals of the day is meat or fish or cheese, or eggs, or vegetable protein like legumes, the important rule is that this meal should be rich in raw salad vegetables, fruit cocktails or fruit desserts, vegetable soup—letting the intake of starchy food and breadstuffs go over to another meal of a *non-protein* nature.

* * *

A practical working-out of this biologically-sound precept is that a meal predominant in starchy food (also acid in character) should have plenty of cooked and raw vegetables; likewise a meal predominant in protein should have ample accompanying raw and cooked vegetables and fruits.

Contrarily, most people habitually have meals rich in both proteins and starches (each acid-reacting) and low in the neutralizing alkaline elements as previously set forth. This seems a very trivial dietetic error, yet failure to daily and habitually watch this point may over a long period of time have grave consequences. This incidentally solves the matter of "combinations." It is not so much a matter of not combining "starches" with "proteins" in itself. It is a matter (in accordance with Liebig's Law) of proteins or starches being accompanied by an excess of alkalines (sufficient fresh fruit, vegetable soups, well-prepared and quick-cooked vegetables).

Rules of the Plan

From the acid-alkaline standpoint, sanity in eating means to have at least $\frac{2}{3}$'s of the daily food of *alkaline* chemistry; $\frac{1}{3}$ of the acid-ash class. It is not a matter of weight, but of commonsense.

Daily food intake arranged on the simple " $\frac{1}{3}$ - $\frac{2}{3}$ " rule immediately solves the perplexing question of "acidosis" and other related acid-alkaline problems that we hear so much about. Proteins are all acid-ash but essential to life. We must provide that they are neutralized by an excess of alkaline food material.

You can vastly improve your blood stream by means of fresh succulent fruits of all kinds, sweet and dried fruits, fruit juices, vegetables and juices, plus milk and other dairy products. These are the chief *alkaline* foods and counteract the equally necessary, but acid-ash proteins.

There are two reasons why alkaline food must predominate in your diet in order for you to be vital, youthful and vibrantly healthy: 1st. A generous supply of alkaline food elements is needed daily to neutralize the acid-forming foods. 2nd. Every movement of the body from the winking of an eyelid, or the face muscles used in smiling and frowning, and the muscular actions involved in breathing, as well as the activity of each and every one of the more than 600 muscles in the body, *leaves an acid residue in the blood and cells*. Alkaline foods neutralize these acids.

The "One-Third" Class

(Foods leaving an acid ash)

Barley	Cornmeal	Oatmeal
Beef liver	Crackers	Peanuts
Bouillon	Eggs	Rice
Bread	Fish	Sea food
Cake	Fowl	Spaghetti
Cereals	Lentils	Walnuts
Cheese	Macaroni	Chocolate
Confections	Meat	Coffee
Corn	Noodles	Tea

The "Two-Thirds" Class

(Foods leaving an alkaline ash)

Almonds	Cucumbers	Pears
Apples	Dates	Peas
Apricots	Figs (fresh)	Pineapples
Asparagus	Grapes	Potatoes
Bananas	Grapefruit	Pumpkins
Beans (lima)	Lemons	Radishes
Beans (string)	Lettuce	Raisins
Beets	Melons	Rutabagas
Berries	Milk (fresh)	Spinach
Cabbage	Milk (cultured)	Squash
Carrots	Onions	Soybeans
Cauliflower	Oranges	Tomatoes
Celery	Parsley	Turnips
Chard	Parsnips	Watercress
Cherries	Peaches	

In our modern science of nutrition we have at last found the legendary Fountain of Youth sought by Ponce de Leon. Its location is not a mythical land of eternal springs, but rather in the field and garden. The "waters" of this Fountain of Youth are the orchards, the vines, the gardens, because fruits and vegetables are fundamental in the working of Nature for the perfection of human health and human cells.

Mystery of Biologic Proteins

There is at present great controversy and puzzlement among certain groups of nutrition students as to whether starchy and protein foods combine well at the same meal.

A methodical study and understanding of the preceding paragraphs should clear this matter adequately. It is not so much the matter of proteins combining poorly with starches as it is the more important consideration that

when starches and proteins are used together (and as both are acid in reaction) they tend to crowd out of the meal the neutralizing foods of the *alkaline* class.

Practical Meal Plans

Here emerges the sound idea of having "starchy" meals apart from "protein" meals. This is easily followed. Use these sample menus only as a guide. You may substitute any well-liked food if it is within the class mentioned. Note the fact that you will be changing arrangement of your foods more than the foods themselves.

Scientific Cookery Rules—No. 1—Vegetables with skins should be cooked or baked in the skins. (Scraping is better than paring.) No. 2—When necessary to remove skin, scrape or peel as thinly as possible. No. 3—Cook only until tender. Undercook rather than overcook. No. 4—Add salt to vegetables AFTER they are cooked, never before. No. 5—Do not use baking soda in cooking vegetables (destroys B vitamins). No. 6—Keep air away from food, except for the first 2-3 minutes of cooking. No. 7—Never throw away cooking waters. Retain every drop. Use any excess as base for soups, creamed dishes, etc. No. 8—Favor dark foods when possible as mineral values are higher, thus, dark honey over light; brown sugar over white; brown rice over white; brown breads over white; dark green vegetables over bleached; dark dried fruits over light.

Protein Lunch—Raw salad. Good portion of roast beef or lamb. Liberal serving carrots and peas, stewed or fresh tomatoes. Small portion hard toasted crackers. Dessert—fruit gelatin, with hot or cold beverage.

Protein Supper—Tomato juice. Fish, meat, egg omelet

or good portion cheese or dish of soybeans. Waldorf salad. Two cooked and one raw vegetable.

Dessert—Baked apple, open fruit pie or fruit cup.

Beverage—Tea, coffee, or substitute.

Starchy Supper—Vegetable soup or thick purée. 2 cooked starchy vegetables, and 1 raw green. Baked sweet or white potato. Buttered, stale day-old bread oven-warmed.

Beverage—Starchy dessert and cooked fruit.

Starchy Lunch—Vegetable soup or 2 cooked vegetables. Baked or steamed potatoes. Buttered toast or day-old bread. Combination salad mixed greens.

Dessert—Cooked fruit, or brown rice raisin pudding.

Beverage—Tea, coffee or substitute.

Healing Through Foods

Nature does not give up her secrets without long laborious search. In the golden days of the 20th Century, scientists are learning to extort from Nature her age-old secrets of healing forces, minerals, vitamins, metabolic magic.

Chlorophyll, green coloring matter of plants, has been remarkably useful in healing wounded tissue after serious operations; *pectin* extracted from lemon peel has served as a substitute for blood plasma in wounds and shock; *ripe banana* used as an exclusive diet for a few days has rescued coeliac victims from the bondage of this serious disease. The compendium is endless.

Strange Magic of the "One-Day Apple Diet"

The old adage "an apple a day keeps the doctor away" has received scientific confirmation since the discovery

that an exclusive apple pulp diet frequently proves a 24-hour specific cure for diarrhea, mild forms of dysentery and other forms of intestinal membrane inflammations. Just before the outbreak of World War 2, the "apple cure" was startling scientific circles of Europe and is just now beginning to be appreciated in America.

Add the one-day exclusive apple diet to your knowledge of regenerating measures. How to use? You must peel, core and grate the apples. You must use from two to four pounds of apples (grated) on your "apple" day—AND NOTHING ELSE ON THAT DAY BUT WATER OR WEAK TEA, sweetened with honey.

As apples are highly alkaline (despite their mild malic acid which is quickly burned in the body) the one-day exclusive diet of apple pulp is a 100% ALKALINE DIET. As apples are extremely rich in iron and other important minerals, the one-day "apple diet" becomes (among other things) a 24-hour intensive charging of your bloodstream with organic minerals.

As apples are a fine source of PECTIN, which is the "miracle-worker element" of the intestine apple therapy, the apple-day becomes a time of opportunity for your blood and cells to absorb the imprisoned chemical powers that Nature has put in the apple.

Many people have found an occasional day of this apple plan very pleasant. It need not be done very frequently but some have found it is a pleasant variation and substitute for the Vitamin C super-SATURATION day discussed in the First Chapter. Regard these special health days as variants in your usual schedule, having pleasant and useful later effects.

CHAPTER SIX

THE EYESIGHT

* "And God said: Be light made.
And light was made."
(*Gen. 1:4.*)

SO THAT the marvelous function and delight of vision can function, not only is *light* required, but the eyeball must be normal in shape, chemistry and muscular action.

In recent years and for the first time since spectacles were fitted to human eyes, eyesight experts, pioneering with new ideas, pushed ahead into strange territory. With the late Dr. W. H. Bates as leader, eye experts finally discovered something entirely new.

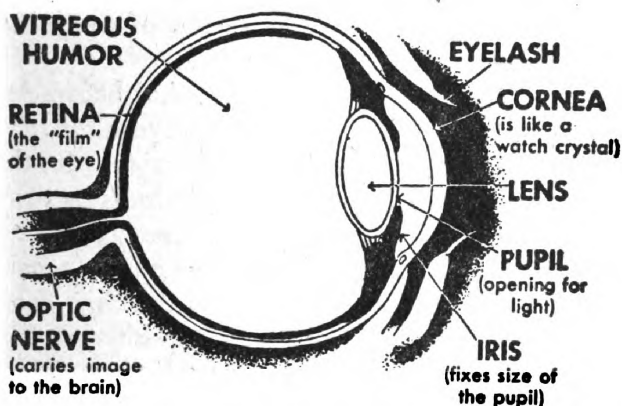
Through years of research and experiment with the new principles, it was found that most eyesight trouble could not only be *helped*, but in many instances entirely healed and full vision restored.

From this new world of optics and eye co-ordination the decree went forth that the eyes recover perfect health and normality in the same way any other part of the body does—unless some degenerative condition is present. However, the eye itself is **RARELY** the original seat of a degenerative disease.

Life's Greatest Treasure

As long as the eye **MUSCLES** are kept *resilient, relaxed* and *balanced*, the function of **SEEING** is per-

formed perfectly and **EFFORTLESSLY**. If, for any reason, such as eye strain caused by bad eye habits, OR exhaustion—OR—even by protracted worry (in fact by anything that increases nervous tension) then conditions known as *refractive errors* are brought about.



Study this wonder structure. You can learn how to feed it, train its muscles; improve it.

The old school of thought contends that the errors are permanent; that the shape of the eyeball which produces near-sightedness, far-sightedness or astigmatism, cannot be altered—hence—spectacles are the logical remedy.

The new school of thought contends **AND HAS PROVED** in thousands of instances that the distortions and shape changes in the eyeball which produce the defects of vision for which glasses are prescribed *are* capable of being changed and remedied. These specialists explain that the change in the shape of the eyeball is produced by an *unequal* tension of the **SIX MUSCLES** that attach to the outer tissues of the eyeball.

Marvelous New Principles

The structure of the eye, marvelous, delicate and infinitely complex in its arrangement, is quite easy to comprehend. You will be well repaid for taking the time to study the drawing and fix the anatomy of the eye firmly in your mind. By so doing, the practice of the principles and exercises will yield quicker results.

Oddly, if it is the *oblique* muscles that become tense, then near-sightedness is produced; this eyeball is *too long* from front to back. Contrarily, if the recti muscles tighten into habitual tension, then far-sightedness is brought about; this eyeball is *too short* from front to back.

Then again a third condition. If the muscle tension of both groups becomes UNEQUAL so that one group of muscles pulls more strongly than its opposite set, the eyeball is made lopsided by the unequal pressure—and *astigmatism* results. Astigmatism is perhaps best understood by realizing that the eyeball is eccentric or irregular in shape in this condition. These descriptions may seem unduly technical, but the better they are understood the better the results will be.

The three principles of the visual Discipline that will be set forth in this lesson (being natural) apply to all eyes. Few people indeed who have practiced these regularly have failed to notice impressive results. In a manner of speaking, it is literally learning again to see, strange as this may sound. The 3 principles are:

1. SHIFTING.
2. BLINKING.
3. CENTRAL FIXATION.

These are magic words for people who wear glasses

and wish they did not have to. The practice of these principles will convince most people that eyeglasses fasten on the wearer the very troubles for which the glasses have been fitted.

The profession of spectacle-fitting is a singularly clear example of how lazy human beings can be in both thought and action. Thousands of people view eyeglasses as a remedy for visual defects—WHICH THEY ARE NOT. Of course, no sane person ever thought of a crutch or splint strengthening a weak limb. The truth is exactly opposite.

Emotions and Vision

Before we briefly describe the three actions of BLINKING, SHIFTING and CENTRAL FIXATION, it might be well to know that these three functions are more or less perfectly performed by the RELAXED eye. Relaxation, however, in its constructive phases, we have generally bartered away before the age of forty. When the gift of relaxation is lost, the gifts of good vision and clear sight generally begin to disappear.

Brainstorms and emotional upsets very sharply influence eyesight. The eyes are very much like barometers, responding to the pressures of mind and emotions. "Staring" is the very opposite of BLINKING, SHIFTING and CENTRAL FIXATION. Indeed, if a person were to stare for a long enough period of time, near-blindness would result.

Evil Effects of Staring

Staring is STRAINING to see and strain (tension) is almost the single and exclusive cause of poor vision—

whether the name be astigmatism, myopia or hyperopia. Get this point clearly; strain is not the result, the after-effect of poor vision. Strain is the CAUSE of poor vision. This is a distinction with a world of difference.

Vitamin A and Eyes

At this point we need not go too deeply into detail about foods and vision. The eyes show the effects of poor foods very quickly, notably a lack of Vitamin A. Green vegetables, butter (originally from vegetation) contain great amounts of this precious vitamin. The Prophet Jeremiah intuitively stated this fact thousands of years ago when he said: "And the wild asses stood upon the rocks, they snuffed up the winds like dragons, their eyes failed because there was no grass."

The various fish liver oils and tablets (cod-liver, halibut-liver, shark-liver, etc.) are rich in concentrated Vitamin A where shortages of "A" need to be made up quickly. The very function of sight causes this wonder Vitamin A substance to vanish mysteriously from the eyes as it is used up by looking at things. THIS EXPENDED SUBSTANCE MUST BE REPLACED.

The practice routines follow. Chapters 9, 10, 11 and 12 will give a full and complete exposition of these natural methods for regaining eyesight. These preliminary measures should show improved eyesight by the time you get to those chapters.

1. *Blinking*—The perfectly relaxed eye unconsciously and without any effort blinks frequently. Blinking promotes manufacture of tears; washes the eyeball; helps to keep the eyeball warm in winter; makes the eyes more brilliant because failure to *blink* dehydrates and dries

the eyeball surface producing *dull* appearance. **MOST IMPORTANT**, blinking permits the eyeball and its muscles to *move* slightly and *relax*. Blink at least twice to a line of book or newspaper; very frequently at movies.

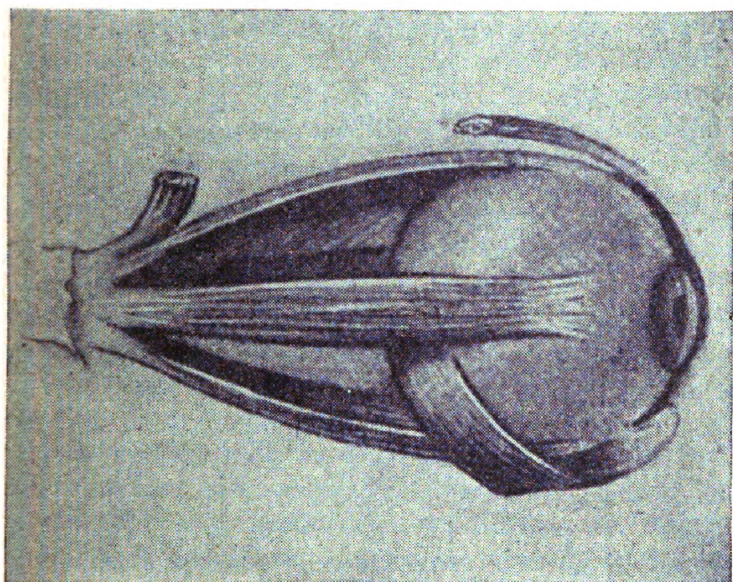


Diagram showing a few of the 6 outer muscles of your eyes.

Especially, blink frequently when looking out of window of train, bus or automobile.

2. *Shifting*—Because our eyes are too greedy; because we try to see too much of anything at one time—we gradually **LOSE THE GIFT OF CLEAR VISION**. This is the keystone—the secret, the crux of the new visual re-education. **METHOD**—Read one word at a time and stop trying to read a whole line—**BUT**—shift rapidly from one word to the next. Try this. Put aside your

glasses. Look at a word of print. Then skip to 3 words ahead, then back, then skip 6 words beyond, then back 3 and so on for five minute periods of "shifting" at least two sessions daily. Never stare—staring is strain.

3. *Central Fixation*—The human eye sees best only while looking at a tiny object or detail; it never sees well a large object. Do not scatter your eye attention or focus. Localize it, then BLINK, then SHIFT. Practice frequent blinking for one month, with "word" skipping. Advanced eye routine will be detailed at length in Chapters 9, 10, 11 and 12.

CHAPTER SEVEN

THE PELVIS

"Not in bread alone doth man live."
(Deuteronomy 8:3.)

IN HEALTH and energy, muscle movements (which help propel the blood) take rank in importance second only to food which makes the blood.

Most people know that when a violin bow sounds a single note on a violin, there is set into vibration all other similar notes of different octaves, even though these other notes are not sounded by the bow.

Recent discoveries reveal that when you THINK, your muscles act like a violin, many muscles playing a subdued synchronous single note. Of course this MUSCLE-THOUGHT symphony is not sensed directly by the person doing the thinking, but it is detectable with the aid of an instrument called the oscillograph.

Muscles and Imagination

In practical effect this means that when you do mental work the muscles all over your body get busy even though you are sitting still. These muscular accompaniments to THINKING are found to occur all the way down into the leg. This proves direct connection between *mind* and *body*.

Different kinds of brain work have different "muscular patterns" which are part of the thought activities. 'Most everyone has experienced the connection (sometimes uncomfortable) between emotional activity and the digestion of food.

Skills and Strains

It will be well to learn that even developing certain muscle skills may bring a high degree of general body strain. In learning to typewrite with precision and speed, shoulder muscles may develop high tension. The pianist developing marvelous dexterity with the fingers may and frequently does develop back muscle and neck muscle strains that impair health. The same goes for skill in writing, sewing and other fine skills, including tennis, golf, etc.

Generally, every degree of muscle skill attained in physical performance is more frequently than not accompanied by a corresponding increase in neuro-muscular (nerve-muscle) strain.

The strain effects thus brought about are many, but they center chiefly in and around the back and pelvis, causing "tilting" of the pelvis, inward curving of the back and forward tilting of the pelvic bones which brings the sacrum (the wedge-shaped base of the spinal bones) out of alignment. Most people will recognize this by sight as "sway-back."

While these distortions exist, constructive rest (which is real relaxing) is difficult to achieve, correct posture utterly impossible regardless of how earnest the attempt and effort. In fact, the more one tries the more the muscles strain.

Strangely enough, the most effective way to undo these

slowly accumulated strains is to learn how to stand, sit, walk and lie down correctly.

Fainting—Valuable Lesson Learned

When a person faints or is in a state of shock, the possibilities for disaster lie in the fact that the vital cycle of blood circulation is broken. All other measures become *secondary* and dependent upon the *first* measure; the victim must be placed in a lying-down position. This, more than any measure that could be devised, restores the circulation of the blood through all the arteries including the brain arteries. From this has been learned the valuable lesson of practicing certain muscle movements while *lying* down, because brain and body blood circulation are freest in the reclining position.

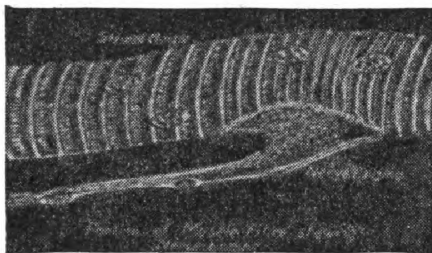
Horizontal Exercises

There are over 600 muscles in your body. *All* need exercise. The best way to discover these muscles is by use. No day should go by without at least a ten-minute night and/or morning session of preliminary limbering by stretching, twisting, turning and relaxing.

New Science of Posture

In this Chapter realize that the habit of correct muscle movement must get into the nervous system. Many skills that people learn, develop strains. These strains injure the nerves. The job is to get the strains out of the nerves, then out of the muscles and implant the new and good muscle habits first into the muscles and then into the very grain of the nervous system.

The new muscle science is not a matter of doing a certain number of movements a certain number of times each day. Rather, it is a question of doing the ordinary necessary actions of walking, standing, sitting and lying down so correctly that every *extra* motion of the muscles throughout the day will slowly and gradually rebuild the body.



Muscle bundle and its nerve.
A "tight" muscle means a
tense nerve.

So we see here that common daily actions later become the well-spring of power. Common ordinary movements become emblazoned with new meaning. Hence, it is clear why (with the exception of the lying-down horizontal daily sessions of stretching—twisting—contracting—relaxing short sessions each day) all intricate formal exercises which at best are only done a few minutes each day are to be abandoned in favor of this new Kinesiology, science of the muscles.

Double Range Breathing

Just as suspense and intense interest decrease the depth of breathing, so does poor posture impose the same handicap. While correct position of the pelvis favors deeper range breathing, this gradual process of improvement may be speeded up by deliberate short sessions of increas-

ing breathing range. The secret is: Empty your lungs completely—breathe out—and get out the “residual” air. Shallow breathing rarely affects this level of stagnant air. After emptying lungs, **INHALE NATURALLY** a complete range of air which will be nearly double the usual lung content of fresh, oxygenated air.

When the lungs are consciously **EMPTIED** this way, the diaphragm rebounds of its own accord and *compels* a deep natural intake of fresh air. The apices of the lungs are cleared of dead air by this method. Practice a half dozen double-range breaths at a time, several times daily. The benefits begin to accrue from this breathing action when the muscles of breathing adopt the correct actions.

You can become better aware of where these muscles are by stretching, twisting and turning than by studying a book of anatomy. During your stretching, twisting, turning of arms, legs, feet, ankles, spine, neck, abdomen, face—think **INTO** each muscle and area.

Visualize what is happening. Muscles are being stretched to their fullest length, then contracted. During the brief contraction period the blood is *locked* and imprisoned in the muscle—**UNDER PRESSURE**.

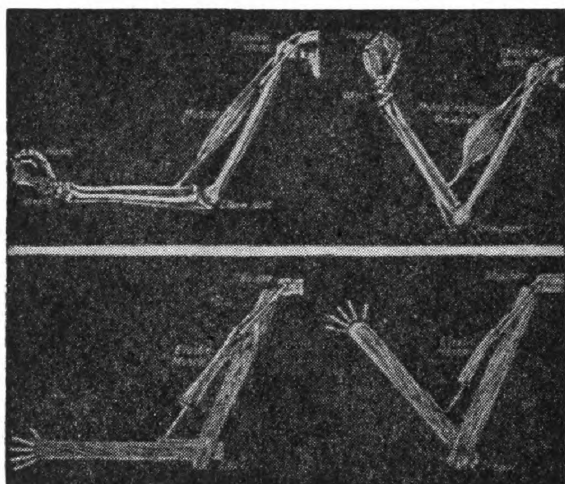
Then relax, and the blood spurts out of the muscle with pressure behind it. This means fast flowing blood carrying away acids of fatigue, **FREE CLEAN BLOOD** entering the muscles for the next stretch—twist—turn—contract—relax. This is one of the truly great secrets of blood renewal to muscles, glands and cells.

Muscle Secret for Worriers

Fearful people, those who chronically worry, those who are excessively timid would do well to know this fol-

THE BIONOMY OF POWER

lowing great secret. Correct muscular exercise provides a very important **EMOTIONAL** outlet. Pent-up emotions are harmful. Worries, chronic fears, job-dissatisfaction and the like, overwork the glands and load the blood-stream with the gland hormones that these energy-sapping emotions call forth. One must either stop harmful **THOUGHTS** (and emotions)—or—provide a safe outlet by making muscle movements burn up these excess gland by-products. This is a little known but important aspect of muscle action.



Upper-Biceps swelling with blood when flexed. Muscles should be like elastics shown in lower picture. Correct muscle movements actually "wash" the blood vessels and cells.

Even dangerous nerve tension so extreme as to produce violent muscle spasms can be correctly **EXERCISED** away. The law is "a tight muscle means a tense nerve."

Correct exercise does not mean aimless skills developed

by setting-up exercises, daily dozens, dumbbell exercise, weight lifting and other cherished forms of muscle movement. These all may improve the blood circulation temporarily but, more frequently than not, develop strains worse than the original condition. As stated, and it may be accepted as inerrant truth: the only way to re-educate the muscle system is by first learning how to hold the pelvis, sacrum and small of the back by proper sitting, walking, standing and lying down.

Key to Muscle-Nerve Power—"Gym" work, running, weight lifting, tennis, golf and many other so-called skills are not in the slightest degree guarantees of increased vitality or of health. But, standing *correctly*, sitting *correctly*, walking *correctly* are *definite guarantees*. These 3 actions, properly performed, mean about 16 hours of powerful exercise each day—*WITHOUT STRAIN*.

Correct Standing—Feet should be parallel, toes straight ahead. Weight on broadest part of feet; never let heels bear full body weight.

Buttocks *must* be tucked in. Buttocks must be flat as possible. If done properly, this alone straightens "sway-back" and **TILTS THE PELVIC BASIN BACK TO NORMAL LEVEL**. See illustration of bowls, one level and the other "spilling water." **IMPROPER POSTURE** of any kind tilts pelvis.

Test—Stand with heels, head and shoulders against wall. Press "small of the back" against wall also. Properly done, a hand cannot be passed between your back and the wall. Check your progress frequently with the wall test.

Correct Sitting—Sit erect, do not slump, sit tall, well back in chair. Weight *must* rest on thighs, not on *end of spine*. Do not lean against back of chair. **YOUR OWN**

SPINE AND MUSCLES MUST HOLD YOU UP.

Do not cross legs or feet.

Correct Walking—To stay young, never take short steps. Length of stride should later on be about half your height. Toes should point straight ahead. Arms should swing freely, but not loosely. Do not walk too slowly or blood circulation is not improved.



Walk, sit and stand with pelvis held level. Pelvis is like a bowl.

In the beginning, you must put your *mind* into the muscles concerned—with the 3 foregoing actions. REMEMBER—that walking, sitting, standing *CORRECTLY* really mean **CONSTANT** exercise but no *strain*.

CHAPTER EIGHT

THE SKIN

"Men do not die, they KILL themselves."

—SENECA, *Roman Philosopher.*

THE SKIN should not be allowed to escape the duty of carrying its full share of the load of helping to rebuild your health to the highest point that you can reach.

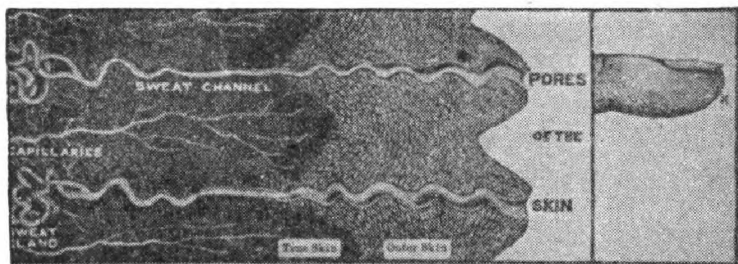
You cannot make each organ and tissue do its part toward your regeneration unless you are aware of certain cell actions which you *must* bring under your control.

Any thorough cleansing process—whether it be a home or anything else—requires a certain strength and expenditure of energy. This same rule applies to the CELL CLEANSING and HOUSE-CLEANING OF YOUR BODY.

Phenomenon of Outward Action

If a foreign object is placed within the body, a year hence it may have worked its way outward, breaking through the skin. THE FORCE IS ALWAYS OUTWARD! If a needle is accidentally swallowed, a year hence it may be found working its way out through the skin. OUTWARD! When a tooth is extracted, if the jaw bone is chipped by the force used in extracting, weeks later, tiny pieces of bone may be found working their way

out through the gums. Poisons swallowed internally may later force their way out through the skin. All efforts at elimination within the body are **OUTWARD**.



If finger is cut where x mark appears this is how the cut would look greatly magnified.

If these points of illustration are understood, it is extremely easy to learn that your skin is not merely a covering for your body, but rather one of the most important organs that you possess. This organ, in the case of the vast majority of people, is the most **CONSTIPATED** organ in the body. In this lesson we will consider recent scientific discoveries that will aid you in bringing your **SKIN** to a point of efficiency that will add many years to your life and a considerable amount of better life to your years.

Marvelous Protective Mechanism

No germ, bacterium **OR INFECTION** can under any circumstances enter the **UNBROKEN** skin. This one little provision of Nature is one of the most remarkable defenses that you possess. It even takes a long period of immersion in water before the body will absorb the slightest amount of water. Excepting for taking up sunlight and

converting the rays of sunlight into food, the SKIN always works from within OUTWARD. Too much sunlight gives the skin "indigestion" just as too much food in the stomach creates gastric indigestion.

Further, too much sunlight (if it causes a burn) immediately stops all elimination from within OUTWARD through the area of the skin that is burned. Here, the obvious wisdom of very short and mild doses of sunlight is seen. The rage for sun-tan and baking the skin for hours at a time is folly in the last degree; it is always BAD for the entire body and may even cause *skin cancer*. Sunlight is a *food* and must be used moderately.

Bathing Principles

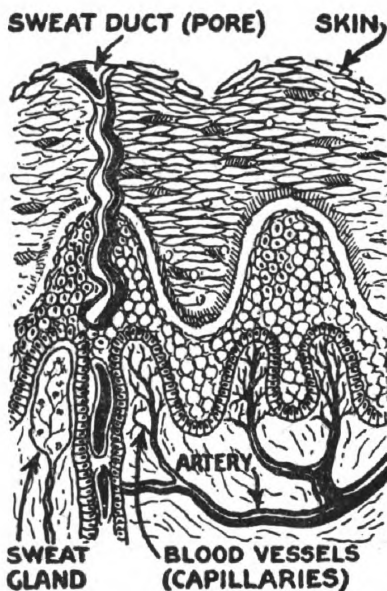
The HUMAN SKIN in civilization is pampered by heat from dozens of sources, not forgetting the truly debilitating action of HOT WATER BATHS. We mistakenly believe that if the skin receives plenty of "soap and hot water," cleanliness is achieved. Nothing could be further from the truth. "Steaming" the skin, pampering the skin with "over-relaxing" hot water baths only LESSENS the functions of the skin. Your skin must be energized, vitalized and "hardened." When you achieve this you gain the double benefit of making the skin carry its own load of METABOLIC ACTIVITY, and you also remove from the kidneys the overloads always placed upon them by a *weak skin*.

The Air Bath

The first step to help perfect the SKIN FUNCTIONS is air. The skin is constantly giving off gases of the same

nature as the gases eliminated by the lungs. AIR BATHS achieve this gas exchange of the skin in a pre-eminent manner. In mild weather the practice of nude air bathing for 15 or 20 minutes at a time in a well ventilated room is a wonderful tonic for the skin.

By gradually hardening the skin through air exposure,



Picture shows layers of non-living particles that constantly wear off.

the true functions of the skin covering *are discovered*. At the famous Rollier Clinic in the Swiss Alps, where almost miraculous cures of "hopeless" surgical tuberculosis are common, the sick, twisted and deformed bodies of the patients (by a judicious series of doses of combined sun and the cold Alpine air) are literally transformed. The patients, after months of semi-nude "air-

bath" conditioning, finally gain the ability to play and work in bitterly cold air with no clothing but a loin cloth and shoes. They are perfectly comfortable despite the extreme Alpine cold.

The Sun Bath

Short and mild sun baths perform amazing chemical actions within the body. However, every advantage and benefit wrought by extremely *short* sessions of sunlight (15 to 20 minutes) ARE REVERSED by *long* sun exposures. Sunlight (in carefully graduated doses) is an incomparable healer and strengthener of the body. Its true benefits are never understood until we come to realize that sunlight is a food that in small amounts is absolutely imperative for life and health. Without sunlight, rickets, anemia, pallid and poorly functioning skin are the prices paid. SUNLIGHT IS FOOD TO THE BODY AND IS THE SOURCE OF ALL THE FOOD ON EARTH.

Wise Bathing Procedures

Use quick, lukewarm water baths as frequently as desired, followed by extremely brief cool-water sponging. Abstain from STEAM BATHS, TURKISH BATHS and all other over-relaxing HOT WATER PROCEDURES. This is particularly important to people with symptoms of low blood pressure. The low blood pressure type person could not possibly devise any more harmful action than the ordinary 5 or 10 minute HOT WATER BATH. HOT WATER enervates, debilitates, weakens, de-vitalizes and lessens the natural tone of the skin, and lowers the tone of the blood vessels in low blood pressure.

The Salt Glow

Solutions of common table salt have curious and interesting effects. A physiological salt solution (exactly two level teaspoons to the quart) is singularly friendly to human tissue.

Salt solutions often have peculiar revivifying effects. Children who keep small turtles as pets know that very often a salt solution quickly revives the turtle when it seems almost moribund.

Insects have been drowned, then removed from the water apparently dead. The drowned insect is covered with salt which through ionization sets up minute electrical currents. Presently the insect may stumble out of the salt, shake its wings and fly away.

Many people have found the salt glow, once a week, a pleasant re-energizer for toning the skin. **METHOD—**After wetting the body take handfuls of common table salt and massage the salt thoroughly over your entire body. Rinse in slightly cool water and your body will feel glowingly alive, your skin smooth and satin-like to touch. The re-energizing effects of the **SALT GLOW** are exerted through millions of nerve endings in your skin, although no salt is absorbed.

Calcium and Skin Nutrition

CALCIUM (the most abundant mineral in the body) is of great value in strengthening the layers of cells that compose the skin tissue. A well-planned dietary rich in calcium and other minerals is an ally of improved skin action, skin tone, clear vital complexion and resistance to the

spread of infection when the skin is injured by abrasions, cuts or wounds.

The value of milk and dairy products is in great part due to the rich calcium content. Fruit juices and vegetable juices are beneficial in this respect also. Food iodine is important, too, in maintaining the health of the skin. This was set forth in Chapter 3. From the nutritional viewpoint, beauty is more than skin deep.

Upgrade or Retrograde

There is no standstill principle in the Universe.

The Law of Life is—advance—or go back. There is no middle stage. We go forward or we retrograde.

The heart beats, then rests. The blade of grass grows, then rests. These phenomena are merely used by Nature to *advance* the progress of heart beat or grass blade.

Among humans the disaster of laziness is not mere standing still; it is a retrograde movement of decay.

The penalty of idling when body or mind should be active is that our natural talents weaken, our finest aptitudes wilt away. In this, sad to relate, the victim is always last to recognize his own decline.

The Parable of the Buried Talents used by Jesus is a stainless glimpse of the LAW—*progress or retrogress!*

Never “retire” from the arena of life, thought or action. Refuse resolutely to admit of a “retirement age” in human affairs.

The real lesson of Perpetual Motion is perpetual change; the real lesson of life is that we move *upgrade or retrograde!*

CHAPTER NINE

VISUAL DISCIPLINE

"Health is that state of mind in which the body is not consciously present to us; the state in which it is a joy to think, to feel, to be, TO SEE."

—SIR ANDREW CLARK, M.D.,
Physician to Queen Victoria.

IF YOU wear glasses now and later find yourself able to discard them through the practice of these visual precepts, as was my own good fortune, you too may feel like paraphrasing St. Paul's celestial words to the Corinthians, "Now we see as through a glass darkly, but then, face to face."

Poets tell us that the eyes are the windows of the soul. There is more than just imagination in this simile. To a degree, too, they are the *mirrors of health*.

Adjusted by Nature to a precision that is unmatched in the finest machinery we possess, the eyes are the most extraordinary of all our organs.

The most complex and intricate color camera is put to shame and far surpassed by the peerless precision of the human eye, because all cameras have been copied, point by point, from this delicate and beautiful organ.

Beauty and Vision

We may be able to see and yet not see clearly. We may move dully along in a world to whose full beauty we are

blind. If the world around you seems flat, dull and meaningless, **LEARN TO SEE**. Cultivate the enjoyment of beauty.

Look at the face of Nature with keener attentiveness and bring within your reach an unbought satisfaction which is beyond all value of mere money, gadgets, personal possessions or material things. Sight is the only single human sense which can reach out beyond the earth to bring us knowledge of other worlds.

So, open your eyes and **LOOK**, because every day your eyes look at a million different pictures. **SEE THEM CLEARLY**.

Your eyes do not wear out from use. They weaken from lack of correct exercise. The new eye science has to do mainly with the exterior six muscles attached to your eyeball which have a hitherto unsuspected function connected with the focusing power of your eyes.

Four of these muscles are straight and two are oblique and through their use you not only can turn your eye in any direction, but by learning to **USE THESE SIX MUSCLES PROPERLY**, common errors of vision may be markedly improved, including near-sightedness, far-sightedness, "middle-age eyesight" and astigmatism.

The 3 Basic Secrets

The three great principles to be practiced are called—**CENTRAL FIXATION—SHIFTING—BLINKING**. The best you will get from practicing these principles may be **PERFECT EYESIGHT**. The least will be "half-results" by practicing them only "half-heartedly."

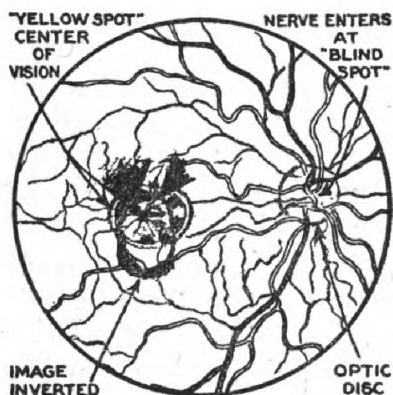
Actually you do not see with your eye. You see

WITH your brain which dwells in darkness and merely THROUGH your eye which is open to light. The black spot in the iris, your pupil, is merely a hole through which light passes to the retina at the rear of your eyeball, which in turn transmits images to the visual centers in the brain, UPSIDE DOWN.

In a flash, your brain "develops" (photographically speaking) this picture RIGHTSIDE UP. Then and only then, do you SEE.

Hence, we may say very truthfully that your eye is a prolonged extension of your brain and through this marvelous mechanism you have brought to you 83% of all your knowledge. Through your eyes you also receive guidance for 90 per cent of all your actions.

Your eye always sees upside down. Your brain reverses it and *you then see!*



This magic mechanism can also bring to you all of the world's beauty, whether of wheat fields waving in the wind, the blue line of distant hills, a glimpse of luminous sky, trees, flowers, the steady shining of the stars.

Perfection and Practice

Just as the velvety legato touch and wizardry of a great pianist's technique is achieved by the endless training of small muscles of the fingers, so by a far less arduous practice of the three basic principles—CENTRAL FIXATION—SHIFTING—BLINKING—may your eye muscles regain part or all of their normal function.

One of the main reasons back of strain, eye muscle tension and common visual disorders is the habit of seeing *too great* an area of an object at one time. It is very easy to lose the ability to focus perfectly if one habitually tries to see too much of any object. The result is blurred vision, and the habit of staring, which is fatal to the performance of good vision.

1st—Central Fixation

One of your first jobs is to retrain and re-educate your eyes TO LOOK AT ONLY A SMALL AREA OF ANY OBJECT, in order to achieve what is called CENTRAL FIXATION.

When reading, consciously and deliberately form the habit of seeing only one word at a time. Do not attempt to read (as many people do) by seeing many words at once.

The only part of the eye that sees with perfect clarity is at the *center* of the retinal nerve tissue. *This point is no larger than the head of a pin.* It is at this point and only here that your eyes have clear strong vision. This point is known as the *macula lutea*, its sharpest point being termed the FOVEA CENTRALIS.

As soon as you try to see too much, you depart from

this point and not only is visual acuteness diminished but strain is produced, tension develops and vision is impaired.

See Best Where You Are Looking

Your understanding and grasp of this important point of focusing vision on only a tiny area at a time (while mentally blocking off your sight to the large area), cannot be stressed too strongly.

Resolve to achieve this first basic principle of CENTRAL FIXATION and you will be on the road to greatly improved visual mechanics.

2nd—Blinking

Unconscious and involuntary BLINKING is always good for the eyes and is, first of all, Nature's method of washing and lubricating the eyeball with the fluid of the tears.

BLINKING is the second great principle, that (together with CENTRAL FIXATION) leads inevitably to the improvement in vision.

The glands at the outer portion of the upper eyelid furnish an alkaline saline solution that is far superior to any eye tonic that has ever been manufactured.

Lubricate and Relax Your Eyes

Nature provides the action of BLINKING in order to accomplish a multitude of eye health functions. BLINKING excites the production of eye fluid from the lacrimal gland under the outer portion of the upper lid. When

you BLINK, this fluid is washed down and over the eyeball, keeping it moist and exerting an antiseptic and cleansing action. When you BLINK you enhance the brilliance of the eye and its ability to reflect light from the fluid on its surface.

In the winter time, frequent BLINKING actually tends to keep the eyeball warm, thus protecting it from steady exposure to the cold air.

Blinking Creates Reflex Exercise

Finally, BLINKING gives an infinitesimally-timed period for the eye muscles to relax their tension; it enables the eye to move *slightly* and thus allow the small fine motions of the six extrinsic muscles to take place, which are indispensable to the good health of the eye muscles.

The principle of motion of any muscle is essential to the circulation of the life-giving, health-restoring blood to its cells. This fine muscular motion of BLINKING is of enormous and enduring benefit to the eyes. BLINK for health and for youthfulness of your eyes.

BLINK lightly, lazily, frequently, languorously, constantly. Overcome the habit of staring and looking too-fixedly at any object whatsoever in the field of vision.

3rd—Shifting

Closely tied in with the principles and practice of CENTRAL FIXATION and BLINKING is a third rule of good eyesight—namely, retraining your eyes to shift frequently from point to point of the object being viewed.

First, you localize your vision to a small point of the

object (the word—the picture) then BLINK—then SHIFT to another point.

FIXATION (focus to a small detail) *BLINK* (light, almost involuntary tremor of eyelid) then *SHIFT* (passing with great speed from detail to detail of objects seen). Thus in a nutshell can we imagine the three principles in unified action.

Under ordinary circumstances your eyes should shift with amazing rapidity from point to point, such as, for instance, the eyes of a juggler must do as he follows the movement of the balls during their motion in the air.

As it only requires 1/150th of a second for an outer image to register on your retina, it is very evident that there can be a stupendous frequency of SHIFTING without the slightest interruption of vision.

Rapid-Lazy Eyeball Motions

For instance, in watching a movie, CENTRAL FIXATION would be understood as looking at only a *small detail* of a scene or a feature of a face at a time, but with such frequent SHIFTING and BLINKING of the vision from point to point that the total effect is *entire cognizance* of the moving picture scene. Here again, we observe CENTRAL FIXATION, BLINKING and SHIFTING *working together*.

At first, you will have to consciously and deliberately form this three-fold habit, but as time goes on, vision, eye comfort, relaxation and freedom from strain will be gained, with inevitable improvement in the actual mechanics of LEARNING TO SEE normally, correctly, healthfully.

A typist, for instance, has an ideal opportunity to prac-

tice the three great principles, because following the single letter as it strikes the paper is **CENTRAL FIXATION**, the movement of the eye to the next letter as it comes up is rapid **SHIFTING** with occasional **BLINKING**.

A good rule would be to read your book or newspaper in the same way that you typewrite—namely—following each single letter with focused vision.

CHAPTER TEN

TECHNIQUES OF READING

"Accuse not Nature,
She hath done her part;
Do thou but thine!"

—MILTON,
Paradise Lost.

THE FINE and delicate exercises which we call "shifting," "blinking," and the like are of course useful to all types of eyes. These drills are natural, helpful and wholesome for both the nearsighted eye and the farsighted eye.

However, farsightedness or, as it is sometimes called, "longsight" is essentially a difficulty or inability of the eyes to accommodate in an accurate focus at the near point.

Those who experience difficulty at the near point—meaning those who find it easier to read by pushing the book or newspaper a bit farther away rather than nearer—should gradually train the eyes to better function by bringing reading matter an inch or two nearer to the eyes while reading. In this way such a person can coax the eyes and mind to get used to seeing at this nearer point. Such reading should be frequently interrupted by closing the eyes briefly, "palming" and "squeezing," (see "12 VITAL RULES OF GOOD VISION").

Read Your Bible for Fine Print Eye Exercise

Reading a very fine print Bible for a few moments daily can be as good for the visional side of life as it is for the spiritual. RULE: A *perfectly* normal eye should be able to read microscopic print at 6 inches from the eye as well as read ordinary print at both 6 inches and 20 inches away. Five or ten minutes' practice daily in reading fine print held at about 8 inches from the eye is sufficient for the purpose sought.

Read Upside Down

(15 minutes daily)

just as watching the action of a rapidly-volleyed tennis ball encourages rapid SHIFTING and CENTRAL FIXATION on the white flashing of the ball to and fro, so may many of the day's ordinary activities be utilized to provide the occasions for CENTRAL FIXATION—SHIFTING—BLINKING.

Occasionally while reading, turn your book upside down and with plenty of BLINKING, try to read a few lines of the type by reading each word and letter individually. Do not attempt to guess at what the word is, but follow the outline of each letter individually, deciphering each word by itself.

From previous explanations, it will be seen that the practice of reading upside down absolutely demands CENTRAL FIXATION and SHIFTING. The only thing that you will have to remember is to BLINK frequently while doing your upside down reading.

Reading upside down for a few minutes each day pre-

vents the evil reading habit of scanning which takes in too much ground at a glance. It might be said that reading upside down, because it is unfamiliar to the eye, slows the reading while the eyes have to move from one detail of the unfamiliar letter to another.

Occasionally (and this is particularly advantageous for children) turn the test chart upside down and for a few minutes practice the regular exercises with the chart in the upside down position.

**Remedy for
Catarrh**
By Gobind Behnari Lal
Illustrated and Edited by Shyam Lal
(Copyright, 1923.)
NEW YORK, June 5,
EXPERIMENTAL studies in
Havana showing a medical
magic in citrus fruits that pre-
vents cataract of the eye were
revealed here today by Dr. Carlos
E. Finlay, University of Havana
scientist.

Doctor Finlay, son of the world
famous physician of the same
name who first ascribed the
spread of yellow fever to a mos-
quito's bite, described his re-
searches on eye diseases.

said the venerable physician:
"We are engaged in some re-
searches that show that the cataract
of the eye has much to do with

THIS DAY
In Science
By Gobind Behari Lal

A SPECIAL treatment for color blindness, involving the consumption of large, carefully prescribed doses of vitamin A, was reported today by two scientists of the University of California in Los Angeles.

Robert D. Loken of the department of experimental psychology have been awarded the Advancement Award for the Achievement in Science by the American Association for the Advancement of Science for their announcement of what they consider their newly developed and standardized method of treating color blindness.

Color blindness, ordinarily not a matter of great importance because of the war, for naval, aerial and other special military operations, is necessary that the assigned man be entirely normal in vision. Color blindness, however, which a person from childhood

SCIENCE LIKENS
EYE TO CAMERA
AND WORKSHOP

Sir John H. Parsons Discusses
Mysteries of Outstanding
Diseases of Human Optics

By GORDON BENHART LAL,
New York American Science Editor

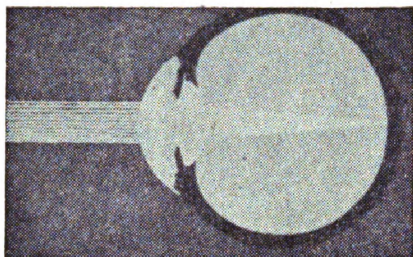
The key to eye-diseases lies in
understanding that there is a con-
stant play of influence between
the eye and the rest of the body.
This principle was particularly
emphasized by Sir John Herbert
Parsons in describing the mys-
teries of the outstanding eye dis-
eases, cataracts, near or far

Eyeballs of Different Shape

Refer carefully to the different eyeball shapes depicted below. A very few moments of comprehending study of these diagrams will show that the intricacies of the various common visual defects are easily explained on simple mechanical grounds.

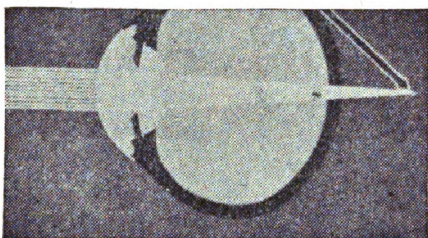
Note particularly the simple mechanical error that differentiates the nearsighted eye from the farsighted eye. Remember, too, the principle that all normal motions are

The Normal Eye



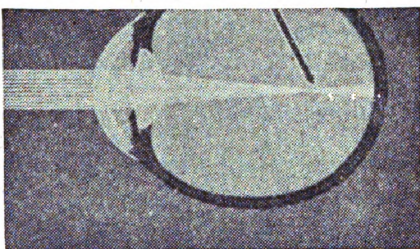
Light rays focus correctly *on* retina of normal eye.

The Farsighted Eye



Light rays focus *behind* retina. Farsighted eye is too *short*.

The Nearsighted Eye



Light rays focus in *front* of retina. Nearsighted eye is too long.

good and wholesome and strengthening for all eyes. Correct use of the eyes and correct exercises tend toward normal eye function regardless of the type of refractive error.

Exercise Chart

The chart below is a modification of a standard eye test chart. Its usefulness to the students of the BIONOMY OF POWER lies in its value as an exercise chart. While practicing the exercises on this chart, eyeglasses should be removed. Weak glasses can generally be left off permanently as soon as the conscientious use of the exercises has been started. Stronger glasses, of course, must be changed to weaker ones as rapidly as the improvement in

40 FEET

O C G I

30 FEET

R K B E 2

20 FEET

T V Y F P 3

15 FEET

C Q C O G D 4

10 FEET

K F Y V P E C O R 5

vision makes it possible. Exercising for 4 to 8 weeks will often permit the strength of the glasses to be reduced from 25 to 50 percent. RULES: Place this chart 10 to 20 feet away and read each letter relaxedly, without eyeglasses. Blink after each letter. Practice in five-minute sessions, several times daily, the oftener the better. Read down to the smallest lines you are able to see without strain.

CHAPTER ELEVEN

MENTAL AND PHYSICAL EYE GYMNASTICS

"If a man can convince me that I do not think or act right, gladly will I change, for I search after truth. But he is harmed who abideth on still in his ignorance."

—MARCUS AURELIUS, *Roman Emperor*.

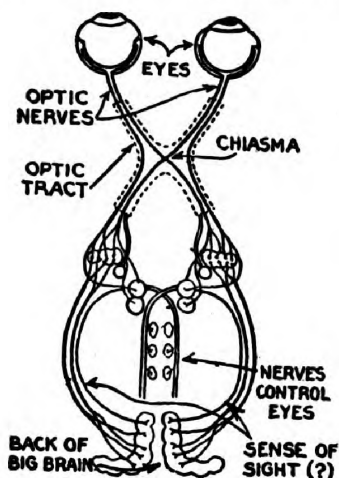
A GREAT truth about eyesight, and a new one, is this—
WHAT YOU SEE CLEARLY IN THE MIND
ACTUALLY IMPROVES YOUR EYESIGHT.

I have referred previously to the fact that we see, not with our eyes, BUT WITH OUR BRAINS. The fact that the eye registers, FOR THE BRAIN, whatever is in front of the eye, has also been mentioned.

These distinctions may seem to be unnecessary or trivial. But there is a profoundly serious aspect to these scientific truths. The most important aspect is that because we DO SEE with the brain, we can strain the eye muscles WITH THE EYES CLOSED almost as much as with the eyes open.

Emotions and Vision

The effects of worry, fear and mental tension on the eyes and vision are very great. These negative emotional states exert profoundly evil effects on vision.



Manner in which nervous system connects the eyes to the brain.

Destructive thoughts wreak vengeance upon eyesight perhaps more rapidly than upon any other tissue or organ. We are all familiar with such statements as "blind with rage," "seeing red," etc. These are literally true and their effects are more devastating than most people suspect.

Even such a common circumstance as job dissatisfaction or boredom may be as much the responsible factor for certain vision disorders as the purely physical factors of poor posture and poor lighting.

Mental Movies

You can never hope for improved natural vision until you learn to **RELAX YOUR EYES**. This can best be done by closing the eyes for brief periods **MANY TIMES** every day. Each period may be short, but the periods should be frequent.

Cultivate the habit of closing the eyes relaxedly many

times while reading; while at the cinema; while sewing; or at any other pursuit that requires steady use of the eyes. While "palming" the eyes think of looseness around the eye muscles; think of calmer nerves; think of well-remembered objects of beauty from the past that you can recall WITHOUT STRAIN.

A profoundly important *visual law* can be stated as follows: Anything that you can remember clearly with eyes closed (and without strain) immediately benefits the vision. This is true whether the trouble be myopia, hyperopia, astigmatism or presbyopia (eye of old age). This is a visual precept of tremendous power and cannot be contradicted. You may accept it as inerrant truth applying to your eyes and your vision.

An adult and serious understanding of the foregoing paragraph may do as much for your eyes and for clear vision as any suggestion you may ever receive.

Do not stare, EVEN MENTALLY. Form the habit of seeing all things you think about *clearly*, IN YOUR MIND'S EYE. Even with the eyes closed and while you are thinking of something, do not forget CENTRAL FIXATION and SHIFTING, for these prevent the habit of staring BEHIND THE CLOSED EYELIDS. Briefly, do not stare with the eyes OPEN or closed. See all things that you think about as "mental movies."

Even when your eyes are closed, your eyeballs should move constantly, easily, SHIFTING rapidly from detail to detail with your mind's eye, but without strain.

It is unfortunate but true that when a person falls asleep when either the body or mind is disturbed or tense, there is a very grave probability that upon awakening in the morning, the eye muscles and vision are more strained than when going to bed.

One may actually, as a result of tension, stare all night long **BEHIND CLOSED EYELIDS**. The moral here as regards vision is plain—**RELAX YOUR BODY AND MIND**.

12 Vital Rules of Good Vision

1. "Palm" frequently during the day. This is accomplished by placing the cupped hands over the eyes in such a way that the hands do not touch the eyelids. "Palming" helps to exclude light and also helps to relax the eyeball and its attached tissues.

In cases where one eye is weaker than the other and needs to be exercised separately, the stronger eye should be "palmed," which enables the eyeball to move freely behind the cupped palming of the hand. This permits easy **SHIFTING** and easy **BLINKING** while the eyeball is "palmed."

After "palming" for five or ten minutes, your eyes will relax and you may begin to see black. However, if your eyes are very tense, it may take days or weeks before a clear cognizance of *dead black* is achieved. Black appears to the "palmed" eye (or at night in a dark room) **ONLY WHEN YOUR EYES AND MIND ARE RELAXED**.

2. "**SQUEEZE**" your eyes frequently during the day by closing the eyelids as tightly as possible, then opening, then squeezing, and so on. This brings a rapid and powerful volume of fresh clean blood supply to the eyes and adjacent tissues. Perform very frequently every day.

3. Spend as much time as possible in the outdoors and in bright sunlight. Sunlight is healthful, not injurious to the eyes. It is fear of the light that produces tension and discomfort. Relaxedly and lazily and without fear, let

your eyes gradually become accustomed to the bright light of outdoors. Fishes and animals kept in caves and underground lakes finally lose the ability to see.

"Palm" frequently. This relaxes the eyes and removes strain.



4. When out walking, day or night, form the habit of **SHIFTING** and **BLINKING** from one object to another, or from one detail to another of the object you are viewing.

At night, as automobiles go by, **SHIFT** from one red tail light to the other as the car recedes in the distance. Never stare. "Swing and sway," as a visual precept of eyeball **SHIFTING**, has a great deal of merit.

5. Look up at the night sky and **SHIFT** and **BLINK** from one star to another; from one point to another on the moon's surface.

6. When doing close work or reading form the habit of frequently looking up to a distant object and closing the eyes and relaxing for a brief instant.

7. Avoid the habit of "skimming" words and lines when reading. Above all, do not indulge in what has been called "paragraph reading."

8. Do not squint or half close the eyes in order to see better, as this causes strain even though momentarily it seems to improve vision.

9. Do not read when sick or convalescent, except for very brief periods.

10. Grown-ups and children alike should not read with book or paper held either too far away or too close. Fourteen inches distance is correct.

11. Conserve the eyesight of your children by seeing to it that the light is bright enough so that their eyes do not greedily reach out to see in dim or improperly placed illumination.

12. For the good of their EYESIGHT (and emotional life) children should be weaned away from the colored comics. Breathlessly, children follow the antics of "comic" monstrosities, generally poorly printed on cheap paper in dull colors of green, red, orange, mottled blue and the like, always to the definite impairment of their vision.

CHAPTER TWELVE

FEEDING YOUR EYES

"Living under conditions of modern life, it is important to bear in mind that the preparation and refinement of food products either entirely eliminates or in part destroys the *vital* elements in the original material."

—UNITED STATES GOVERNMENT,
Department of Agriculture.

THE SCIENCE of nutrition has gone through a stupendous revolution. Our knowledge has particularly expanded about the effects of food on eyesight, health. The exacting eye tests for fliers has speeded our knowledge in this respect and in the Air Corps, nutrition has "won its wings."

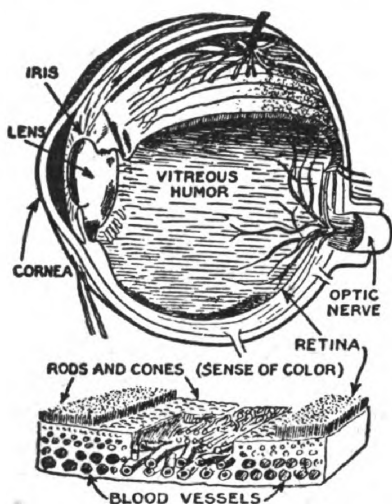
We have come to realize in a most precise fashion that the highly-organized groups of cells that compose the eyes and their attachments need special food chemicals to carry on their exacting work. These chemicals are VITAMINS and MINERALS.

Rods and Cones

Fortunately Nature has been very lavish with the eye vitamins in both plant and animal food. For eye health, your diet should contain adequate amounts of green and yellow vegetables, milk, butter, cheese and eggs.

Fish liver oil concentrates can remarkably improve your vision on account of their high Vitamin A content.

Your eye contains some 130,000,000 nerves called "rods," which are sensitive *only* to black and white. In addition to the rods, there are some 7,000,000 "cones," nerves which allow the sensation of color.



A cut-away view of the eye-ball, showing arrangement of parts; a magnified section of the retina below. The sensitivity of the retina is maintained by supplies of a substance akin to Vitamin A.

Adequate Vitamin A foods in your diet speed up and strengthen the chemical magic that goes on in your eyes when you go from bright lights to dim because every instant that you look at any object, the substance called "visual purple" (from Vitamin A) is being expended. This expended substance must be replaced by your daily foods.

Learn to Eat

Vitamin B Complex is also a masterful, potent food factor in strengthening the eye nerves and tissue of the

retina. Fortunately, Nature here too has been very lavish for Vitamin B abounds in whole grain, brown sugar, molasses, milk, whole brown rice, potatoes (properly cooked) and is very richly present in yeast.

As you cannot bring your eyes to the acme of their normal power if you continue to treat them shabbily as to good foods, it will be wise to take this food counsel very seriously and markedly increase your intake of fresh fruits, fresh vegetables, fresh juices, vegetable juices, more milk, butter (and high-grade butter substitutes enriched with Vitamin A), cheese, tomatoes, beet greens, parsley, carrots, whole grains, whole grain breads and cereals, egg yolks, calves' liver, fish, liver oils, etc.

Your eyes will respond with startling gratitude to this new and wholesome attention.

Vision and Constipation

Most people who suffer from eye difficulties notice that when the general health is in a run down condition, the eyes promptly exhibit the same effects. This is, of course, merely a normal working out of the law that the body is *unitary*—one organ inseparably connected with every other organ of the body **THROUGH THE BLOOD**.

An eminent eye surgeon recently declared that the eyes very quickly register chemical changes in the body. He declared that constipation gradually brings about very definite and frequently very dangerous changes in vision. He contended that hardening of the lens of the eye is hastened by the absorption of poisons that originate in the large bowel as a result of intestinal toxemia.

Hence it may be said that *toxin control* through scientific eating actually tends toward better eyesight. In the

next few chapters, very important procedures on "un-poisoning" the body will be set forth.

Weekly Score and Progress

Further directions for using the EXERCISE CHART are as follows: Place the chart in a good light, at eye level height; 20 feet is the best distance for accurately testing and checking progress, although if necessary 10 feet distance can be used.

<i>Date</i>	<i>Left eye</i>	<i>Right eye</i>
<i>Original score</i>		

<i>Date (later tests)</i>	<i>Left eye</i>	<i>Right eye</i>
<i>Desired objective</i>	<i>20/20</i>	<i>20/20</i>

Remember to read each letter easily and lazily, blinking frequently after each letter. Close one eye by "palm-ing" or cover with a concave eye patch, one that does not touch the eyelid, because blinking and shifting must be done by both eyes simultaneously, even with the covered eye.

Do this for three minutes with each eye, twice daily. Central fix or point your vision directly on each letter, shifting each second to another letter, blinking lazily, frequently, easily.

If you can see all the letters down to the 20 foot line

at a distance of 20 feet, visual acuity is normal. If however, while standing at 20 feet distance, you can read only the line marked 50 feet, the vision is recorded as 20/50.

The chart is extremely useful for the dual purpose of testing *and* exercising the eyes. One should endeavor to see each corner, point and detail of each letter as clearly as possible. **THIS IS CENTRAL FIXATION.** "Palm" and relax frequently during the chart sessions.

Another Hunger

On many faces seen throughout the journey of life, you may read the sure, unfaltering signs of faith, hope and confidence.

On other faces though, you will read the unmistakable signs that "the quest has been abandoned"—the sign that earlier dreams have been forsaken.

Such disillusioned people have perhaps lived too much with self-seeking; perchance with smallness or with an ever-pervading thought of personal gain.

Lack of love will undernourish a soul just as lack of food will undernourish a body.

For these starved souls no greater advice can be given than to cultivate the art of doing something for somebody. Anything will serve the purpose. A kindness—a cheerful word—a small unsolicited favor.

Turning your thoughts outward—doing for others—is actually an assimilation of spiritual food. Doing for others touches the imagination in a way impossible by any other method, stirs the hope and builds the dynamic power of well-being and mental health.

CHAPTER THIRTEEN

TOXEMIA EXPLAINED

"I commend rather some diet than frequent use of
PHYSIC . . . for those DIETS alter the body
more and trouble it less."

—LORD BACON.

LIKE THE stained sword of Herod destroying lives before they lived, so does cell toxemia—poisoning of the body by retained toxins—impair newly created body tissues before they can express themselves in health and joyous living.

At the very outset, let us comprehend the magic word—METABOLISM. It is not, as conventionally regarded, either a trivial process or an obscure term. METABOLISM expresses the very alpha and omega of life itself.

METABOLISM is a single word that signifies a double process. It means not alone "building-up" but as equally means "breaking-down."

Reduced to the confines of a short truism METABOLISM can be rendered thus:

*Assimilation and elimination
must be equal and opposite*

The inescapable logic of this great law, to the serious student of life, immediately lifts the subject of body poisoning and internal uncleanness to a new eminence

While recognizing that the elimination of bowel poi-

sons must be maintained, that the correction of chronic food delay must be achieved, nonetheless the common terms **CONSTIPATION** and **LAXATIVE** sound like

BRAIN
Source of
Nerve
Power



Spinal Nerve

Nerve to Arms

Nerve to Heart

Nerve to Lungs

Nerve to
Stomach

Nerve to Liver

Nerve to
Kidney

Nerve to
Bowel

Nerve to
Pelvic Organs

Nerve to Legs

Scheme drawing of Brain and Spinal
Cord over which power flows!

childish prattle because in these limited meanings no deep and thorough correction of human toxemia can be found.

Man and Metals

Metals that have become distorted by the strain and fatigue of use can—in modern engineering—be restored to functional usefulness again.

Humans injured by the strain of living, tissue fatigue, handicap of deficient and refined foods; humans whose "elastic stress limit" has snapped, can also be restored again to improved health and power.

All matter is subject to fatigue, to strain and—if uncorrected and unrelieved—to early death.

Bridges, buildings and metal tools once went to the scrap pile, while humans went to an early grave. 20th Century science is bringing rescue to both.

Empire of the Minerals

A vast and powerful landscape contains all the thrill and the drama of an industrial empire. To the trained eye, man's majestic victory over iron, copper, coal and gold, dragged from the very bowels of the earth to be fashioned into rails, planes, guns, armor, is determined by the clouds of war and peace which move over the scene.

To the scientist, and above all to the nutrition expert, the same powerful landscape too contains thrill and drama, for to this trained eye the earth is seen as a treasure trove of human health, a Pandora's box as it were, of copper, iron, calcium, iodine, vitamins, auxins, growth principles, unsolved mysteries of the inscrutable proteins—the stuff of virile, healthful, dynamic living, the empire of man in a physical meaning.

Never do the wizards of food chemistry fail to see in this empire of blood minerals the keystone of metabolism—the two-fold miracle of build-up and break-down; the obverse and the reverse sides of the ONE thing—LIFE.

Resurrection of the Orchid

What is man? Thus queried the psalmist ages ago and by him was partially answered. "Thou madest him to have dominion over the works of Thy hands; Thou hast put all things under his feet." (Psalm 8:3-6.)

That modern science has now dominion over strange forces not comprehended by any of the previous generations of man on earth was indeed witnessed by a group of scientists who sat tense and silent in an office in Radio City several years ago.

They stared with incredulous eyes at a purple orchid. A short time before it had been rescued from a pile of debris, a withered yellow thing—dead.

Now the petals were fresh and crisp, the colors vivid. The orchid was blooming with new life and would continue to do so for many days, for one of the country's celebrated scientists had added a teaspoonful of an amber-tinted liquid to the water which held the dead flower.

The amber-tinted liquid was a solution of *colloid* copper, a revivifying food that was striking indication of the even greater mysteries that lie ahead in that new and unexplored land of science known as colloidal chemistry.

To gain a working conception of what colloidal chemistry is, you must consider that living tissues and organs are simply great masses of cells, billions of them.

Life Force of the Cell

Consider too that the energy and the very life-force of human cells are obtained from certain minerals, metals and chemical principles, among them the vitamins, the auxins, iron, iodine, copper and many others.

Colloidal chemistry is the science which converts these

elements into particles so tiny that they can be utilized by living cells.

Mother Nature, however, is the great Colloid Chemist, for in right foods, in properly prepared food, in properly selected foods, in foods that are grown on correctly tended soil, in fresh foods, in live foods, in mineral-rich and vitamin-rich foods, Nature supplies these elements for man in their COLLOIDAL FORM.

In the case of the apparently dead orchid, copper in colloidal form was needed to restore the proper balance of the minerals and metals that comprise the life cells of that particular flower. Once that balance was restored the cells began to function and the orchid lived again.

From this, we learn the transcendent lesson that sick and broken-down tissue cells are attracted to the food colloids by electromagnetic force, just as iron filings are attracted to a magnet.

The food colloids, of whatever type they may be for the purpose, carry these decayed substances into the blood stream; and they are eliminated, the system meanwhile adapting to itself what it needs of the colloids for further growth and healthful functioning.

With this background, let us launch into actual facts about constipation, the importance of the liver, the significance of earlier DISCIPLINES, effectiveness of certain foods, the ISOTONIC SALT SOLUTION and the facts that indicate that common foods properly used are the true "physiologic laxatives."

Metabolism in Action

The following amazing list of common disorders should be read and studied while keeping four words in mind

—METABOLISM—TOXEMIA—MINERALS—VITAMINS.

This classification of symptoms and signs, as tabulated below, has been prepared by the Division of Medical Sciences, *National Research Council*. Poorly selected food, shortage of food minerals, shortage of food vitamins (and the resulting toxemia) may singly or together result in these symptoms and signs.

Infants and Children

<i>Symptoms:</i>	<i>Physical Signs:</i>
Lack of appetite	Poor muscle tone
Failure to gain weight	Pallor
Aversion to normal play	Rough skin
Chronic diarrhea	Bad posture
Pain on sitting	Nasal blackheads
Poor sleeping habits	Sores at mouth angles
School backwardness	Rapid heart
Repeated breathing infections	Red tongue
Sensitiveness to light	Vincent's Angina (trench mouth)
Abnormal flow of tears	Eye conjunctival changes

Adults and Adolescents

<i>Symptoms:</i>	<i>Physical Signs:</i>
Chronic fatigue	Sores at mouth corners
Loss of strength	Stomatitis
Chronic diarrhea	Muscle tenderness
Nervousness	Eye fatigue
Itching of eyes	Skin sensitiveness
Muscle-joint pain	Poor muscle tone
Sore bleeding gums	Dermatitis
Night blindness	Rachitic chest deformity

Right eating and proper food selection have far-reaching consequences. Only by considering food principles, can we come to comprehend health, disease, toxemia, metabolism, vitality, elimination, constipation.

Understanding of the purposes of the foregoing list will broaden the outlook on Nature's requirements for health, and lift the aims for vitality and youthful vigor to a rational sane basis.

Curative Effects of Food Minerals

Because MINERALS MOVE POISONS and because minerals are the "building stones" of your cells, a study of the following mineral values will show with amazing clarity just how much your body purification depends upon food. Conquest of toxemia starts with the minerals. The effects of several vital food elements follow:

CALCIUM—A highly powerful acid neutralizing element; healer of wounds; a factor in preventing mental delinquency; necessary for the coagulation of the blood in bleeding; combines with phosphorus to produce sound healthy teeth, bones and nerves. Calcium is found principally in milk and dairy products, in green leaves of vegetables, such as lettuce, spinach, cabbage and watercress, etc.

IRON—A food mineral that enters into the vital activity of blood and glands. Iron distributes the oxygen (breathed into the lungs) to all the cells. Iron is found in grapes, raisins, spinach, all green vegetables and all fruits that have a dark color and is especially abundant in turnip leaves, dandelion greens, apples, pears, etc.

COPPER—An element present in only minute amounts in food substances, but nonetheless necessary as a companion to iron in the prevention of anemia. Copper is found in calf and beef liver and is also present in many foods that contain iron.

IODINE—Essential to the functioning of the thyroid, the gov-

erning master gland of the human glandular system. Food iodine prevents simple thyroid enlargement (goiter) and is necessary in preventing body poisons from becoming deadly to life. Iodine is found in halibut-liver and cod-liver oil, kelp, sea lettuce, pineapple juice and in most green vegetables grown near the salt oceans; less abundant in soils North of 36 degrees North Latitude of the American Continent.

POTASSIUM—An alkaline element necessary in maintaining the active heart beat; necessary for glandular secretions; an element that makes muscles elastic and important for intestinal activity. Potassium is present in potatoes, pineapple juice, oranges, lemons, grapefruits, tangerines and in the thin green leaves of vegetables.

CHAPTER FOURTEEN

CONSTIPATION

"Let us a little permit Nature
to take her own way,
She better understands her own
affairs than we."

—MONTAIGNE, *Essays*.

WEBSTER'S NEW INTERNATIONAL DICTIONARY defines the word CONSTIPATION as follows:

"Constipate—to crowd, press together, to condense. (2) To constrict or close as tissues or pores, as to constipate the capillary vessels."

It will be noted that the dictionary gives, and very properly so, a broad definition of this much-used word,



Visualized sketch of fallen organs. Prolapsus is caused by poor posture, force of gravitation, lack of vital food elements, debased foods and over-eating.



even referring to the capillary as a tube that may be subject to compression and poor elimination.

Ordinarily, constipation is the term used to signify delayed elimination of waste products from the lower bowel. Actually however, unless a reasonable understanding of toxemia and body poisoning is achieved, little real progress and health betterment will result. Your efforts cannot stop at merely cleansing the digestive tube of waste and toxic material generated by chronic food delay.

Toxemia Poisons All Cells

Your purification work must go deep and it must be thorough. It is not a trivial thing. Real body purification is not arrived at by candy laxatives or harsh cathartics.

Certain food principles must reach into the very cells themselves, into the blood itself, into the lymph, into the muscle tissues, into the nerves, for it is in these *inter-cellular* and *intracellular* that we really live, move and have our physical being.

To achieve a victory over toxemia, over cell and body poisoning, you must bring the full power of 20th Century food chemistry into action.

You must understand how minerals help remove poisons; how vitamins in turn move the minerals; how the aid of the liver must be enlisted in order to absorb certain fat soluble vitamins; how natural foods can (by their bulk and mineral material) bring naturally "laxative" effects to the walls of the digestive tract.

New Concept of Cell Toxemia

It will be time well spent to reflect upon the substances mentioned in the next paragraph that may and do lodge in the human body as a result of civilized living, sub-

stances that are inimical to best health and that obstruct nature's processes toward health.

Among the many substances that may accumulate in the body are these: retained earthy mineral matter from habitual use of hard water; nicotine; lead arsenic and copper from plant insecticides and tree sprays; accumulation of excessive alkaloids from coffee and tea; cell poisons uneliminated due to shortage of vitamins; deficient amount of food minerals needed to combine with waste; lack of sufficient food alkalines to neutralize tissue acids. The foregoing will serve the purpose of indicating the extent of purification work needed by civilized men and women.

So that you may get a clear picture of this metabolic puzzle, the problem may be stated this way. Were the effects of "poor elimination" to be confined only to the large intestine, very little real harm would result and the correction would be easy.

Physics, cathartics, a series of hot water enemas, a course of "high colonic" irrigations might be expected to do a reasonably effective job of cleansing, if "constipation" were confined only to the lower end of the digestive tube.

However, at this point, let us forsake the folklore of foods and approach this amazingly important subject with the eyes and minds of scientists and artists—of scientists because we seek the truth, of artists because we wish our handiwork to be as perfect as possible.

First Principles

For a moment, imagine a chemical laboratory, the shelves and cabinets filled with jars and bottles of chemi-

cal substances. The solutions have carefully printed labels signifying exactly what chemical is in each container.

Further imagine a demented person entering this laboratory and hurling the contents of hundreds of these jars of chemicals together at random. Devastating consequences might result. Fire, explosion, deadly gases might ensue from this heedless and ignorant violation of chemical laws.

The human *body* is also a chemical laboratory. It differs from an ordinary chemical laboratory in that the body has a knowledge of chemical phenomena unknown to all the chemists on earth. Your body, through its glands, manufactures actual drugs more powerful than those created in commercial laboratories.

From one of your glands issues forth a drug that causes the blood vessels all over your body to maintain tone and normal contractility.

From another gland issues forth an antagonistic drug that relaxes the arteries, one chemical keeping a system of checks and balances over the other; working in mutual and intelligent antagonism to each other.

The Three Basic Disciplines

If the central thought of BODY WASTE and CELL TOXEMIA has been grasped; if the limited notion of mere bowel constipation as the chief source of auto intoxication has been abandoned; then, more than ever, will the purpose of the three disciplines of Blood, Nerve and Glands as set forth in the first chapters of this book be appreciated.

Blood Discipline—The super-SATURATION of the body with Vitamin C at frequent intervals not only en-

hances general good health and builds the "collagen" or binding substance to strengthen the cells, but it also helps to "unpoison" the body in a variety of ways. Principally the cleansing is effected indirectly by the rich fruit minerals and even directly on the bowel by the normal and natu-

The liver filters about 200 gallons of blood every day. Many deadly body poisons are made harmless by the liver.



rally laxative effects of fresh fruit, in this case, by oranges or by grapefruit.

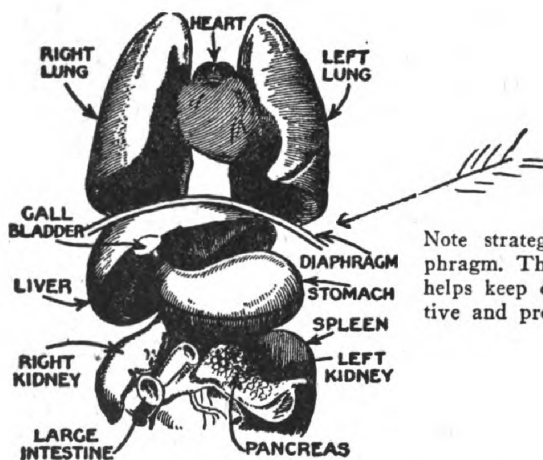
Nerve Discipline. The daily abundant protection of the diet with extra amounts of Vitamin B Complex family (by Brewers Yeast, wheat germ, etc.) not only strengthens the nerves which might be called the chief purpose, but also improves the function of every cell, every tissue, every nerve and, above all, every muscle. As the entire intestinal tract, from mouth to the end of the large bowel,

is merely a tube with muscle walls the energizing effect of the Vitamin B Complex as directly affecting improved peristalsis and digestive tube motion, is plain and simple. A daily and abundant use of Vitamin B Complex has alone rescued many chronically constipated men and women from the bondage of laxatives and cathartic drugs.

Gland Discipline—Considering that the thyroid gland has been honored by Nature as one of the chief “unpoisoning” organs of the body, the organ which Nature has decreed must have adequate supplies of organic food iodine, this discipline has far-reaching and beneficial results in your work of body purification.

The Great Secret

All of the foregoing scientific explanations now unify into three great truths.



Note strategic position of diaphragm. This breathing muscle helps keep digestive organs active and properly toned.

Law—Assimilation and elimination are not two different subjects. They are merely two aspects of the SAME SUBJECT.

Law—Low intake or poor absorption of food minerals weakens the whole body and also helps to induce bowel constipation.

Law. Bowel constipation not only causes auto intoxication but also *lessens* the actual absorption of minerals even if sufficient amounts are in the diet.

Sufficient here perhaps has been said to show that food and waste disposal, that assimilation and elimination are merely the two sides of the same subject.

For superb health, for vigor, for vitality, for energy, these two great functions should be equal. Disposal of wastes should approximately and ideally equal the intake of foods, not lag far behind. When the lag is very pronounced and very chronic, early old age, senile breakdown, overweight and a myriad of postponable or preventable disorders ensue as a matter of course.

The "Balanced" (Isotonic) Solution

Everyone is acquainted with the purpose and the use of the simple enema. However, it is not always possible to introduce sufficient water into the rectum to reach the lower right side (around the appendix) where often a cleansing is most needed. A way has been found that has, for some people, certain superior effects, namely, the "salt solution."

The drinking of *exactly* one quart of warm water with *exactly* two level teaspoons of common salt has certain advantages that the enema does not possess. Further, by drinking this "solution" on an empty stomach first thing in the morning, the *entire* alimentary tract is flushed and cleansed. Also, unlike the enema, the water travels in the *right* direction. Two level teaspoons of salt in exactly one quart of water furnishes a solution of the exact *weight* of

the blood. This "salt solution" sometimes called a "physiologic solution" is not only non-irritating to human tissue, but as used this way, does not absorb through the intestinal walls. The phenomenon of *osmosis* does not take place. However, if a quart of water contains *less* than exactly two teaspoons of salt, absorption will take place and the purpose of using the balanced salt solution is defeated. Further, unbalanced salt solutions are irritating.

A slight nausea may occur when drinking the solution but this may be disregarded. It is best to drink it quickly, allowing perhaps not more than two or three minutes' time to drink the entire quart. It is best to lie down for a few minutes or more on the right side after drinking the solution. This helps to speed up the passage of the salt water from the stomach and on its way through the digestive tube. Some people prefer the solution a little hotter than lukewarm. In occasional instances some people find that three glasses of the solution are sufficient for the purpose. However, the main thing is to prepare the full quart in order to get the salt proportion exactly right. It is best to delay breakfast for at least a half hour after drinking the solution to be sure that it is at least out of the stomach. However, after the solution is out of the stomach, the peristaltic or wave-like motion that is caused ordinarily by food will be started up by eating breakfast and this may prove an advantage in hastening the solution through the lower part of the digestive tract.

Remember, this salt solution is not a "laxative" in the sense this term is generally used. The salt solution does not irritate nor whip the intestinal tract into activity. It is merely a mechanical, saline wash, effective for some people, not for all. Ordinarily, in about an hour's time

the entire quart of water should have passed through and been eliminated. Many have found that taking the salt solution one morning every two weeks helps to maintain good colon hygiene. If the water does not pass through, it shows that the salt solution is not working properly; that it is being absorbed instead of passing through as it should, which while not harmful is not beneficial. If this proves the case after a few trials, do not persist any further.

Juices as Natural "Medicines"

The juices of fruits and vegetables are powerful allies in the fight against toxemia. Bodily purification, improved blood chemistry are natural results that follow liberal use of fruit and vegetable juices.

Juices contain "metabolic" principles, active growing cells, "organic" acids, basic alkalies, enzymes (digestive enzymes) in addition to minerals and vitamins. They are true "cell medicines" and poison movers. Remember that food elements, like humans, can die by "drowning," by heat exposure and can be "strangled" by too much air. The three most deadly enemies of food elements (particularly of vitamins) are water, heat and air. Obviously, *fresh* juices have none of these defects. Characteristics of several juices follow:

Lemon Juice—The lemon is a veritable storehouse of precious health elements. Recent experiments indicate that a substance found in the lemon may actually act as a substitute for human blood plasma in the treatment of shock and wounds. The lemon contains the valuable "P" vitamin factor that has a marvelous effect on human arteries. A prominent digestive specialist has recommended that gastric sufferers try the juice of a lemon in

water in the middle period of the meal. He reports that many find gratifying relief from stomach distress, heartburn, etc.

Carrot Juice—Rich source of the anti-infective pro-vitamin "A." Strengthens mucous membranes of nose, sinus and throat. Excellent for liver and gall-bladder lining membranes. Carrot juice emits invisible rays of healing ultra violet light which have been scientifically measured.

Grapefruit Juice—A valuable solvent of chalky limelike deposits in joints and muscles and as such, excellent in arthritic conditions and rheumatics generally. Grapefruit juice contains a substance resembling quinine and is refreshing and restorative in fever conditions.

Tomato Juice—A rapid alkalinizer and almost as rich in Vitamin "C" as the citrus fruits. Contains abundant mineral values.

Blueberry Juice—Rich in copper, iron and certain valuable color pigments. The juice contains a natural insulin-like chemical called *myrtillin*, which assists the pancreas in its sugar-controlling work.

CHAPTER FIFTEEN

THE LIVER

"And I will turn my hand upon thee, and purely
purge away thy dross."

(*Isa. 1:25.*)

REMEMBER THIS momentous truth about your body. You can live (imperfectly) without tonsils, without teeth, without an appendix. You can struggle along for a while with one kidney, for quite a while without your spleen. You can live (half alive) with much of the thyroid removed.

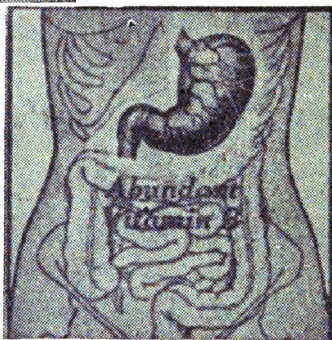
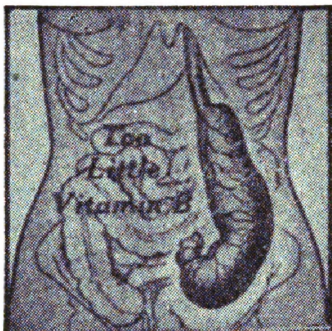
People have lived after the stomach has been removed surgically and after gall-bladder removal—BUT—in that unified, unitary, marvelous collection of organs, cells and tissues that you are so ardently devoted to, that you wish to live long with, *YOUR BODY*, there is one organ that deserves your utmost respect and regard and that organ is *YOUR LIVER*. No organ can perform the work of, or substitute for, *YOUR LIVER*.

Raise Your Liver to Its Highest Efficiency

Law—Were it not for your liver and its marvelous work of rendering deadly chemicals *comparatively* harmless, only a few days of intense intestinal toxemia would probably incapacitate you.

Were YOUR LIVER to be removed, a legion of poisons would kill you with promptness and dispatch.

The liver has been placed by Nature at a very strategic place up near the beginning of the 20 feet of small intestines. There, on guard, stands this everlasting sentinel, and its secretion, BILE.



Drastic effects of acute Vitamin B shortages and equally dramatic results of "B" abundance.

Working endlessly, the liver sorts and inspects every drop of blood. With uncanny accuracy, it abstracts from the blood that passes through it substances inimical to your life.

After a certain time devoted to poison abstraction, the liver then delegates appropriate *liver* cells to work over these poisons and create new substances.

Your Largest Gland

In order not to lose sight of the body's unity and oneness, it will be well to remember that the healthy renewal of your red blood cells every 28 days is chiefly dependent upon the renovation work of your liver.

By the same token, if you expect to accomplish anything resembling a physical rehabilitation, it behooves you to begin to give some attention to this mammoth gland which you can feel with the tips of your fingers by digging in vigorously under your right ribs.

Drunkards and Gluttons

It goes without saying that the usual "alcoholic" may be the victim of temptation, or wrong associates or the desire to "escape from reality." The glutton (food drunkard) can offer no such extenuation. He is the victim of self-engendered appetite and generally carries the hall mark of his weakness in his appearance. Such people, whose only joy is eating and stuffing, who live to eat, sound the early breakdown of the liver.

All of the myriad functions and life-saving devices of the liver will probably never be known. The human body may *appear* to be in normal health, although poisons and toxins, which must first pass through the liver, may be slowly destroying the reserve LIVER CELLS. The damage may be going on, but because it is hidden from view it often is not suspected.

Vital Reserve Mobilization

It is true, of course, that Nature has endowed all of our organs with vast reserve power. If an arm is lost through an accident, the remaining arm grows stronger and is finally trained to do the work of two. A kidney may be removed, but the reserve power of the remaining kidney is so great that for a while it does double duty.

In a young person there are billions of reserve liver cells ready to be called forth for the emergencies of poison-neutralizing. The supply is not endless, however.

As the years go on, with the liver fighting over-loads of toxins and poisons day after day, we find that the *older* a person gets, the *lower* the fighting powers of the liver.

Regardless of how big an army may be, its reserve power finally becomes *zero* if great numbers of fighting reserves are called upon *too frequently* to replace the soldiers killed in battle. So it is with the liver.

The liver dies little by little until at last there are no more spare liver cells to take up the work of the cells slain in the battle of wrong eating habits, tobacco toxins, the death-dealing effects of alcohol on liver cells, the poisons of chemicalized food and the mineral-vitamin deficiencies of refined lifeless food.

The liver will inevitably remind us in many disagreeable ways of its resentment to any kind of abuse. To live youthfully, to live healthfully, to live happily, to live vibrantly, we must recognize the necessity of treating the liver kindly.

There is an amazing attitude among those who would have us eat riotously, drink "sociable" cocktails, smoke and be merry, and leave it to the liver to purge us of our iniquities, without a thought of the discomfort and actual

suffering that that mighty organ, **THE LIVER**, surely stores up for the future when we eat and live heedlessly.

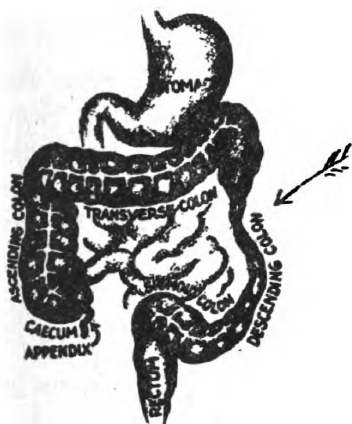


Diagram of "spastic" colon. This produces discomfort and usually causes a high degree of nervous tension.

Diagram of overloaded colon. Correct foods, high vitamin intake, mineral abundances, laxative foods, all tend towards normal function and action.



The One-Day Banana Diet

Wartime scarcity of foods grown in tropical countries has thrown into dramatic relief the chemical wonders of the banana.

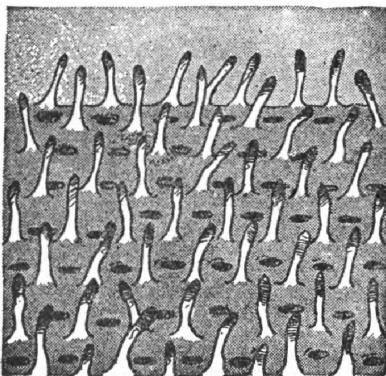
Hundreds of human beings have had dramatic rescues from premature death through the chemical magic locked

up in the banana. Special airplane deliveries of this fruit to coeliac victims have been reported in recent press dispatches.

Coeliac Disease

Banana pulp has been discovered to be the best cure for coeliac disease, a malady that has taken the lives of many humans, particularly children. The race against death that has been won in so many instances by the banana was made possible because *fully ripened* bananas contain a marvelous digestive enzyme that helps digest other starches and sugars. In coeliac disease the victim dies gradually because of the body's inability to extract any nutriment from ordinary starchy and sugary foods.

The pulp of fully-ripened bananas mysteriously alters the chemistry of the digestive tract, restoring ability to digest carbohydrates.



Tiny, hairlike microscopic structures known as villi are found in great numbers on the lining of the intestine. They increase the "absorbing" surfaces.

When wartime scarcity abates, you may try an occasional exclusive mashed-banana-day. On the day selected, your exclusive diet can consist of 10 to 15 fully-ripe

bananas which you should mash to a creamy pulp with a fork as used. Take a large bowl of this creamy banana pulp at each of your regular meal periods.

For best results on this day **NO OTHER FOOD OR DRINK EXCEPT WATER SHOULD BE TAKEN.**

This is a recommendation for occasional use.

The one-day banana-whip diet feeds and helps to multiply billions of "friendly" germs of the intestinal flora.

Like the supersaturation "C" day and the "apple day," the "banana day" need not be practiced very frequently.

Nature's Laxative Foods

Although the cellulose (tissue framework) of fruits and vegetables *cannot be* digested (by humans), cellulose rubs against the walls of the intestine and causes waves of reflex intestinal contractions to follow. This is the real bionomic approach to the conquest of constipation. The principles of a few laxative foods follow:

APPLES—Entirely apart from the one-day "apple diet" described in a previous chapter, the iron and malic acid content of the apple together with the fine fruit sugars and fruit fiber, acting all together, produce in the human digestive tract a natural laxative action.

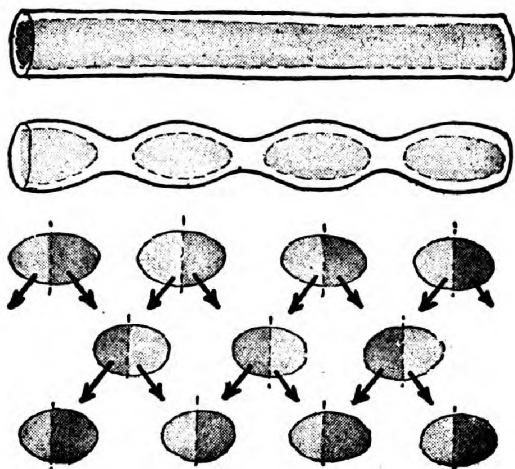
PRUNES—Rich in iron and natural potassium. Extremely proficient as a laxative food.

PINEAPPLE—Contains a ferment called bromelin which has such active digestive power that it can digest many times its own weight in protein, hence, a valuable food in colon delay and obstinate constipation.

PEARS—Contain abundant malic acid and when thoroughly ripened have not only a laxative action, but also exert a mild diuretic or kidney-flushing action and thus are helpful in overcoming "kidney constipation" as well as colon food delay.

FIGS—Highly laxative due to the abundance of natural sugars which feed the friendly germs of the colon, plus the gentle stimulation exerted on the small nerve-endings of the intestinal tract by the great amount of fibrous material contained in figs.

WHOLE GRAINS—The mere change from white bread and refined flour products to wholewheat bread and other wholegrain foods may seem trivial, but because of the difference in bulky cellulose found in the outer layers of the grain, this change alone may overcome certain forms of constipation.



Rhythmic constrictions of the intestinal walls break the food into equal segments.

Note—Prunes and other dried fruits should always be soaked overnight to restore their natural water content. Dehydrated or dried fruits will cause fermentation in the stomach or intestines if they are not first thoroughly soaked.

CHAPTER SIXTEEN

KIDNEYS AND SKIN

"A natural law is as sacred as a moral principle."

—LOUIS AGASSIZ.

TOXEMIA CONTROL for superb health (as contrasted to mere bowel constipation) embraces the perfect functioning of the four depuration systems—LUNGS—BOWELS—SKIN—KIDNEYS.

A very curious bit of team work exists between the skin and the kidneys. Any study of body toxemia will be utterly incomplete unless the prodigious work in poison control performed by both skin and kidneys is well understood.

Fever Phenomena

During fever, the skin is practically off the job as far as perspiration is concerned. When skin elimination slows up, kidney elimination tries to adapt to the emergency and perform heavier work, and because this extra work is an abnormal load, it is generally performed unsatisfactorily.

When the burning or oxidizing processes which Nature employs during the feverish state are finished, then Nature starts the machinery of heat dissipation by opening the closed doors and exits of the skin (sweat glands);

the skin becomes drenched of the moisture and *the fever sharply breaks toward a normal temperature.*

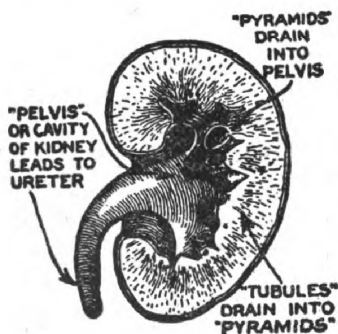
Science Copies Nature

In certain conditions where Nature *fails* to create a fever, science actually sets itself to the task of artificially causing fever in the human body.

In the "fever cabinet," the temperature of the human body is raised several degrees above normal and this artificial "man-made" fever burns up body toxins so effectively that in certain conditions a surprisingly thorough restoration to normal health is brought about.

Perspiration Is Constant

A human being must perspire ALL THE TIME. It is only *noticeable* part of the time, but nonetheless the process of elimination through the skin goes on night and day without let-up.



It has been estimated that the reserve "filter" power of kidneys is 7 times what is needed.

If perspiration were to completely stop for as brief a time as several hours, death would ensue. The reason

for this would be that the kidneys would (after several hours) be unable to do the job of the skin together with their own.

Bowels Versus Kidneys

Retention of toxins within the kidney eliminatory system is, of course, more serious than retention of waste in *any other area*.

It has been estimated that the human kidney system in the course of a day scrutinizes, inspects and FILTERS the astounding total of 1700 quarts of blood. Curiously, magically, and in a way not precisely understood, 9,000,000 tiny tubes perform the daily FILTER work.

These millions of tubes, if placed end to end, would stretch to 15 miles in length. Several hundred times per hour the entire bloodstream flows through these magical filters. Many, many gallons of gross liquid waste finally become refined into the several pints of amazingly chemicalized final waste. This description of course designates what *should* happen in the healthy body. In ill health, naturally, this phenomenon does not transpire.

Learn to help bring about this kidney cleansing by your improved dietary habits and the other correct habits set forth in this course. Intelligent toxemia control by *dynamic* living habits is the most perfect therapeutic art that you can learn.

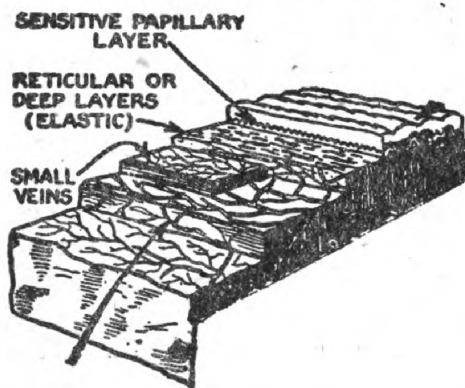
Kidney Toxins

Toxins of all kinds, whether they are the result of refined food, mineral deficiencies, vitamin deficiencies, alcohol, habitual use of hard water, too much tea, too much

coffee, tobacco toxins, insufficient liquid intake, one and all, impose an unnecessary load on the kidney filter system.

Improving the bowel function is one of the most direct roads to improved kidney function.

Normalizing the blood pressure is, in itself, a royal road to normalizing and improving the caliber and tone of the blood vessels that compose the functional part of



Sectional scheme of skin. Skin and kidneys work in mutual partnership and function.

this grand system of renal efficiency (proper kidney action).

Creating a finely-toned and healthy skin gradually but inevitably improves the health and efficiency of the kidneys. This is all to be comprehended as another signpost that permits us to learn Nature's grand decree—that your body is **ONE—UNIFIED—INDIVISIBLE—WHOLE AND WHOLESOME.**

Creative Resting

The details of the pelvic discipline have always proved welcome news to men and women from age forty on,

who have spent months or maybe years in a form of bondage to daily setting-up exercises, violent week-end sessions of tennis, too much golf and many other motions and routines that actually may harm the body.

At this point of our studies it is assumed that straight reasoning and bionomic logic have taken the place of tradition and conventional beliefs, leading directly to the conclusion that for the purposes sought, which are health and vitality, violent and unneeded exercises are useless or worse.

Body and Mind

Law—The physical and the mental are not separate and discrete. Body and Mind are not two aspects of life; they are one, single, unitary, streamlined force. This truth, a searchlight of powerful knowledge, is proved hundreds of times daily in any human life by the fact that NERVE-FORCE—BLOOD-FORCE (physical) tend to follow the IMAGINATION (mental).

Law—THINK of a part of the body and the blood tends to go to that area. FEEL in a certain part of the body and the blood tends to go there rapidly. You must direct your mind into your muscles. You must think into your tissues.

Method—Several times daily train yourself in ten-minute sessions to rest constructively. Lie flat on a firm bed or the floor, small pillow under your head. Bend your knees upright until your feet are fairly close to your hips. Keep the heels of the feet flat but now turn your heels out and the toes in, which helps to prevent the feet from sliding away. Cross arms on your chest so that your elbows are crossed over the center of your chest with your hands dangling on the opposite side. Then think and imagine "letting go." Don't force the letting-go, but merely imagine a relaxed image of yourself in this position.

Eyes—Summary of Visional Efforts

To the scientist the human eye is an important diagnostic organ for the interpretation of disturbances in other systems or parts of the body.

The eye has been described in prose and poetry as a sensitive reflector of well-being and ill-being for the whole body.

This is indeed true, for the ophthalmologist exploring the retina and the interior tissues of the eye can in many instances detect the threatening clouds of kidney disease, blood pressure disease and even brain disease long before the ordinary physical symptoms of these diseases begin to manifest elsewhere.

Nutrition as It Affects the Eye

Nutritional deficiencies are frequently the cause of many alarming diseases and this applies with special force to diseases of the eye. When the nervous system and the blood vessel systems become involved in nutritional disease, then the local eye condition becomes more aggravated and more difficult to understand and to remedy.

Adding to the basic disciplines of Blood, Nerves and Gland Feeding, the liberal use of fruits, vegetables, complete proteins, butter, cheese and other dairy products, which are the essential factors of a basically good dietary, we supply the body with the prime elements which Nature requires for the manufacture of tissue, including healthy eye tissue.

Mechanics and the Eye

It is only when diet shortages, mineral deficiencies, vitamin needs, have all been considered and properly

solved, that we can expect the truly wonderful mechanical results from the basic mechanical disciplines of blinking, shifting and central fixation.

Building the eyes with food, draining and keeping the eye tissues purified by toxemia control, exercising the eyes by proper use—these together mean visual power, sane expectations, progressive improvement, an orderly Cosmos of cause and effect.

Mental Toxemia

The victim of chronic indecision; the one who thinks wishfully but procrastinates in action, is a victim of *mental toxemia*.

The best organized person in the world makes many mistakes each day, but this individual's success may be exclusively based upon the fact that the constant DOING and the constant making of DECISIONS result in more right decisions and right actions than wrong ones.

Cultivate the habit of mental decisiveness. Gain the habit of assembling your facts and information rapidly, forming the best decision that is possible under the circumstances, and THEN CARRYING OUT YOUR DECISION.

Wisdom comes as much from our failures and wrong decisions as from our successes and right decisions. The big thing is to cultivate the qualities of *decision* and *action*.

Do not make excuses. Do not shift blame to others. Do not indulge in self-pity, for these are the elements of mental toxemia.

PUT FORTH EVERY EFFORT—ACT—do the utmost best that you can under the circumstances. These are the "growth-health" ingredients of the mind.

CHAPTER SEVENTEEN

POWER HOUSE OF THE GLANDS

"His flesh shall be fresher than a child's;
He returneth to the days of youth."
(*Job 33:25.*)

ON A fateful day of prehistory, Cain slew Abel. Of this second descent of man into Avernus it is sufficient to say that ever since, men have found it easier to squander lives than take the time to learn the multiplication table, a Sermon on the Mount or to search the sublime laws of life for power, health and serenity.

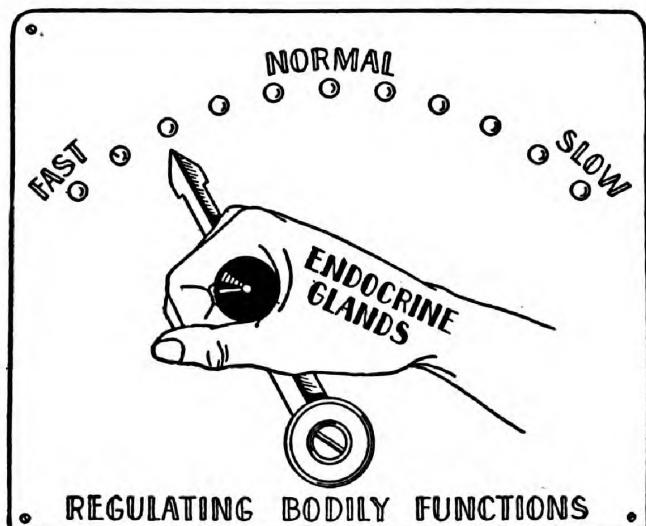
Of the arcane laws that until now have enclosed the secrets of vibrant health, none equal the decrees of food science that are now engraved upon the tablets of an imperishable cosmic chemistry. Of the human organs so wondrously made by God, none are so affected by food—GOOD or BAD—as the *human glands*.

For indelible imprint on our memories, it can be repeated over and over again that the age of miracles has returned once more. Food is veritable *destiny*. Stupendous claims can now be made for food as the pattern maker of vibrant life. No such statement could ever have been made *before* and even greater truths lie but a few steps ahead.

Mind and body are not discrete—separate. As the mind affects the body so the body affects the mind. Our moods more frequently than we think are set in motion by our

foods. Food—fatigue—fear—famine; these are now joined foursquare.

We think vibrantly and happily when we eat rightly.



Even the Prophet Elijah became so mentally depressed as to wish to die when fatigued by his flight from the hirelings of Jezebel—*until his strength had been renewed by food.*

History must ever remain silent as to the wars started because of anger, fatigue, toxemia, brittle arteries, famished nerves of men at the council tables of nations. The hasty word, the capricious mood, flaring tempers—a council disrupted, then the quick echo of the dreaded cadence of armies on the march.

As to you (in this golden age that decrees SELF-PERFECTING as the proper aim of each of us and the sound

building of the body before all else of worldly things) no words are more apt and pointed than this four-fold union—

GLANDS—MINERALS—HORMONES—VITAMINS. These can mean the beginnings of a better earthly destiny. FOOD is the true medicine of this age of miracles again at hand.

Gland Power

No system of organs or functions in your body comes closer to representing the real YOU than the system of transcending function and power known as your GLANDULAR SYSTEM.

In the preceding Chapters and Special Disciplines we studied the action of nerve, blood vessels, bone system arrangements, eye function, digestion schedules and the like. In this Chapter we will crystallize and organize these functional designs into a practical understanding of how every human might be said to be a living example of what internal gland power has created.

The Start of You

This single cell that once was YOU held within its tiny confines all of the illimitable potentialities that animate YOU as a rational living human being this minute. That single cell that at your conception bridged the chasm between the worlds of unseen and seen, connects in *unbroken* descent with the myriad trillions of cells in your body today.

The *fused* reproductive elements of your mother and father, that united to form the single cell starting you on

the long journey of LIFE, presents a study so incredibly vast, so unbelievably wonderful as to defy adequate description.

From that single cell, came TWO—from two, FOUR—from four, EIGHT—from eight, SIXTEEN and so on through infinite divisions to finally usher you at the end of 280 days into the world, a complete organic, responsive potential man or woman.

The eternal secret *why* that fused SINGLE CELL passed on through the various form changes and resulted in YOU, instead of stopping at a lower level of manifestation, will (in its finer steps) always remain the inviolate possession of the Architect of all life. Suffice it to say that some of the massive and superficial steps are known.

"Peas and Pods"

Within each cell are elements called GENES and CHROMOSOMES. These are the entities that determine your departure from your parent stock and also your resemblance thereto.

Within that single cell of YOU, were little units called CHROMOSOMES—literally "color bodies," because they can be stained and thus made visible under a microscope, hence the name. Going deeper into that destiny-making cell of YOU—we find that within those CHROMOSOMES were GENES—the units of your hereditary traits from your parents.

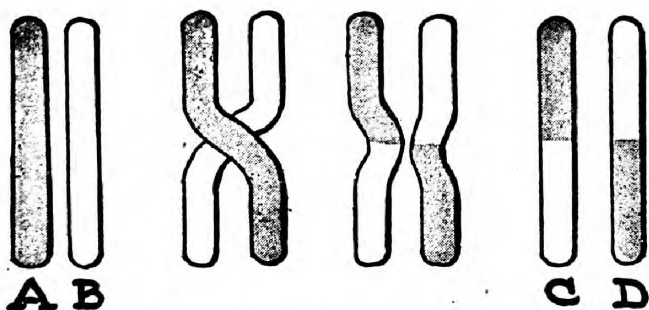
For illustration, we might say that GENES are to CHROMOSOMES what peas are to a pod. Only, there are thousands of GENES in each CHROMOSOME (of each single cell), whereas there are only a few peas in a pod.

The GENES are so incredibly small that they will ever remain invisible even to the greatest ultra-microscope yet to be fabricated. CHROMOSOMES, however, can be seen under a microscope.

Chromosomes and Species

A most interesting biological discovery is that the CHROMOSOMES are always definite in number for each species—8 CHROMOSOMES for the fruit fly, 14 for the garden pea, 42 for some varieties of wheat, 54 for the gorilla, EXACTLY 48 for humans.

In the single cell that once was YOU, your father contributed half of these 48 CHROMOSOMES, your mother the other half. From this YOU cell, dotted with 48 of these little "color bodies," each color body containing legions of GENES, sprang the patterns of your brain, your nerves, your bones, your muscles, your eyes, your heart and that marvelous assemblage of history-creating organs—YOUR GLANDS.



Chromosomes A & B sometimes bend around each other. This phenomenon is called the "crossing over" which smoothly blends traits and character patterns as seen in chromosomes C & D.

Ductless Glands

This group of glands, frequently referred to as the **ENDOCRINE GLANDS**, includes the principal glands that have **NO DUCTS** (channels) through which to convey their secretions. In the tiny laboratories within each one of your endocrine glands are manufactured magical substances which are added *directly* **TO YOUR BLOOD**. These wonderful substances are called **INTERNAL SECRETIONS**, each of which contains one or more active principles known as **HORMONES** or *chemical messengers*.

The internal secretions with their powerful health-building *hormones*, the general pattern of which was laid down at the instant you were conceived in the body of your mother, play a role in maintaining the balance and health of your body beyond the power of words to portray.

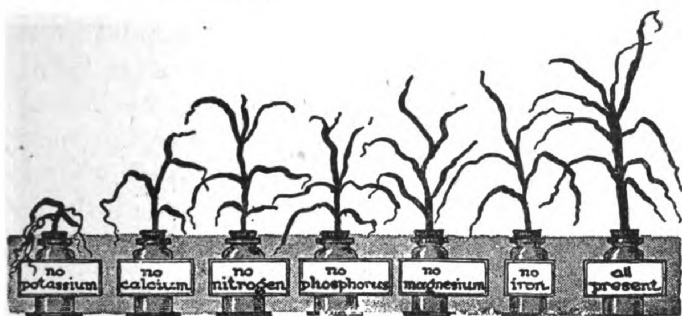
If you, as a student interested in your life, health and possibilities, were to engage upon a survey of the present literature on human glands, you could expend years of prodigious labor and still might find that the most important thing that you can know about your glands could easily elude you at the conclusion of your study. This all-important fact is herewith disclosed—**YOU CAN BRING MORE HEALTH TO YOUR ENDOCRINE GLANDS BY YOUR DAILY CHOICE OF FOOD.**

More than likely, whatever you have heard or read about glands has had to do with gland extracts, drugs, gland "transplants," gland "implants," rejuvenation of the glands by operations and so forth. Some of these pseudo-scientific ideas may properly be called the "monkey business" of present day gland knowledge. The **COMMON SENSE** about glands is that you are influencing

your glands to a measurable degree every time you have breakfast, luncheon or dinner.

Mental Stability and Foods

If the general idea of gland improvement through foods is comprehended, it is very easy to appreciate the fact that a STARVED ENDOCRINE GLAND SYSTEM can be especially sensitive to the effects of "mental shocks," while on the other hand a "well fed" endocrine system (high mineral-vitamin intake) can be more or less immune to these shocks.



Illustrating what happens when a single food element is missing. The same deadly parallel exists in human nutrition.

Viewed in this light, we can also see why periods of financial and economic depression have put so many persons into hospitals and sanitariums. The repeated bombardment of unpleasant and distressing happenings (where a weakness exists because of vitamin-mineral bankruptcy) can and will induce the onset of one or more of a whole category of diseases.

Moral—Unpleasant happenings, sorrow, bad news, mental shocks and the like produce no serious after effects, (or at least

the very smallest effects) if daily intake of organic minerals and natural vitamins is high and **CONSTANT**.

Law—Minerals *move* poisons.

Vitamins *move* minerals.

VITAMIN-MINERALS *move* the glands and create more and better *hormones*.

Increasing Vitamin and Mineral Intake

Your endocrine apparatus is the *connecting link* between nerves and general body functions. Degenerative disease (perhaps even some cancers and tumors) starts when glandular bankruptcy begins.

A rapid, inexpensive and intensive method of overcoming *mineral starvation* is by the daily use of "mineral-vitamin cocktails." Such beverages will lead you along an invisible but sure road to marked health improvement.

An efficient juice extractor (hand operated or electric) is the only piece of equipment needed to unlock the fresh, *colloid*, vegetable hormones imprisoned in the fiber partitions and cells of fruits and vegetables.

Nectar of the Glands

The best of all liquids for the human body are fruit and vegetable juices. The *fractured* leaves and fractured cellulose tissue of fruits and vegetables allow the escape of a sparkling cascade of health promoting values.

For juicing purposes, obtain fruits and vegetables as *fresh* from the soil, vine and orchard as possible. Health values in plant foods decline rapidly with age, even measurable in hours. Shop more at the vegetable store than the bakeshop. If possible, spare no effort to cultivate a garden of your own.

Following a thorough washing, cut the vegetables or fruits into sizes convenient for easy feeding into the hopper of your juicer. Start the "juice cocktail" road to health with small amounts. A half-glassful daily in the beginning, increasing to a full glass or two daily later. Juices may be taken at any time. Overweight people will do best to have the "cocktails" before meals, thin folk allowing them to go over until the end of the meal.

The cocktail recipes that follow are merely illustrative of the general idea! There is a wide field for your own originality and taste preferences. Test out your ingenuity in contriving appetizing and tasty beverages by running the gamut of Nature's reds, greens, orange and yellows.

Mineral-Vitamin "Gland Cocktails"

CELERY JUICE, CARROT JUICE, ORANGE JUICE

Put enough celery thru the juicer to make 2 oz. of juice. Young tender carrots to make 1 oz. juice. Add to these 3 oz. of orange juice and dash of lemon juice.

PINEAPPLE JUICE, BEETS AND BEET TOPS, LEMON JUICE

To about 4 oz. of beet and beet top juice plus a dash of lime juice or lemon juice, add a similar quantity of canned pineapple juice.

LETTUCE JUICE, SPINACH JUICE, GRAPEFRUIT JUICE AND WATERCRESS

Put lettuce and spinach thru juicer in equal amounts, adding small amount watercress. Add equal amount of fresh or canned grapefruit juice.

TOMATO JUICE, CELERY STALKS, BEET TOPS

Put equal amounts of celery stalks with small leaves and beet tops thru juicer to make 4 oz. juice. Add 2 oz. canned tomato juice—dash lemon or lime.

Note—Among the food miracles of this age is the startling discovery that fresh fruits and vegetables and their juices help wounds to heal rapidly, create better blood and help conquer infection.

Among certain Indian tribes, the sovereign remedy for serious illnesses and wounds was a solution obtained by boiling *pine needles*. The modern miracle as well as the old tribal custom both derive their virtue from what we call today VITAMIN C, the vitamin of healthy blood and strong blood vessels.

Another modern miracle is the discovery that *chlorophyll*, the green coloring matter of leaves and plants, has a magical effect in the treatment of non-healing wounds, deadly abscess formations, injuries and burns.

Primitive tribes since time immemorial have applied the crushed leaves of certain plants directly to wounds, thus receiving the benefits of the plant's chlorophyll in direct, unadulterated form.

CHAPTER EIGHTEEN

YOUTHFULNESS AND THE THYROID GLAND

"Man, know thyself
The proper study of mankind is man."
—POPE.

ONE OF the naive (yet irrepressible) traits of the human mind is that throughout the ages men and women have dreamed of a "Fountain of Youth" into which the senile contingent of humanity might plunge and come out *youthful*—washed of the toll of the years in its magic waters.

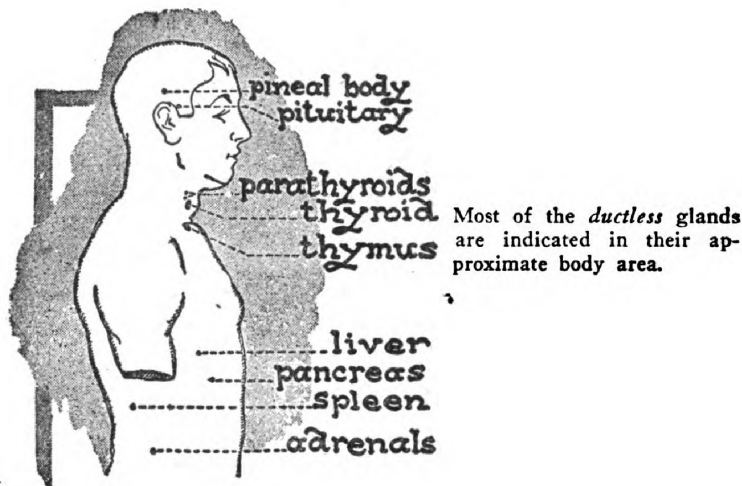
After the many centuries during which this belief was so popular, the legend of a "Fountain of Youth" gradually came to be discredited. Yet now, this "superstition" is on the verge of becoming a reality. This "Fountain of Youth" which bold explorers of the past failed to find, science now has come upon, or so it suspects.

Primitive Efforts

The fact that some organs have a definite effect upon bodily development was known to people of ancient days. For instance, castration of males (removal of testes) was practiced centuries ago for the specific purpose of producing a soprano male voice.

Burned sponges (rich in iodine) were used effectively for goiter (enlarged thyroid gland) as early as the year

1400, the real cause of the beneficial effect of burned sponges being unknown until the hormone of the thyroid was shown to contain large quantities of iodine.



Some of the body glands have ducts or passageways and others have not. The glands that secrete saliva in the mouth, also the kidneys, are examples of glands that *have* ducts.

As stated before, the endocrine, or ductless glands, have *no* ducts or external passageways, but discharge their secretions *directly into the blood*.

Every ductless gland has its **OWN WORK TO DO** and each gland secretes a different substance (chemical messenger) that when carried by the bloodstream to remote regions of the body stimulates other glands and organs to activity.

The only possible raw material useful to these glands is the material contained in Vitamins A-B Complex-C-D

and E; in the inner recesses of food calcium, iodine, potassium, phosphorus and the rest.

The Thyroid Gland

The substance secreted by the thyroid gland, called "thyroxin" (containing iodine) differs entirely from the secretion of the other ductless glands and is concerned with the physical and mental development of your body.

Thyroxin has a definite effect upon your mind as well as being of supreme importance in the work of keeping toxins and poisons in your body from *killing* you.

The other important *ductless* glands are the spleen, parathyroids, the thymus, the pituitary, the pineal and certain parts of the pancreas. The thyroid seems to be the master gland, guiding and, to some extent, regulating the other glands.

The study of the BIONOMY OF POWER, particularly in relation to food principles, centers more around feeding the glands than upon almost any other single organic system.

Ever and always, however, the principle of unity, oneness, indivisibility and body wholeness crops up again and again, for without a preliminary blood vessel feeding by Vitamin C superSATURATION; without a preliminary nerve vitalizing for several months by daily B Complex feeding; without a daily iodine intake for perhaps as long as 4 months (if intake has been deficient in the past) no gland food therapy would be worth talking about or acting upon. A review of these disciplines in the first four chapters will be profitable.

However, assuming that earlier steps have been properly accomplished by your study and practice of these

step-by-step chapters, it is a truth of first-rate power that you can, through food, influence your glands to more healthful and more virile operation through mineral feeding.

One of the most important dietary contributions to modern health is the realization that the organic food element IODINE is of indispensable importance as a daily nutritional factor in the health of this MASTER GLAND of your endocrine system.

Important researches have established beyond shadow of doubt that millions of people living inland are *gravely* deficient in this special food factor, IODINE. It is also of immense significance that millions more (living *near* the oceans) are partially deficient in this food element. Recognition of this has given rise to the knowledge of the benefits of kelp (dehydrated powdered form) in the daily diet.

Current Absurdities

These being the days of "hormones" for reducing and "hormones" for growing fat, "hormones" for making us young, "hormones" for making life more joyous, as well as a host of other things, it is well to state that actually very little is known about these wonderful organs, beyond the *pressingly-important* fact that YOUR DAILY FOOD IS THE LARGEST SINGLE INFLUENCE THAT CAN POSSIBLY AFFECT ANY OR ALL OF YOUR GLANDS.

We may just as well state the uncomfortable truth that the doctors who treat diseases with gland extracts have to depend on a considerable amount of "guessing," although for severe glandular impairment, the field of

glandular therapy deserves and is receiving serious study.

At present, most of the capsules, pills and ampoules containing extracts of this gland or that tissue are sometimes USELESS when swallowed, the reason being that the saliva and the digestive juices destroy the potency of these extracts.

Foods and Hormones

Practically speaking, one never hears the glittering truth that glands, just like all other tissues of the body, are created and constructed by food elements.

Just as mental irritability is so frequently due to a lack of food calcium; just as the average "neurotic" is a *decalcified* and *devitaminized* person; just as the tantrums of "problem" children are traceable to capricious food habits or *slow starvation*—so the FINAL answer to normal glandular metabolism is to be found in the chemical reactions of vitamins and minerals in the daily diet—ABUNDANTLY and DAILY.

I here predict that soon a binding relationship will be shown to exist between vitamins (life elements of food) and hormones (life elements in glands). Further, we may foresee a new impetus being given to the pleasant task of maintaining our youthfulness and physical power thru the truly great art—the art of right eating.

Already we know that deficiency of food IODINE seriously impairs the secretion of thyroxin in the thyroid gland. We know that an insufficient quota of Vitamin D (the sunshine vitamin) is a factor in the distressed function of the PARathyroid gland. We are bound to find in further exploration of this almost untouched territory of food reactions on glands, truths to confirm a lasting link

between *healthy glands* and natural, unprocessed, properly grown, properly prepared, vitamin-rich, mineral-rich, health promoting foods.

A few years ago we thought that a feeble-minded child must necessarily have a defective brain area. Now we know that the fault is just as apt to be due to the fact that the child's thyroid gland may not be working—may be actually failing to send to the brain the gland secretions that stimulate the thought centers.

The trouble with many people who are mentally deficient is not in the brain—but *in the throat* (thyroid gland). The obvious remedy here is a *thyroid-normalizing* diet. MORAL—More food iodine and more mineral-vitamin construction material.

Normalizing and Defending Our Glands

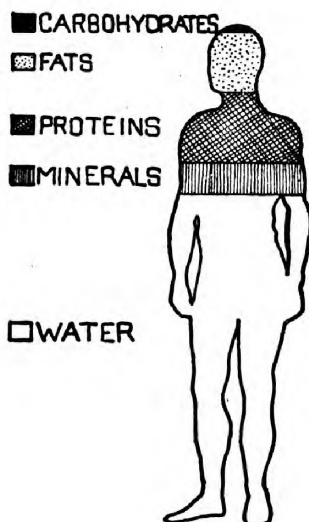
Toxins from the bowel, toxins retained in the body by kidney and skin mal-function strike deadly blows at the endocrines. They are more sensitive to toxins than other organs. The person interested in strong and virile glands will make every effort to bring every eliminative organ to its highest possible standard of health.

By making every eliminative organ carry its full share of the eliminative load, toxemia is thus brought under control and the endless source of deadly toxins is carefully reduced and perhaps finally conquered.

Virile blood, circulating rapidly, is one of our greatest allies. Every measure taken to enliven skin function repays a hundredfold. Every measure taken to speed blood flow through the pelvic organs and the gonad glands brings back a wealth of health dividends. The 3-inch pelvic bath and the skin routine which follow are designed to

speed blood flow and act as a form of blood washing. No two other actions will bring such manifold results in vitality and power.

Illustrating proportion of liquids and solids. Old age is a "drying" of the tissues and shrinkage of glands.



The 3-Inch Pelvic Bath

High quality blood is assured by *right food*. Rapidly circulating blood is assured by well-toned arteries, by normal daily activity, constructive rest, correct posture and the scientific muscle motions generated by proper walking, standing, sitting and lying down.

However, certain other measures definitely increase the speed of the blood flow with great benefit to the health and to gland function. The pelvic bath is one of these measures.

Rules—Draw three inches of moderately cold water into a tub or large basin. Sit down in this cold water for not more than one or two minutes, exposing only the pelvic organs and buttocks

to the mild shock. Do not allow the rest of the body to get wet; keep the feet out of the water and resting on the sloping portion of the tub. The rest of the body *must be warm*, the room also. Following *one or two* minutes of immersing only the buttocks and pelvic areas in the bath, dry the wet areas rapidly and vigorously, dressing without delay.

For those in a weak or debilitated state, the water should be only slightly cool. The whole secret of benefit lies in making the pelvic bath brief, keeping the rest of the body and particularly the feet warm and not having more than three inches of water. **NEVER TAKE THE PELVIC BATH IF YOU FEEL CHILLY.**

Dry Friction Rub

Poorly toned skin can never hold enough blood for good healthy circulation. Train the skin to hold the correct amount of blood which draws stagnant blood away from the internal organs, lessening internal congestion.

Use a fairly stiff dry brush for a period of five minutes or more daily over the entire body. Lifeless skin will thus be worn away. New vital skin will begin to appear and the skin will slowly improve in its ability to hold blood. The *skin* is related to the *glands*. A more vital skin means better-functioning glands.

CHAPTER NINETEEN

GLANDS AND THE CREATIVE YEARS

"Vigorous health and its accompanying high spirits are larger elements of happiness than any other things."

—From the writings of
HERBERT SPENCER.

REACTIVATION of the vital organs (rejuvenescence at least if rejuvenation itself is impossible), restoration of sexual virility; these are focus points for intense speculation. Few intelligent people will honestly dismiss these subjects as holding little interest.

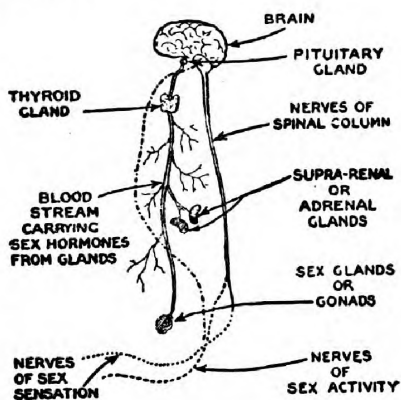
To be precise about it, it is in the changeover of diet, it is in the skilled reorganization of eating habits so that abundant minerals and vitamins are present daily—it is in these voluntary changes that science looks for the conquest of premature old age and early death, principally because of the effects of foods upon glands, mind and secreting cells.

There is a definite connection between old age and the decline of the *secreting cells* of the sexual system.

Reducing Sexual Virility in Animals

A celebrated experimenter found that by withholding certain food factors from the diet of roosters, complete

atrophy of the sexual cells followed. This atrophy of the secreting cells was strangely enough accompanied by enlargement and inflammation of nearby pelvic tissues and organs. He further found that if this condition of atrophy and inflammation was not allowed to go too far, the restitution of the missing food factors to the diet of the roosters was followed by a gradual improvement in regaining virility.



All ductless glands pour their hormones directly into the blood to be ready for any need.

Many angles of these food experiments were carried to such lengths that no room for doubt remained about the close relation that food bears to youthful virility.

Phenomena of Replacement

If an animal of a lower type loses a part of its body through injury, it is not rare or exceptional for the missing member to grow back. Thus, the small fresh water polyp, like the shoot of a plant, can build from a part of itself a new and complete being. Separate pieces of common garden worms grow back again into complete organisms or entities.

If a crab loses a claw in the struggle for existence, it rather quickly grows a new one and fishes even replace damaged fins in some cases.

Admittedly, this power of regrowth and replacement is more limited in human beings than in the lower animals, but we have only begun to learn the elementary possibilities in human rejuvenation through restoration to the blood—cells—glands—and brain—of dietary factors that in most cases civilized men and women have been deprived of from infancy and even during the nine months of prenatal life in the mother's womb.

Under favorable *nutritional* and *environmental* conditions, the endocrine glands and the gonads (sex glands) can improve in both sexes with greatest benefit to the life span—to vitality—to mental productivity and to appearance.

Body's Regenerative Forces

It is imperative never to forget that the forces within your body are potentially curative if they are properly enlisted in the service of repair. To enlist this "repair service" the body *must* be offered a variety of food containing in the natural state the elements of which the body is constituted. FROM THIS POINT ON, NATURE WILL DO THE REST. With special force, this edict applies to the regeneration of the glands of the reproductive system.

When Life Begins

When a *single one* of these male germ cells unites with the female germ cell (the ovum), life begins. The mys-

tery of this process is shrouded in infinite secrecy, but the miracle of creation and birth depends upon the union of these two tiny bits of protoplasm.

Life goes on and the race marches forward through the agency of these most highly differentiated and marvelous living cells of the human body.

As to your own life, realize this: in the chemistry of these glands lies your highest destiny (whether you are married or unmarried), for boundless energy, supreme power and creative genius are not limited to the production of children, but extend as well to every creative impulse in the daily round of living—creative ideas, creative achievements in vocation, avocation, in work, in play, in art, in science, in literature and in philosophy.

Just as the *thyroid* gland seems to be the balance wheel of metabolism, heart action and poison reduction, so the healthy male and female gonads are the very mainsprings of personality, power and prolific source of creative action.

Old at 40

Many men and women are old at 40 because they fail to recognize the meaning of little signs and little annoyances that indicate a slow waning of gonadal power. This waning of power in the sexual glands often means the decline of happiness. In the latter part of this chapter, you will find enumerated the specific food factors that may be employed to build up this waning power, perhaps even restore it fully.

By the time you reach this chapter, you will have learned through the test of *personal experience* that Nature is in no haste. She produces neither serious illness nor sound health *suddenly*. Just as the development of

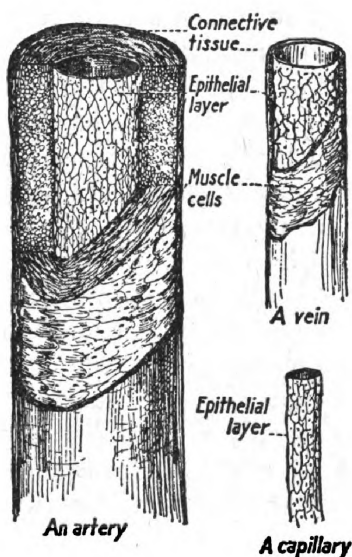
chronic disease is a slow, gradual process, so the acquisition of health and vitality come by slow, almost unnoticed steps.

Human Aspirations

History abounds in many well-authenticated instances of men and women who, because Nature had given them better glands and tissues than most, retained their health and ability to enjoy life for a very long time.

Arteries, veins and capillaries are the carriers of *old age* or *youthfulness*.

"The life is in the blood" *when* the blood contains the glandular hormones.



In and about these people hangs a glamour that has made them the objects of fascinated and envious regard by the rank and file of mankind.

Among women, the most famous is the lovely and romantic Ninon de L'Enclos, enchanting, winning, diaphanously beautiful of face and form. Historians record

that even when she was 90 years old, she was so like a beautiful woman of thirty that a young man barely twenty years old fell hopelessly in love with her, though he knew her true age. Her diet was simple and abstemious, of dissipation none. Significant in the accounts of her life are the daily periods she devoted to relaxation, simple exercises and the achievement of a *serene* mental state.

Phenomenal Longevity

Among men are the carefully attested accounts of the Englishman, Thomas Parr, who reached 157 years of age and of Count Luigi Cornaro, the Venetian nobleman who lived to well over a hundred, having changed from a life of debauchery at the age of 40 to one of abstemious eating, prodigiously hard work and a calm outlook on life.

In modern times, the record of the Chinese peasant, Li Chung Yen, who recently passed away at the age of 256 years, has been verified by scientific investigators.

I personally met and interviewed Zora Agha, a Constantinople porter, who at the time had passed 150 years of age. His diet was curiously simple, being composed principally of black bread, dates, crude brown sugar, pot herbs, sour milk curds and occasionally small portions of meat. This diet incidentally meets all the mineral-vitamin-protein "glandular" requirements and is remarkable also for the harmful foods that the *diet does not contain*.

These individuals were "gland millionaires" and the accounts of their living habits were in strict line with their gland prowess and longevity.

Another fascinating figure of history and rejuvenescence is that of the Comte de Sainte Germain, who is known to have retained into his 80's the appearance of a man in his

early 40's. Books have been written to show that his probable span of life was about 150 years.

Eternal Youth

Humans have always dreamed that somehow, sometime, the human mind would find a way to avoid the unwelcome visitor—old age. The theme of eternal youth, with its picture of an indefinitely prolonged capacity for the enjoyment of life, mental alertness and keenness of the senses is one of the most persistent in art and literature.

The pagan gods of the ancient world were merely glorified visions of men who might live forever with a maximum capacity for enjoying their Olympian eternity without illness or death. The myths had it that there was even a special food consumed by those ancient unreal gods.

Faust, in the story, sold his soul to Satan, not so much for length of days as that he might avoid the disabilities of old age and be enabled to live *vibrantly* and *youthfully* to the end of his life span.

From its eternal dream of tomorrow and the future, living for all of us derives its dramatic meaning from a feeling inside of us that life is really intended to go on to a wholesome and natural end. We sense that our lives are not intended to be abruptly cut off by whims of disease and weakness and further, that in a sane scheme of things, life should do anything except drag out in a tottering pattern of senility and slow decay.

Age of Accomplishment

The gradual betterment of your health, the slow but royal improvement in your glands, will inevitably make

you more youthful, more capable, more enthusiastic, more re-active. Remember, the *glandularly strong* are the only people with whom "time" deals lightly.

Old age, if it carries with it decay or senile collapse, is always premature. Proper living and proper eating plus proper thinking *can always postpone it*.

The rewards of improved gland functioning are not limited to health alone. The goodness carries over into daily work, achievement, accomplishment, success. The world and our surroundings become more vivid. Cynicism lessens and a new vivacity takes its place. Boredom lessens and the urge for achievement replaces it.

Personality itself undergoes a metamorphosis. The "valleys of indecision" are replaced by the indispensable traits—self-confidence, self-esteem and an adult, truthful evaluation of self.

Life Work

Directly because of improved health and "glandular" wealth, new opportunities seem to beckon. We begin to see a dozen courses of action, a dozen pathways to new endeavors, where others see none and where, for that matter, we previously had seen none. OPPORTUNITY IS EXACTLY WHERE WE ARE NOW—WHEN OUR GLANDS IMPROVE! Personality, through the glands, finally emerges from the *dispersed* state to one of MOBILIZATION.

Gladstone, John Quincy Adams, Henry Clay, Clemenceau, Hugo, Michelangelo, Chevreul, Galileo, are but a few of the vast concourse of MOBILIZED people who achieved their greatest works after the age of 75. The creative years of human life can never be charted by mere TIME.

Fuel for the Gland "Motors"

Vitamins A and E—Both Vitamins A and E have been found indispensable to the normal action of the male and female glands of reproduction. The "A" food fraction is also necessary for normal formation of skin and mucous membranes. A severe degeneration of the gonad glands of the sexual system may occur on a diet deficient in Vitamins A and E. Laboratory animals deprived of these two vitamins become impotent sexually, their sexual impulses disappearing.

SOURCES (Vitamin A)—Cod-liver oil, halibut-liver oil, liver, butter, cheese, eggs, milk, tomatoes, carrots.

(Vitamin E)—Wheat germ, whole grains, eggs, corn and the green outer leaves of lettuce.

Vitamin B Complex—When the supply of Vitamin B is not sufficient, a change in the thyroid gland may be observed. Vitamin B deficiency produces many symptoms common to advanced age and glandular fatigue. Vitamin B is regarded as essential for the proper activity of the entire glandular system. On a serious "B" deficient diet, the adrenal glands reach a state of degeneration. The "estrous" cycle in the menstrual activity of women depends greatly upon Vitamin B COMPLEX nutrition.

SOURCES (Vitamin B)—Brewer's Yeast, dried milk whey, lean meat, whole grains, lean fish, fresh legumes, liver, potatoes.

Vitamins C and D—It is of particular interest to know that Vitamin C is stored in the cortical portion of the adrenal glands. In serious "C" deficiency, hypertrophy of the adrenals results, with lowered resistance to infection and acceleration toward old age and senility. Vitamin D regulates the activity of the parathyroid glands and con-

trols *calcium metabolism*. Vitamin D is formed from a mother vitamin substance in the skin and develops when Vitamin D foods or sunlight reach the body.

SOURCES (Vitamin C)—Citrus fruit juices, green peppers, strawberries, turnip greens, cabbage, green leaves, raspberries and tomatoes.

(Vitamin D)—Cod-liver and halibut-liver oil, fat salt water fish, egg yolk, sunlight and sun lamps (mercury or carbon).

Iodine—Iodine deficiency undermines the entire glandular system. Hair changes, skin changes, loss of youthfulness, loss of skin elasticity, female menstrual troubles, lessened lactation in women follow in the wake of iodine shortages.

SOURCE (IODINE)—Found in cod-liver oil, salt water fish, ocean vegetation and especially in high-grade dehydrated kelp.

CHAPTER TWENTY

GLANDS—PERSONALITY—POWER

"To preserve health is a moral and religious duty, for health is the basis for all social virtues. We can no longer be useful when not well."

—DR. SAMUEL JOHNSON,
Father of Dictionaries.

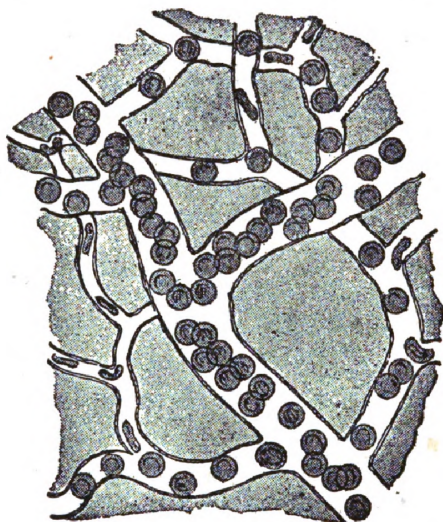
A THIRSTING man in a boat on the open sea may die from lack of water WITH WATER EVERYWHERE ABOUT HIM. Similarly, legions of civilized men and women die untimely deaths because of lifetime shortages of minerals and vitamins—with food (of a sort) almost everywhere about. These mineral-vitamin shortages strike everywhere in the body but in the final analysis we have learned that they launch their deadliest blows at the glands.

Food Solvents Keep You Youthful

In the early steps of ordinary body "unpoisoning," we have considered the role of food minerals. We have noted how they combine with mild toxins floating in the blood and escort them safely out of the body. However, it is in the interior *esoteric* actions of preventing body contamination that the food minerals play their truly majestic role, for they are *weapons of the glands*, the

strengtheners of the hormones that wait within the glands for mobilization against disease.

They are at once the "protecting army" and the "punitive forces"; the latter ready to fight, punish and destroy the invaders that bring on old age, and degenerative diseases (hardening tissues and growths).



The mineral food "solvents" are transported through these intricate red and blue networks. They become the "fighters" of the gland secretions.

As we review the evidence of food effects upon gland actions and the records of the middle-aged persons who have made the fight for improvement and reactivation, we see the significant reasons why TIME is not the yardstick of old age; why time has no power in itself to make us old.

Glandular Bankruptcy

The intellectually weary and the physically weak at the age of forty are "gland bankrupts" in the last analysis, whereas the intellectually vibrant, the vivacious people,

the physically fresh are the members of the *glandular aristocracy*; those who have acquired the secret that **FOOD IS THE REAL MEDICINE** of human glands; who have learned the arcane truth that the life is in the blood **THROUGH THE GLANDS**.

From the age of 40 onward, the strains of living, unavoidable sorrows and economic worries begin to take a more noticeable toll—**IF**—the mineral and vitamin *reserves have been depleted over the years*.

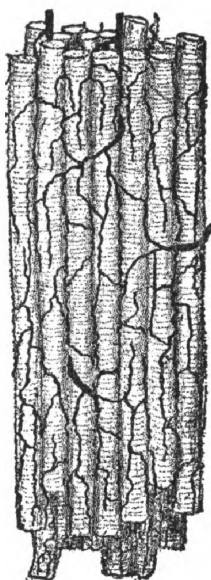
When we add to these strains the slowly mounting totals of toxins from dead, lifeless and devitalized foods, unsupervised exercise, too much exercise after the age of forty—then—and not till then have the causes of serious middle age diseases been laid, amounting virtually to what might be called **GLANDULAR EXHAUSTION**—*hormone fatigue*. In this simple term is found the ultimate answer to the cause of senile breakdown and **OLD AGE**.

Fighters for the Cells

In the final thought, your glands are the policemen of your bodies. It is the *final* job of the glands (through blood and nerve strength) to protect your body against attack by an evil phalanx of civilized diseases. For this protection your glands **MUST FEED FREELY UPON solvent minerals** and hormone-building vitamins. This last and most desperate job of the glands extends even to their fight against cancers, tumors and growths.

The glands, displaying a titanic intelligence far beyond the ken of earthly chemists, seize upon the accumulations of fatty deposits, cholesterol and the like which result in growths, stiffening arteries, cataracts of the eyeball lens, stones in the gall and urinary bladders.

As these forces for evil gather, the endocrine "sentinel fighters" put forth an urgent call for the *solvents*, sodium, potassium, calcium and above all, the regal solvent IODINE, which should be waiting in the reservoirs of the body.



Capillary supply to a few muscle fibers, bringing glandular secretions in fear, fright and flight.

If the "solvents" are ready and waiting, all is well, for they arrive promptly at the scene of the accumulations of "unsaturated fats" and **DISPERSE THEM**. If the "solvents" are absent, disease and body disaster take over. These are the problems facing civilized men and women everywhere. *Their solutions are strictly chemical and basically nutritional.*

Concluding Gland Factors

It will not be amiss to discuss several other influences, such as the surroundings, the effects of colors and of mental states upon the glands.

Every hour our gland functions are being speeded up or slowed down by our emotions and our mental states; anger, fear, joy, satisfaction, discouragement, happiness.

Prism Plan of Nature

"Nature is simple and does nothing in vain," said Sir Isaac Newton and nowhere is this more observable than the way Nature's colors influence plants, human beings and all living things. Plants placed under *red* glass in the sun grow four times as rapidly as under direct sunlight. Under *blue* glass the plants are stunted. The natural green coloring of the foliage in Nature is a screen to prevent other colors striking the plants which might hasten or retard their growth.

Octave of Beauty

The effects of different colors in therapy and environment on health and moods are generally about as follows: RED—stimulating and in moderate doses, good. YELLOW—mildly stimulating. GREEN—restful and exerts a mildly cooling effect. BLUE—depressing. In small amounts beneficial. VIOLET and PURPLE—disturbing and depressing. BROWN—restful and warming. WHITE—cheering, attracts sunlight, but alone is cold; stimulating if used with red, yellow or orange. BLACK—useful for toning strong colors.

Practical Color Therapy—As colors alter our mental and emotional states, it is easy to see how an attractively furnished home in wise choice of color schemes has not only esthetic values, but is actually stimulating to the glands. Attractive appearance, becoming clothes, careful grooming, nice color combinations, well-chosen perfumes, music, stimulating conversation, new ideas, happiness, sincere prayer, developing a hobby, taking a trip, sane amusement, laughing, frequent changes of routines, planning the day differently, singing, buying a new dress or a new hat—are all not only pleasant, but are the outer foods of the glands.

Life with poor glands is boredom. Life with good glands is zestful, happy, successful.

Anatomy of Pleasure

The desire for change is natural. The human mind rebels at too much sameness and boredom.

It is a fine art to discover the worthwhile outlets for the interior urges that demand expression.

Progress for the most part consists of learning how to substitute higher forms of pleasure for lower.

Discovering new forms of progress, new forms of service to others, perfecting our personalities, consciousness of mental growth—are all pleasures in which we can wholeheartedly lose ourselves without boredom—and often find ourselves.

No trail of nausea—no reaction of the “morning-after” follow these higher forms of mental exhilaration.

Of the pleasures of religion, of love, of friendship, of the glories of Nature, we pose the question “Lift us out of ourselves to a higher and nobler existence” and before we have called, we are answered.

CHAPTER TWENTY-ONE

COLDS—A NEW VIEWPOINT

"And the LORD GOD formed man . . . and
breathed into his face the breath of life . . ."

(*Gen. 2:7.*)

ACHIEVING THE best possible improvement in health often turns completely upon a very simple comprehension. It is this: In disease or health, the actions promoted by Nature in your body are always *intelligent*.

Symptoms may wax and wane, energy may become more vibrant, sickness heartbreakingly worse—yet—a supernal intelligence accompanies each condition.

A human being may be said to be a connecting link between the universe of large things and the world of the infinitely small. Great as are the marvels of the heavenly firmament; great as are the wonders of the sub-microscopic regions of unbelievably tiny things—yet the power of God shines forth *most* luminously in the cells of the human body.

The discovery of the human cells has laid foundations which will be essentially forever the basis of all future studies of life, health, power, poise. More than any stupendous fact of the universe, *the human cell bears witness to God*.

What we must understand is this: Every single thing that improves the blood, the nerves and the glands renders

us just that much more resistant to not only serious degenerative disease, but also to common and trivial disorders; digestive upsets, chronic fatigue, mental depression (without adequate cause) and even the common cold.

Colds—Baffling Enigma

Several years ago, the press reported the interesting fact that a wealthy man had willed a fortune to endow a research foundation to search for a "cure" for the common cold.



Breathing and good blood circulation are inseparable. Pure blood and free circulation create "resistance" stronger than germs.

Colds, of course, are a tremendous economic problem to the nation. It has been estimated that the yearly cost is more than five billion dollars.

On the average, the "common cold" keeps people away from work or school for three or four days each year. Counting lost wages, care and medical incidentals, the

average cost per person is about fifteen dollars yearly. This does not include the costs involved in disrupted operating schedules of industry, delays and the like.

No doubt being fully aware of these aspects of personal and national significance, the wealthy endower felt that if a "cure" for this common evil could be found, it would be a great blessing to mankind.

The motive here was praiseworthy, but the unfortunate aspect about the noble intention lies mainly in the truth that a "cure" for colds, as such, may never be found. Do not regard this as mere rhetoric. Here follows a statement with a vast, interior significance. It is a distinction with a world of difference. *The person with the "cold"—not the cold itself—is what must be cured.*

If the foregoing statement is true, the logical conclusion is that a "cure" for colds WILL NEVER BE DISCOVERED. If a "cold" is not a disease, but merely an intelligent bodily REACTION, the person, not the disease, has to be cured.

Chasing Symptoms

A person who develops hives (by eating some food to which the body is *sensitive*) is really at fault, not the particular food that activates the hives. All efforts are directed at "curing" the person's sensitivity. Little time is spent *on the hives* which are merely a manifestation of an underlying cause.

So with colds and so with the people who are chronically subject to them. Our attempts should be expended in building the body and its unified system of blood vessels, nerves, glands and tissues to an ever higher state of strength and resistance. In this way, we combat the "cold"

at its source and at the same time ever lessen the hazard of the more serious things that develop from colds, namely, disorders of the hearing tubes, the sinuses and the throat, which are tissues that directly communicate with the nose.

Bionomic Principle of Toxemia Control

Statements such as the foregoing warrant our most serious thought and action. Let us repeat them for purposes of study.

1. A "cold" is not a disease, as such.
2. A person who suffers from chronic colds can be strengthened and the body resistance can be raised to an ever higher point.
3. The body can be rechemicalized to a higher degree of health by the precise steps so far enunciated in this book.
4. These steps are the prime, basic truths of all nerves, all blood, in gland, muscle and cell *re-chemicalization*.

"Unpoisoning"

The analogy of a sewage system is exact and to the point in an understanding of this subject.

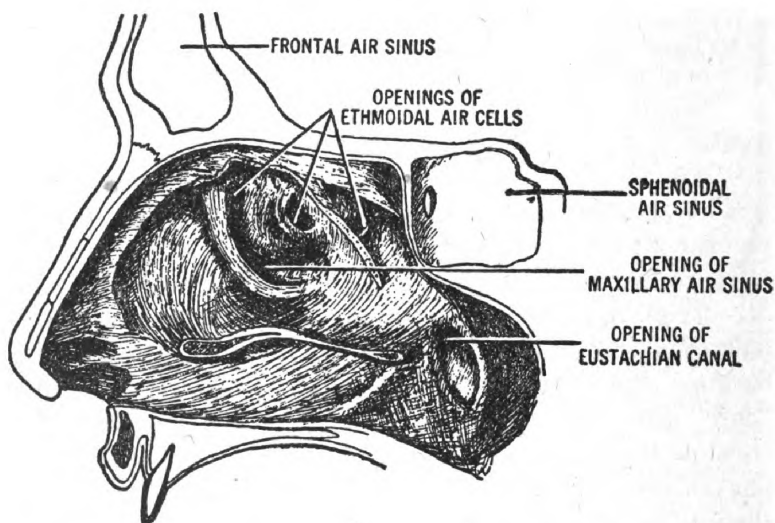
If the sewage system of a great city becomes clogged because more waste is being forced into the drainage system than it can handle (resulting in an overflow and backup) the engineers do not look for a chemical to "cure" the clogged drainage system. They temporarily *stop the deposit of further waste material* until the main lines of the drain are freed of their overload. Henceforth they would see to it that the amount of waste was accommodated to the facilities of the system.

If you understand this crude comparison, you auto-

matically understand all the main facts about a cold. Incidentally, you will also understand something that will not become common knowledge for another twenty-five years.

Acute Reactions of Nature and "Colds"

Childish interpretations of sickness characterize many forms of treatment, but a high degree of misdirected effort is reached in the ordinary treatment of colds. Millions of dollars are spent annually on salves, on pills, on "drops" to be squirted in the nose and dozens of other "remedies." These salves, lotions and "drops" bear no direct relation to colds. They may alleviate temporarily but cannot cure or abort colds.



The mucous membrane lining the nose extends continuously and without interruption into all sinus chambers, caverns and the ear tubes. With good blood circulation, Nature produces her own "sterilizing" substances.

A "cold" furnishes one of the finest examples of the manner in which Nature works to keep the body in health. When waste accumulates in the body, Nature invariably tries to dispose of the waste by devices such as creating a fever, causing a boil or skin eruption, OR commandeering the mucous membranes to assist in the disposal of waste.

In mental review of earlier chapters, we recall that there are four NORMAL avenues for waste disposal; lungs—kidneys—skin—large bowel. If wrong eating and wrong living conditions clog one or more of these NORMAL avenues of depuration, Nature (in order to protect your body) will employ SUPER-normal devices.

Nature may throw off *some* of the crushing overload of toxins by way of boils or skin eruptions. She may on another occasion send a message to the thermōgenetic (heat-generating) center of the brain to produce a fever, thus causing a "fire" in the body to burn up the abnormal amounts of blood-polluting material.

This is exactly what you do with waste that accumulates in and around your home. YOU BURN THE WASTE IN AN INCINERATOR. Nature uses the same effective method in fevers.

You get a better clue to the way Nature works when you keep in mind the important thought that Nature always does her utmost—puts forth every effort to keep *OUTGO* even with *INCOME*. *This is toxemia control at work.* This is the supernal intelligence working in your body.

You will get the most enlightening concept of disease processes if you will remember that Nature will exhaust every expedient and may often create what appears to be DISEASE (cleansing process) for the sole purpose of eliminating waste material that is endangering your life.

Colds—Draughts—Secondary Effects

A "cold" is not directly due to accidental visitation of germs; it is not in essence due to sitting in a draught, nor to any other uncontrollable vicissitude, even though there are "cold" germs and even though wet feet and draughts are bad for blood circulation.

First, last and foremost, a COLD is a reaction, specifically and intentionally caused by the natural intelligent forces in your body to relieve your body of endangering toxins, acids and blood wastes. It is nothing *more* and nothing *less* than this.

Just as long as wrong foods create excessive acids in the blood and tissues; just as long as pampered and over-clothed skin cannot do its eliminative work; just as long as the kidneys are weakened and poisoned by toxic absorption from the colon; just as long as the lungs are weakened in their eliminative and purification work by the desert-hot, arid, vitiated air of the average artificially-heated home and office; **JUST THAT LONG WILL NATURE PERMIT COLDS AS A BLOOD-PURIFYING DEVICE.**

The Blood Will Tell

You may continue to use drug remedies to deaden the discomfort of a cold; you may continue to use "drops," lotions and solutions on the irritated membranes of your nose during a cold; you may continue to take a cathartic pill to move your intestines (although the intestines really move the cathartic); you may continue to be victimized by the old adage "feed a cold"; you may continue to do any one of a dozen equally unsound things during a cold,

but at the end you will be just as far from knowing what a cold is and "curing" a cold as you were in the beginning.

There is just one main thing to do for a cold. Incidentally, it is the only important thing and is in line with the usual biologic law. You can never do *more* than do the *right* thing. In this case, STOP EATING!

You need only starve from solid food for one or two days to realize by the best of all proof—personal experience, that here is the SOVEREIGN REMEDY FOR COLDS; the "remedy" par excellence.

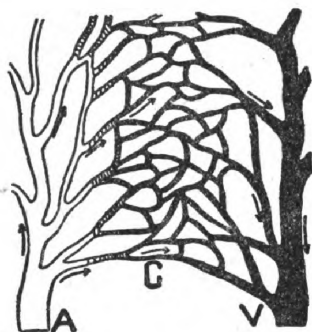
Other measures may help bring comfort and relief. However, the "starvation" cold remedy strikes at the very cause of a cold, namely, acid-laden bloodstream. The change during a cold from discomfort to comfort is often so prompt, so spectacular by the end of 24 to 48 hours, that you will find it a real education in blood chemistry and in Nature's strange and secret processes of body adaptation.

Fast-Moving Blood

The short fast tends almost immediately to correct sluggish blood circulation. The liver and the ductless glands get to work on katabolic function. (Katabolism is the eliminative phase of *metabolism*.) As soon as the blood is purified, it flows more rapidly and is more rapidly oxygenated and purified by the lungs.

Rapidly flowing blood is the very essence of vibrant health, youthfulness and power. Stagnant, sluggishly-flowing blood accompanies all disease processes. True, some diseases characteristically have actively-congested blood in the sick area. Other diseases have passive and sluggish blood circulation. In either case, however, the

blood is NOT RAPIDLY MOVING TO AND AWAY FROM THE AREA OF ILLNESS.



A. Artery

V. Vein

C. Capillaries

The most wonderful function of life. Arteries divide into capillaries which in turn reunite to form veins completing the closed circuit of the bloodstream.

The short fast from solid food (starches, fats, proteins) at the same time indulging in liberal amounts of fruits, fruit juices, and vegetable juices provides the day of opportunity for blood-cleansing of a very high and effective kind.

Cleansed blood flows freely and rapidly with *normal* heart action. Congested, polluted blood flows slowly even with the heart overworking.

The 24-hour short fast, described on the following page, derives its effectiveness from the fact that the shift in body action is made from "house-building" to "house-cleansing." Fruit minerals and vitamins provide the material for glands and tissues to cleanse and renovate.

24-Hour Plan for Colds

At the onset of a cold, the first tingling sensation in the nose, the first sneeze, you have your warning that you

have been allowing the proportion of refined or mineral-deficient food in your diet to go too high, thus displacing the normal amount of alkaline-ash, mineral-rich, vitamin-rich foods that you should eat each day.

At this initial stage you are also being notified by Nature that you have been breathing polluted air, stagnant air, too-dry air from over-heated rooms, and that your skin perhaps has been laying down on its job and because of this, Nature is going to make the nasal membranes do extra eliminative work. At this point, your job is to do your utmost to improve the chemistry of your blood.

Decongesting the Membranes

The blood chemistry change initiated by the plan is easy, effective, direct, brief and to the point. Merely refrain from all solid food for one day; in extremely bad colds, two days. *Take nothing but fruit juice and water.* Grapefruit juice and orange juice are very good for the purpose. Tomato juice may be used if the citrus fruits are not easily available. The main point is to abstain from starchy, sugary and protein foods. The fruit-juice minerals and the vitamins will help your body throw off the cold by giving your liver a chance to clean up the toxins, by giving your lungs a chance for better ventilation by stepping up the mineral power of the blood. This whole process gives the over-worked nasal membranes an opportunity to shrink and *decongest*.

Briefly, this process shifts the work of elimination *back* to the normal and *away* from the mucous membranes. This fruit juice liquid fast enables Nature to relieve the mucous membranes of their abnormal eliminative work during the cold.

By the end of 24 hours, you will probably find that your head has begun to clear. You will be amazed at the

improvement. By the second day, the worst symptoms of your cold may have disappeared. If, however, the head cold is of the stubborn and severe type it will do no harm to continue this fruit juice schedule for a total period of 48 hours.

CHAPTER TWENTY-TWO

COLDS—THE DIETETIC IMPERATIVE

"Our ignorance of ourselves has given to mechanics, physics and CHEMISTRY the power to modify the ancestral forms of life. MAN SHOULD BE THE MEASURE OF ALL. We must realize clearly that the science of man is the most difficult of all sciences."

—ALEXIS CARREL.
Celebrated Biologist.

THE KNOWLEDGE of the relationship between nutrition and colds forges another link in the chain of your practical knowledge. Useful, practical, instantly usable knowledge about health should, more and more, supplant mere hopes and desires.

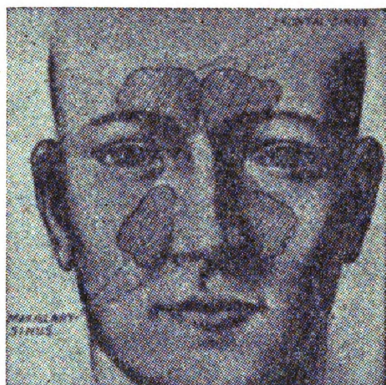
Your continuous study through the previous chapters and disciplines shows a perseverance and constancy of *purpose* that is most praiseworthy—TO DATE. It is far better than "wishful thinking" about health. Of "wishful thinking," we all possess more than is good for us.

Each time you learn of or see a new connection between food and the condition of the body, you are cementing a more useful and dependable basis for your health efforts.

Bionomic knowledge is realistic and actual. Such knowledge puts a solid floor under *fact*, and a ceiling against

unbridled *fancy*. All too frequently, so much of what we know is simply not true. A single fact is worth ninety-nine fictions. If we have not learned this before middle age, our estate in life appears to be hopeless.

In "The Tempest," the wand of Prospero conjured an unreal and shadowy world before the vision of Miranda. It *seemed* a substantial world but was not. It was illusion. On the other hand, your own serious efforts at learning how to remake your body, blood, nerves and glands have already begun to conjure a very real and substantial world of well-being. As your body is ever-changing, ever-renewing, ever-repairing, your destiny as to life and health



The functions of the sinuses are many; they help to warm the air breathed in; they trap many disease germs; they give lightness to the head bones and resonance to the voice.

seems not so much a matter of caprice, luck or accident as it formerly did.

Having considered an entirely new philosophy and science of "colds," let us launch upon a brief study of the nasal structures and ear apparatus, the influences of certain specific food elements and the effects of excessive table salt and excessive starchy food on these areas and structures.

The Breath of Life

Ever since the breath of life was breathed into the nostrils of Adam by God, every human being since has had to fill his lungs every five seconds with a simple mixture of gases—the air.

With all the giant strides of science, we know curiously little about the air we breathe *in* and even less about the air we breathe *out*. Most people have become familiar with the word MOLECULE. To show how strikingly small a molecule really is, consider that there are about 1000 trillions of molecules in a single cubic inch of air.

The so-called “flame of life” is really believed to be in our expired (breathed-out) air. The discovery has been made that there are approximately 200,000,000 strange particles in every exhaled breath, each particle being nearly *100 times the diameter of an ordinary molecule of air*.

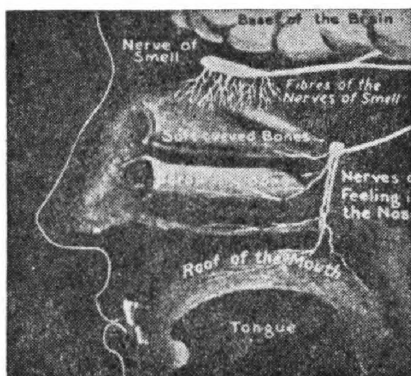
Science is simply baffled by these particles. We do not breathe in these particles, some of which have been found to be electrically negative, others electrically positive. Science queries: “Are these particles in every exhaled breath originally from the sun itself?” “Are these the cosmic rays?” The answer is still shrouded in mystery, yet we all exhale 200,000,000 of these mystery particles every five seconds. Thus, the “flame of life,” a poetic fancy, is revealed as a tremendous and awesome fact.

In a later chapter, many strange and interesting phenomena about breathing will be set forth in detail.

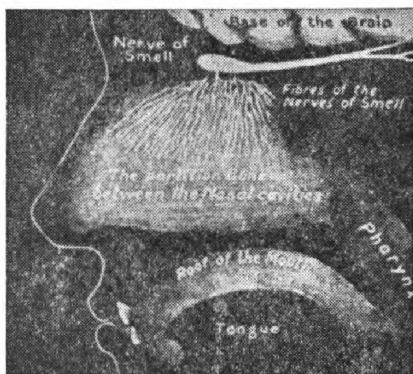
The Nose as Thermostat

The intricate and beautiful interior nose results in an arrangement by which the nose acts as a sort of thermostat in heating the inhaled air.

As all the innumerable spaces and caverns within the nose are covered by a continuous sheet of mucous membrane, Nature has a ready-made machinery in which to pump more blood or less blood as the occasion demands.



In the first of these pictures we see the outer side of the nose, with the nerves of smell and feeling, and the second picture shows the inner part of the nose, with the dividing plate of bone between the two nostrils.



When more blood is required in the nose to heat cold air, such as in the winter time, more blood is pumped into these cavernous spaces. This causes a swelling of the mucous lining and narrows the space through which the air must enter.

The air is thus brought into contact with a heated sur-

face and warmed before it enters the lungs. On a warm day, the simple reverse of this process takes place. The membrane shrinks, the cavernous spaces are hardly used at all and thus only a small quantity of blood passes through the blood vessels. This intelligently-directed *shrinkage* of the mucous membrane widens the space in the nose, which accounts for the fact that nostril breathing is ordinarily freer in the warm weather.

The Nose as Filter

Another outstanding advantage derived from the habit of breathing in through the nostrils instead of the mouth is that thousands of tiny nostril hairs have the opportunity of filtering the air and removing many noxious and foreign substances that otherwise would pass right through to the lungs if inhalation is made through the mouth.

On the open ocean, there are only about 32,000 minute solid particles in every cubic inch of air. These suspensoids in the air over the oceans are chiefly tiny salt crystals. Over the land the number of particles increases prodigiously. In farm country, particles increase to 150,000 per cubic inch. These suspensoids are chiefly from sand, soil, rock radiation and smoke. These amounts do little harm.

However, when the quantity rises to millions per cubic inch, danger to health exists. Suspensoids in the air over large industrial cities, particularly where soft coal is burned, may rise to the figure of 8,000,000 dust and dirt particles to the cubic inch. These, together with the noxious fumes, including carbon monoxide gas, reveal why humans instinctively feel the urge frequently to get away from cities out to the open spaces of farms, forests and fields.

Just as the tears that flow in the eyes have very wonderful germ-killing properties, so the membranes of the nose, when vital and healthy, generate natural substances that prevent serious air borne diseases.

Very recently, a new and powerful preventive of influenza has been found in the normal watery discharges of the nose. This protective substance is similar to the antibodies which Nature circulates throughout the bloodstream to combat disease and limit its spread.

In our health efforts we should be concerned principally with building strong and vital tissues in the nasal passages and caverns, as well as elsewhere.

We must never forget the direct connection between food elements and strong resistant mucous membranes. This is more effective and more intelligent than worrying about germs, germ killers; with treating effects instead of causes.

The Germ Theory of Colds

There is no effective method for the prevention of colds by vaccines, regardless of claims. Most of the eminent investigators have concluded that cold vaccines are of NO VALUE AT ALL. But practically all are agreed that the most important step is that of prevention. We are learning rapidly that considerations of diet in several special ways are very significant factors in this prevention.

Germs are all about you from the moment you are born until you die. YOU CANNOT AVOID GERMS. Germs are scavengers, destroyers of waste material. Germs may help to *develop* disease if your bloodstream is impure, but they are not entirely the *cause* of disease. Your resistance is the decisive factor.

Analogy: Swampy, stagnant, polluted ground attracts

mosquitoes and other insects. These insects DO NOT CAUSE THE SWAMP. Clean out and purify the stagnant swamp and the insects depart for another polluted area of ground.

In the economy of Nature, germs have a place and that place is in the role of scavengers. Vultures, jackals and other organisms that feed on carrion waste, help to keep the disintegration economy of Nature balanced on the plains and in the forest. GERMS DO THE IDENTICAL THING IN THE BODY.

Just as acid soil of an unbalanced chemistry brings insect infestation and crop destruction, so an impure and acid-laden bloodstream becomes the playground of germs and their "families."

Primary Causes Versus Surface Effects

As with many other diseases, the deep and fundamental cause of "colds" is blood loaded with waste material that should have been eliminated through the skin, the kidneys, the lungs and the bowels. You may have caught the *germs* or the blood circulation may have been disturbed by a draught or wet feet, but one does not catch a cold primarily that way. Wet feet, sitting in a draught, chilling are all bad for blood circulation and these happenings definitely depress the vitality, but the *cause* of colds is even more fundamental.

Again, let it be understood that the underlying CAUSE of colds is acid blood—specifically—a lowering of the alkaline reserves of the blood. If you "catch" a cold (so-called) it is merely because you are toxic and ready for the germs that come along and start up "housekeeping" in your nose or throat. In this connection, super-SAT-

URATION with Vitamin C, with its magically effective toning of the blood vessels, is of great importance.

Keep your body clean inside by a biologic diet and germs will have less to work on and you will keep freer of "germ" diseases. Here your Disciplines of the first few chapters show their worth.

Furthermore, when you have grasped the central idea of how Nature will inflame the membranes of the nose and throat in order to throw off waste which the kidneys, skin, lungs and bowel have failed to do, you will AT THE SAME TIME glean the important clue to other mucous membrane inflammations.

* * *

Rule—View fevers, skin eruptions, colds and other inflammations of mucous membranes as healing efforts of Nature—as vicarious work that Nature finds it necessary to perform due to the failure of the *ordinary* eliminative channels to do their work.

Intensive Vitamin A Plan

Vitamin A has often been heralded as a specific for curing colds. The taking of large amounts of Vitamin A after a cold has started has little to do with relieving any particular cold.

The real secret, however, is always to have ample Vitamin A stored in the body at all times. Vitamin A will lessen the frequency of colds, decrease their severity and shorten their duration.

25,000 Units Daily

Curious changes due to Vitamin A deficiency were first reported among Chinese soldiers. Following serious Vita-

min A deprivation, a peculiar "lichenization" or roughening began to spread gradually over the skin but particularly over the back surfaces of the upper forearms. Later this was described as "toad-skin." Amazing cures were made by scientists who administered enormous doses of Vitamin A (over 100,000 units daily) and the skin lesions miraculously cleared up.

Where Vitamin A shortages are suspected, a relatively good saturation with Vitamin A can be achieved by taking 25,000 units of Vitamin A daily for a number of weeks. Daily requirements are estimated to be 5,000 units daily for adults, so by using five times this amount, good results in attaining Vitamin A body balance may be expected. Cod-liver oil or cod-liver oil tablets may be used. Halibut-liver oil is a much richer source and Percomorph liver oil is the richest fish liver oil source.

Food Sources

Green plants and many yellow vegetables and fruits contain pigments which while not actually Vitamin A, are the precursors of Vitamin A. When these pro-Vitamin A pigments are consumed in food, the human liver converts them into Vitamin A. Average adult serving of the following vegetables yield Vitamin A as stated.

Carrots, $3\frac{1}{2}$ oz. serving, 10,000 units.

Tomato juice, 4 oz. glass, 1400 units.

Summer butter, 1 oz., 1800 units.

Winter butter, 1 oz., 900 units.

One egg, 500 units.

Summer milk, 1 pint, 950 units.

Winter milk, 1 pint, 550 units.

CHAPTER TWENTY-THREE

COLDS—EAR MECHANISM—VITAMINS

"A temperate diet arms the body against all external accidents; so that they are not so easily hurt by Heat, Cold or Labor."

—BENJAMIN FRANKLIN.

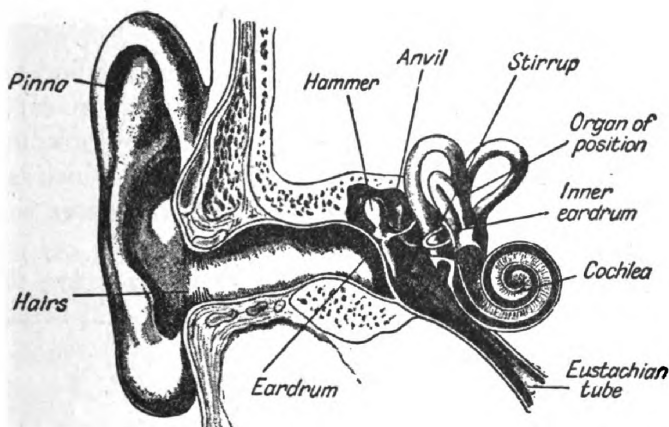
THE UNFORTUNATE sequel to the common cold may be an involvement of the special sense of hearing and its mechanism, which connects DIRECTLY with the breathing passages of the nose. Anything that involves the nasal linings, especially processes of inflammation and congestion, need merely a slight *extension* to reach into the tubes and cavities of the hearing mechanism.

Colds and the Hearing Mechanism

Consider some of the wonders of the ear. Perhaps you have never thought of your external ear as a trumpet wondrously designed to collect the sound waves moving through the atmosphere. Yet this is why a deaf person instinctively cups his hand to his ear so as to augment the size of the "trumpet."

This trumpet (wonderful though it is) is not so highly developed in man as in some of the lower animals. In rabbits, the receiving trumpet is especially funnel-like, perfect for scooping in the sound waves. Moreover, incredibly quick muscles at the sides of a rabbit's head direct

the open cup of the ear towards the sound. When you see a sleeping dog or even a horse suddenly prick up the ears, you may know that the hearing apparatus is *instinctively* being brought into play.



Diagrammatic cross-section of auditory apparatus, clearly showing the wondrous mechanism of hearing. Natural "technology" of human ear is the engineering basis of all modern sound transmission and reception systems.

Many of the lower animals are devoid of important senses. The little field mole entirely lacks sight. Fishes, so far as is known, do not have a sense of hearing. When an ardent fisherman becomes angry should somebody talk loud when he is angling for the fish, the disturbance and the resultant frightening of the fish comes about not because the noise is heard by the fish, but rather *felt* by it.

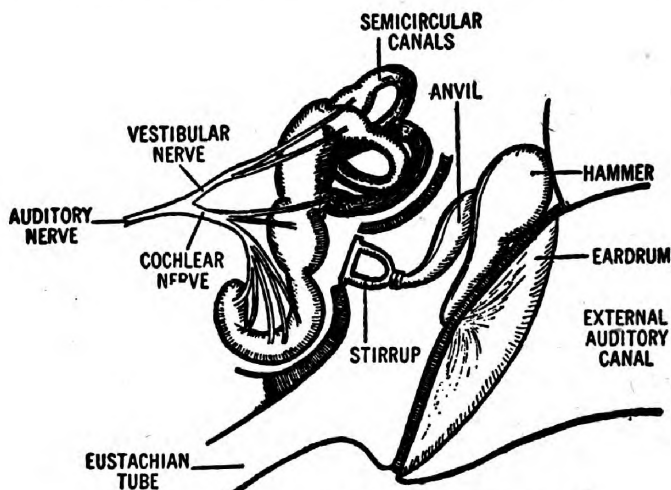
Anatomy of the Human Ear

There are three parts to the human sound perception system, namely, the external, the middle and the inner ear.

The external ear consists of the trumpet and the hollow tube leading back into the head from the trumpet. It is in this tube that earwax collects. This yellow wax is Nature's provision for keeping small insects out of the ear. In reality, the glands which secrete this sticky, waxy material are modified sweat glands.

In the anatomy of the hearing apparatus, we find separating the outer ear from the middle ear the marvelous transparent "drum" (tympanic membrane). It looks much like a tiny umbrella. It is the sounding board which is set into vibration as the sound waves from the outer world strike against it.

Strung across the cavity of the middle ear are three small bones, so marvelously contrived and still fitted so



-The Internal Ear (diagrammatic).

Illustrating the auditory and equilibrium structures.

The tracing of a sound wave from the outer world thru the hearing system to the brain is a glimpse of one of the great wonders of your body.

loosely, one against the other, that they vibrate exactly to the vibrations of the drum. Nature has given them the duty of conducting vibrations from the drum across the middle ear by way of the three tiny bones, to a small "window" which looks in to the middle ear.

These little bones, from their shape, have been given the names, "hammer," "anvil" and "stirrup" respectively.

There is a canal, also, which leads from the middle ear into the throat. It causes considerable discomfort when you have a cold or sore throat. This canal is called the "Eustachian tube."

The Eustachian tube is valuable to you because it helps to equalize the air pressure on the two sides of the drum. You can actually feel this when you pass through a tube or subway tunnel under a river. The increased air pressure forces the drum inward. You can immediately relieve this feeling of extra pressure by SWALLOWING, because the act of swallowing opens up the Eustachian tube and permits air to rush into the middle-ear cavity, thus equalizing the pressure.

Colds and Ear Tubes

Sometimes the inflammation and resulting infection from a head cold or sore throat gains access to the middle ear through the Eustachian tube, causing symptoms of earache. **THIS IS THE PRINCIPAL REASON WHY A COLD IN THE HEAD SHOULD BE COMBATED PROMPTLY AND DECISIVELY.**

The inner ear contains a protective fluid, and floating in it are two of the most curious and delicate contrivances in the body. One of these structures is called the "cochlea"

and it is shaped like a snail's shell. This structure contains a fluid and to its walls are connected the fibers of the auditory nerve (hearing nerve).

Now connect these various anatomical parts and see the marvel of hearing which we take so much for granted UNTIL THE SENSE OF HEARING IS THREATENED.

Sound waves beat against the DRUM, which in turn vibrates and sets into motion the chain of three tiny bones in the middle ear.

Then the last bone of the three beats against the oval "window" of the inner ear, setting up waves in the fluid of the "cochlea."

These waves beat against the "cochlea" and shake the fluid inside of this contrivance. The disturbance in energy and cellular construction is taken up by the auditory nerve and telegraphed to the brain where it is interpreted as speech, noise, music, thunder and all the gradations of sound in between.

Equilibrium and Seasickness

Even the sense of balance and equilibrium is maintained by the hearing apparatus. The other contrivance of the inner ear referred to consists of three "semicircular canals" and several chambers which contain a fluid, also a number of small objects called "ear stones."

If you should suddenly do a "hand-stand" or stand on your head and could by some magical means see inside your ear at this moment you would observe how the fluid would swish around in various directions in the canals throwing the ear stones here and there.

This change in relative positions of the fluids and ear stones is perceived by the nerve endings of a special nerve concerned with "balance" and "equilibrium"; thereupon, a message is flashed to the recognition centers of your brain, telling you "where you are," enabling you to maintain balance in the upside-down position.

In seasickness, it is this apparatus of balance that is disturbed and thrown out of equilibrium, rather than the stomach, so seasickness may be more properly considered an EAR disturbance, not a disturbance of DIGESTION. A 24-hour fruit juice "blood-wash" immediately before an ocean voyage is a good insurance against seasickness.

Nutrition and Hearing

The purpose of considering the basic anatomy of the ear has been to give you an intelligent groundwork for understanding the mechanism of hearing and an appreciation of the marvelous and delicate factors involved, to the end of learning that your sense of hearing and acuteness of perception in this important department of life, is conditioned TO A GREAT EXTENT—*by your daily food.*

Consider now that *all these various departments and canals and chambers and recesses* of the hearing apparatus, including the Eustachian tube which connects with the nose and throat, are lined with mucous membranes.

These mucous membranes *swell and congest* when the diet is improper, the same as the mucous membranes of the nose. It is not difficult to understand that when the lining membranes of this marvelous delicate apparatus of hearing are swollen, distorted and congested with stagnant blood, then the intricate and marvelous series of sound conductions from the outer world TO THE

BRAIN are reduced and impaired with the inevitable consequence that the sense of hearing becomes diminished.



Draughts and continued exposure to chills, tend to contract the muscles of the neck. This in turn contracts and congests the blood vessels, thus diminishing blood circulation to nose and ears.

Deafness and Hearing Aids

If the facts about bionomic, high-alkaline, mineral-rich, vitamin-rich EATING were generally known—if all civilized people were to become students of the master science of correct eating—if men and women everywhere would only LEARN HOW TO EAT, a vast amount of deafness would vanish from the earth.

We considered in Chapter Nine that glasses may temporarily increase the ability to see (at the expense of further loss of natural vision). It is also true that some hearing aids of a mechanical nature while magnifying

sound, only do this at the expense of a gradual reduction of what natural function is left.

All people worried and concerned about impairment of hearing are urged to try out the rejuvenating effects of correct eating. It is of course understood that this refers to functional loss of hearing, not the loss of hearing brought about by accident or injury to the ear anatomy. Right living can accomplish nothing but good even if in some cases it does not restore full desired function. **RIGHT LIVING ALWAYS TRAVELS IN THE RIGHT DIRECTION.**

Perfect Your Hearing

In the enlarging and perfecting of your life, do not be satisfied with mediocre hearing if you can improve it. Make the hearing apparatus carry its full load and furnish full exercise and cell development to the hearing centers of your brain. You start to hear when sound reaches 16 vibrations per second. If you could hear down as far as one vibration per second, the noise in a growing tree would be deafening. Normally you should hear up to 30,000 vibrations per second. Beyond that, there are sounds of incredible nature and vibratory rate which are closed to the human hearing apparatus.

We live in a world of overtones, most of which we cannot hear, but resolve now, by bringing your body and its various parts to the highest state of perfectibility, to hear keenly and acutely, because in the renewing of your body, the full development of every organ and special sense whether of touch, taste, smell, sight or hearing, contributes to the total scheme of physical power, health, happiness and vitality.

As we all know that moral strength is increased by overcoming temptation; that muscle strength is increased by doing; let us then apply this law universally in our quest for health and youthfulness.

Determine now that each cell and special sense—sight, smell, hearing and the others—must be cultured to the highest point of its ability.

Improvement Points

Salt vs. Calcium—Too much table salt may produce water retention (waterlogging) of the mucous membranes. This is undesirable in colds, chronic catarrh and various types of deafness. A speed-up in the metabolism of CALCIUM immediately follows a decrease in intake of SODIUM (one of the two elements in table salt).

A month or two of sharply reduced salt intake is often beneficial in the management of sinus difficulties, chronic colds and certain defects of hearing. Benefits come about when restriction in salt (sodium) causes *calcium metabolism* to pick up to normal.

Sneezing—Nature causes sneezing so that the siphon-like action of the rushing column of air across the sinus openings will help to empty the sinuses of stagnant mucus. Nature's excellent arrangement here (the pattern for the mechanical siphon) not only helps to clear the sinus cavities in colds but may also help the Eustachian tube tissues. A simple way to induce sneezing is to tickle the nostrils with a feather or with paper twisted into a twill.

Ear Exercise and Massage—To help maintain free movement around the three little sound-conducting bones in the middle ear and to keep the tiny muscles of the

middle ear elastic, grasp the lobe of the ear firmly between thumb and index finger and pull downward in a swift gentle jerk. This may be done several times a day. It exerts a mild *traction* exercise on the soft tissues of the internal ear. *Auto Massage*—Index finger may be slightly moistened and slipped into the opening of the ear. Move the finger piston-like (inward and outward) about ten times gently. Causes alternations of pressure against the drum which helps to massage these tissues. Good for head noises and ringing in the ears and frequently beneficial for the hearing.

Neck Exercise—In chronic colds, sinus troubles and hearing difficulties, neck exercises help to stimulate the local nerves and free the blood circulation in the neck muscles. Rotate the head from side to side, also forward motions. Stretch and twist and relax. One, two or three minute sessions daily may prove very helpful. (Never exercise the head backward.)

Starch and Vitamins—Low starch intake also overcomes waterlogging of the nasal membrane. (Low starch intake would mean sparing use of bread, cereals and other starchy foods.) Increased Vitamin B Complex intake and intensive Vitamin A intake are both desirable for ear membranes as well as for the nasal areas.

CHAPTER TWENTY-FOUR

MIDDLE AGE—A SCIENTIFIC APPRAISAL

"Diseased Nature oftentimes breaks forth in
strange eruptions."

—SHAKESPEARE: HENRY IV, Act III.

COLDS, SINUS INFLAMMATIONS, eruptions of toxins through the nasal membranes, are not respecters of age, occupation or social standing. They afflict children and grownups in virtually all of the age brackets.

Middle Age and Happiness

However, a special word to those in the middle-age brackets is here timely, for these age brackets have been more or less the step-children or the foster-children of science.

A great deal of study has very properly been given to the welfare of infants and children, but up to now, those in the ages of forty, fifty and sixty have been largely left to their own devices.

Up to now, middle age health problems have been treated with slogans, suggestions to the effect that "life begins at 40" and the like. This period of life has been notable for its green pastures of generalization and Pollyanna encouragement.

The fact remains though that no one needs happiness more than the man or woman of middle age. No young

person can appreciate happiness and health as can the intelligent man or woman in the time stream of forty years, fifty years and beyond.

At fifty, more or less, both men and women are capable of more intense and deeper satisfactions. Sad to relate but true, for most people this period of life is a very troublesome time with the occasional moments of respite and joy diluted by chronic ailments that might (with knowledge of correct living) have been prevented.

Middle Age for Best Achievement

Today we can change this. There is just as much law and order, just as much chemistry and physics in the cells of middle-aged people as in the tissues of those young in years.

In the past the secrets of all life have largely been mysterious and unfathomed. Today we can peer into these regions and see a perfection of symmetry, a pattern of youthfulness and health that has previously been denied to the vision of mankind.

The door to a vaster world of marvels and mysteries, of health attainment and more enjoyment is being opened. Just as in the whirling microcosmic depths of a grain of sand there may be more particles whirling about than there are stars in the heavens—so we are able to perceive that in every human cell of every tissue, of every organ, in every human body, *every particle of matter* is aglow with miracle and power.

As we reflect upon the marvels and wonders of our physical body, we too, like Moses standing before the burning bush, may hear the voice of the Lord: "put off thy shoes from thy feet for the place where on thou standest is holy ground."

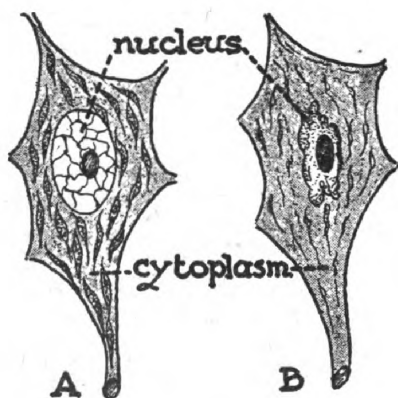
(Exodus 3:5.)

Health and Personality

An integrated grownup personality is impossible save as men and women find things outside themselves in the interest of which they can forget themselves. Everyone admits the truth of this.

It will be desirable here for me to add another condition as a prerequisite to the mobilization of self into a whole, wholesome, unified, sound personality. *This second requisite is good health.*

The whole end of the BIONOMY OF POWER is to enable the student to turn attention so wholeheartedly to himself and his health that presently he may completely forget himself. One cannot have outside interests—one cannot discover values of supreme and breathless interest—one cannot, in fact, lose himself completely in the creative exhilaration of accomplishment if the blood circulates poorly, if the muscles are debilitated and the glands are functioning at reduced speed and efficiency.



(A.) Diagram of well-fed, rested nerve cell.

(B.) Tired, exhausted nerve cell. At middle age, the nutrition of the nerves should be a chief concern in the aims of "feeling better, looking younger."

In short, a sick body so intrudes itself upon the attention that it is impossible to develop along sound and

grownup spiritual lines. In a nutshell, make health the first requisite and many other things will follow under their own power.

League of Nations

The political accomplishments of the League of Nations during its short life will not be viewed as great by the historians of the future.

Curiously though, a subcommittee of the League of Nations accomplished a tremendous lot of good. This subcommittee made vocal some of the crying food abuses of civilization.

The decree warned the civilized nations of the world to study disease in the light of food deficiency, mineral undernourishment and vitamin starvation.

This actually may represent the most constructive and far-reaching work ever accomplished by the now defunct League of Nations.

Intolerance

Popular ideas to the contrary, it is no mere play on a word to say that at times INTOLERANCE may be a very desirable quality.

Recall your school days. Your teacher was very intolerant, and properly so, about your errors in spelling and arithmetic. For your own good the teacher could not compromise and tolerantly admit that there are two right ways of spelling a word or solving an arithmetic problem.

If a bridge builder were to be broadminded and tolerant about the foundations of his bridge, it might later collapse. In his work there is no room for broadmindedness or tolerance toward error. On a battlefield, tolerance *might be treason*.

In the development of your body and mind, cultivate helpfulness and broadmindedness toward others. However, concerning your own lapses in self-discipline, your self-indulgence and toward your own mistakes—BE INTOLERANT.

Exert tolerance mainly toward people, not toward *principles*. You can safely afford to be *intolerant* in your unswerving allegiance toward truth wherever you find it.

CHAPTER TWENTY-FIVE

SECRETS OF BLOOD CHEMISTRY

"The first wealth is health. Sickness is poor spirited and cannot serve anyone; it must husband its resources to live. But health answers its own ends and has to spare."

—RALPH WALDO EMERSON.

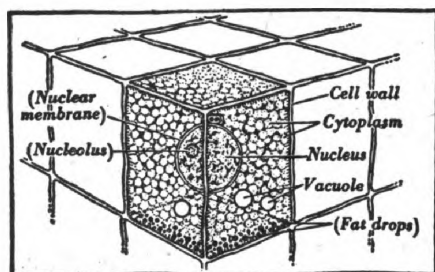
OUTER APPEARANCES deceive! Just as the luscious-looking fruit of the imParadised Garden masked an eternal deceit in its core—so the outer appearance of a human being may hide from view an impending breaking-up and disintegration.

The very core of vitality and strength is in our blood and in our arteries. Abnormal blood pressure is the unseen saboteur of youthfulness and health. ABNORMAL FOOD is in turn the *master* saboteur of resilient, youthful arteries and blood.

Since the time of Aristotle, the length of human life has been thought to be some multiple of the period of growth. The idea that a century is the proper span of human life has often been stated, but about a century ago Buffon, the great French naturalist, startled the world with his concept that the normal life span of any creature is SEVEN TIMES the length of its natural growth.

This is to say that an animal taking two years to mature will normally live to the age of fourteen. Another

animal taking five years to mature will live out a life span of 35 years. On this basis a human being maturing at twenty would ideally have a life span of 140 years. Obviously, no one yet knows what the multiple is, but we do know that human beings hardly average three times the growth period.



The bloodstream propels minerals, vitamins, proteins to build cells and also drains waste material. A cell is the basic unit of living matter.

To those who inquire why human beings fail to live out a normal life span, perhaps the most basic answer is **FOOD**—food as it affects the composition of the blood—food as it affects the structure of the arteries and capillaries, for in these things is the very essence of life itself.

In this chapter, let us then consider certain phenomena of the blood, blood cells, blood tubes and blood pressure.

Blood of Kings Will Tell

The twilight of the kings was not brought about entirely by the political upheavals that have culminated in a global war.

Hemophilia, (the bleeder's disease), a peculiarity in the blood of the Hapsburg dynasty, has had an important political significance during the last twenty-five years.

How much of the disorder in European countries dur-

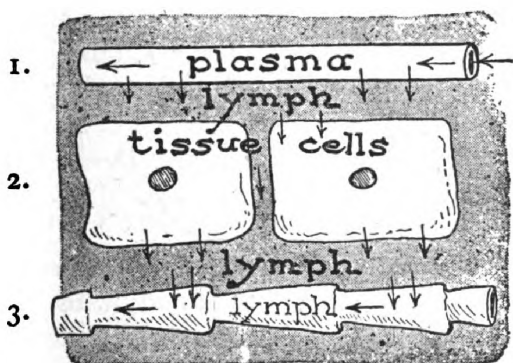
ing the last fifty years, that has finally resulted in a second world war, might have been averted if this strange malady of BLOOD had not contaminated many of the royal families of Europe? An interesting bionomic speculation even if it is a sort of wisdom after the fact.

History will not record this of course and only the future wizard nutritionists will be able to specify the nutritional brain faults of royalty and world leaders that have so deeply affected the movements of history as well as of millions of humans and their unborn.

Malady of Sons Only

To the human eye, aided by the microscope, the blood appears as a yellowish-colored fluid with little discs (red and white corpuscles) floating in it.

In a normal person, blood that is shed through a wound



1. Capillary filled with blood cells and nutrients.
2. Plasma seeps out through capillary wall to bathe and nourish body cells.
3. Cell wastes pass out through walls of cells, are collected by lymph tubes, re-enter veins, reach right side of heart.

clots within a few minutes, but in the hemophiliac (numbering dozens of European royalty of the Hapsburg strain) clotting may require from one to five hours. In such abnormal people therefore, a small wound may result in a dangerous or even fatal hemorrhage.

Curiously and inexplicably, females transmit the disease from generation to generation, but never are victims of it. It is a malady only of sons, not of daughters.

The clotting of blood—its change from a liquid to a solid state—is one of the strangest and important properties of blood, for this ability to clot is a precise safety mechanism which prevents further loss of blood. Physiologists have found it difficult to explain the chemistry of this process. The *main* facts of how blood clots are now known, even if some of the *details* are still in question.

Sea of Life

All the innumerable cells of which our bodies are composed live in the blood, or, at least, in liquid derived from the blood (the lymph). As individuals we live in the air, but as animated collections of cells we carry on our existence strictly in a water medium. The literal truth is that cells are aquatic organisms, MIRACULOUSLY RESPONSIVE TO CORRECT FOOD.

The bloodstream is like a very complex internal sea. The blood supplies all parts of the body with food material and oxygen. It carries off the waste of the cells to be eliminated to the exterior through the proper organs. Restlessly and endlessly, life forces of blood wax and wane in power—a power determined largely by *food*—above all by *minerals*!

Analyzing Life's Basis

Even when we have analyzed blood into liquid and solid matter, we are still a long way from understanding its composition. The liquid of the blood is most complex. It contains proteins, fats and sugars in amounts that can be determined by chemical analysis, but there are many other organic substances in the blood in such minute concentrations that it is difficult or impossible for the chemist to estimate their precise amounts. The final *definitive* word of analysis will never be written. The blood is the unplumbed secret substance of God.

Nutritionally, the blood contains minerals such as salts of sodium, potassium, calcium and magnesium. These salts in the balanced proportions in which they exist in the blood are essential to the life of the cells. As remarked in an earlier chapter, it is interesting that in this respect the blood shows a distinct resemblance to sea water.

The most practical point to be remembered is that the blood serves as an intermediary or middle man between the cells and the outside world. As a mere mechanical fact, the blood is contained in a closed system of tubes—arteries—veins and capillaries. But the walls of the smallest tubes, the capillaries, are thin and permeable, and these permit, not the red corpuscles, but the *fluid part* of the blood to mingle with fluid in tissues such as the stomach. And by a marvelous *reverse* process, waste fluid from these tissues can enter the blood again and be carried off.

The red cells move single file through the tiniest capillary but the accompanying plasma liquid *leaks out* to nourish the cells, and is then collected for the return journey to the heart.

Further point: Where the blood circulates through the

lungs, pumped there from the right auricle of the heart, it picks up oxygen and where it circulates through the walls of stomach and intestines, the blood picks up or absorbs water and the products of digestion. Finally: While passing through the lungs the blood gives off carbon (dioxide) and water. This is the exchange of blue, used blood for bright red, fresh blood. This is the eternal miracle and even yet not explained in every detail.

Blood and "Ventilation"

In circulating through the skin the blood gives off water, vapor and *visible* perspiration, and in circulating through the kidneys it gives off water and a number of organic waste products, such as urea and uric acid. It serves as the vehicle through which the cells of the body are supplied with the things they need from the outside world and through which at the same time they get rid of the waste products that are no longer needed and which are returned again to the outside world. In short, blood is the *miracle* substance in a *miracle* system of pumps, motors, tubes and conduits.

Physiologists vary somewhat in their estimates of the total quantity of blood in a man's body, but it probably amounts to something like one-tenth of the weight of the body.

Magical Equilibrium of Blood

A healthy normal person may lose as much as one-third of his blood without fatal result. When there is a great hemorrhage of this kind, the blood in the blood vessels gets back rather quickly to its normal volume by abstracting water from the tissues.

The patriotic and praiseworthy action of blood donating for the plasma banks is no tax at all on the prodigious powers of blood recuperation.



Diagram of greatly enlarged capillary tube showing white blood corpuscle escaping through capillary wall to reach a scene of accident or infection.

In spite of the continual inflow and outflow of water and dissolved substances, the volume and also the average composition of the blood in health remains practically constant.

One may drink quantities of water, or on a hot day or after strenuous exercise one may perspire enough to lose quantities of water, but the volume of the blood in a wonderful way remains unchanged. The wisdom of this provision is beyond praise.

This precious "solid-liquid," the blood, is carried in long tubes called blood vessels and while the *blood chemistry* itself is of paramount importance, the arterial and vein systems that *carry* blood are almost of equal importance.

CHAPTER TWENTY-SIX

RE-ENERGIZING BELOW-PAR BLOOD AND ARTERIES

"Vitamins are substances whose presence in food is essential to our well-being—their absence making life impossible. What more pressing problem today than food?"

—DR. BENJAMIN HARROW,
*Eminent Physiologist,
Columbia University.*

IT IS to the lasting credit of the human race that "hope springs eternal in the human breast."

For the most part we all feel that we are capable of better things than we are doing; that our true abilities are greater than our usual daily output. We feel that our procrastination or indolence may be a fatigue of the mind rather than a fault of character.

At more or less rare intervals we are surprised at our capacity for more than our usual accomplishments. At these times we seem filled with success, although tomorrow again we are conscious of obstacles.

All during these days of "ups and downs" we long ago learned that to "feel well" helps us to think more clearly; that clear thinking is a profitable and delightful pursuit when we possess it, whereas when the body nags at the brain, clarity of mind, happiness and well-being desert us.

Food—Temperament—Blood-Making

In these days of global wars, uncertainty and even insecurity, many people of high-grade mentality stand helpless before the tyrant of preventable illness because they have learned little or nothing about their bodies and the effects of foods upon blood, nerves and blood vessels.

For those men and women of age 35 onward who have learned nothing of the mysteries and chemistry of their bodies and their daily foods—tragedy stalks in hidden, baffling symptoms, loosely classed as fatigue, although this fatigue may be a compound of anemia, headaches, lowered blood alkalinity, low blood pressure, high blood pressure.

True, a person in such a state invariably tries to keep on, hoping for a magical change back to health again, even though frequently there is no sign that any disease exists. This is because the early and middle steps of nutritional collapse within the body are not in plain evidence on the outside, nor do they always give rise to visible symptoms.

Dietary Magic

Eminent nutritionists are no longer indifferent to the vast horde of high-calibre men and women who have become neurasthenics and failures. Scientists of metabolism have found out that low vitality and premature old age, blood chemistry alteration and blood pressure abnormalities—are to a tremendous degree aspects of nutritional failure, mineral-vitamin starvation and unwitting dietetic crimes.

It is a fact that Nature permits us some *slight* latitude

in obedience to her laws of body chemistry. Logically and remorselessly, however, Nature places a bar sinister on flagrant violation.

Too little of the food element IODINE and Nature punishes with thyroid or mental changes. Insufficient food IRON or food COPPER and anemia is the result. A shortage of food CALCIUM or food PHOSPHORUS causes our bones, teeth and nerves to pay the penalty. Too few VITAMINS C, D, A, B and the rest of the planet's most vital alphabet and Nature stigmatizes the shortages with failing vision, nerve collapse, weakened blood chemistry, over-tensed and over-brittle arteries.

In effect, Nature produces food for the human race and says, "Here is friend or foe, according to the way you use or misuse this food." Now, for the first time in civilized history, the hope for better health, better blood, better arteries and for the outwitting of old age, rests to a tremendous degree upon the sheer, mutual chemistry of correct food and blood cells.

Imminent Solutions to Life's Problems

In the study of the blood cell and the capillary, as well as of food and its inner forces, new vistas open before our eyes. There lie ahead for many who will strive earnestly, the thrill of resilient arteries and muscles, a fuller enjoyment of the passing moments of life, a new inner surge of personal magnetism.

Voltage of the Human Body

The red blood cells in the human body carry on their surface areas an amount of electricity sufficient to keep a

25 WATT lamp burning for five minutes. It has been found that healthy red blood cells of the human body carry an equivalent of 15,000,000 electrons "dancing" on the surface of each red blood cell.

Chief among the food elements that build healthy red blood are the elements IRON and COPPER. More than any other elements, a plenitude of these two food factors generates blood electricity and sets the electrons "dancing" in ecstatic abandon of good health.

Iron, the Master Mineral—Iron keeps life glowing in the body and picks up the oxygen breathed in through the lungs. IRON is a "cell laxative," a mineral that gives mental endurance, vitality and that helps move poisons from the interior of the cells.

Recent, astounding experiments have proved that in the case of the cow, IRON appears in the milk as rapidly as five minutes after the animal is fed iron-containing fodder. This confounds the previous theory that it takes considerable time for iron-bearing food elements to be absorbed.

Vitamin K, the Clotting Factor—Vitamin K performs the invaluable function of coagulating the blood in case of injury. Some investigators ascribe to Vitamin K the function of assisting in the prevention of cancerous growths in the human body.

Many foods of the Plant Kingdom literally carry life-restoring elements, for in vegetables and their roots, seeds and leaves are to be found the magic chlorophyll factors—the Iron, the Vitamin K and the Copper.

Copper, Mysterious Catalyst—Copper is a priceless food element that is present in only minute amounts in food substances. It is indispensable as a companion to

IRON in the prevention of anemia. COPPER is found most abundantly in calves' liver, but is also present in some fruits and vegetables.

Brilliant research work reveals that IODINE and CHLOROPHYLL perform magical functions in the human blood. Hence, it may be safely said that these two substances plus IRON, Vitamin K and COPPER comprise a blood health pattern that engenders increased vitality, health, power.

Plant Blood and Human Blood

Some years ago the suggestion was made that *chlorophyll*, the green pigment of the leaves of plants, is similar chemically to the hemoglobin of human blood. Subsequent investigations have borne out this view.

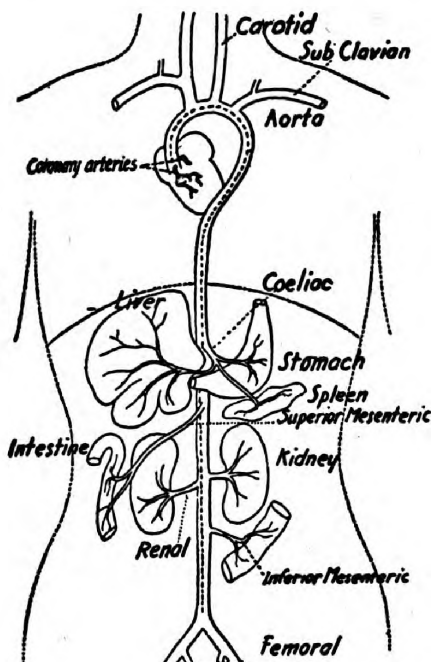
However, the fundamental difference between the *green* pigment of leaves and the *red* pigment of human blood is that IRON is present in human hemoglobin, whereas MAGNESIUM occurs in plant chlorophyll. The similarity of the TWO SUBSTANCES then prompted speculation regarding the possible value of chlorophyll as an agent for promoting blood formation. The test, using extracted chlorophyll, revealed a profoundly important law of Nature in health promotion.

15 Adult Anemia Sufferers

A group of 15 adult patients suffering from hypochromic anemia (low red color) were given chlorophyll and observed very closely. Chlorophyll alone produced *disappointing* results, but when the administration of chlorophyll was preceded by the administration of a large

amount of ORGANIC IRON, a noticeable improvement was produced.

Showing great Aorta and its largest branches. Follow dotted line from heart and note how all vital organs receive nutrition!



This indicates that Nature will work her best results with chlorophyll WHEN IT IS ACCOMPANIED BY IRON. Further this bears out hundreds of experiments which show that combinations of important substances produce splendid effects, WHERE A SINGLE SUBSTANCE WILL OFTEN FAIL TO ACHIEVE THE DESIRED RESULTS.

Further examples of this law of Nature are observed in the IRON-COPPER relationship (nutritional anemia), the CALCIUM-PHOSPHORUS relationship (nutrition of heart, bones and nerves), the distributive relationship

of CALCIUM-VITAMIN D (where CALCIUM *alone* is valueless).

A Deadly Killer

The preceding facts have been surveyed to indicate how the constituents of BLOOD actually function. Now, if we translate them directly to BLOOD VESSELS (blood and blood vessels are both built by food elements), the significance of VITAL FEEDING becomes very apparent, for HIGH BLOOD PRESSURE is a more deadly killer than cancer and each year causes the deaths of countless thousands of men and women in the true prime of life.

Vessels of Pulsation

The *contractility* of these blood vessels (which are muscular fibers in their tubular structure) is a guide to estimating the state of health and the probable length of life. Strong resilient arteries are the truest signs of youthfulness. The condition of the blood vessels *after* the age of forty is of great importance. Although high blood pressure may be present before forty or may be associated with any one of a number of conditions, it is most frequently a sign of auto-intoxication, tension, protracted worry, fatigue, tobacco, alcohol stimulants and lack of mineral-rich, vitamin-rich foods. Generally several of these factors are to blame.

High blood pressure is a dangerous condition, not only because of the grave nature of the conditions from which it springs, but because it can lead to APOPLEXY. Regardless of what age it occurs, whether the condition is recent or advanced, every possible care should be exer-

cised toward reducing the pressure safely and gradually *without weakening the heart.*

Eating into High Blood Pressure

High blood pressure is (perhaps unknowingly) the fault of the person who is the victim of it. High blood pressure is a degenerative disease. In this condition, the arteries are always tense and may be BRITTLE, hard and unyielding as contrasted to their normal state of strength, flexibility and resiliency. The comparison between new, soft rubber tubing and old, dry, brittle, lifeless, easily-cracked rubber is almost exact in respect to the arteries that have hardened.

Elderly people whose blood pressure is high, generally have bad hearts, bad digestion, creaking joints and wrinkled skins, because all of these abnormal conditions are part of the *process of degeneration.*

All people who have high blood pressure have back of it a lengthy history of WRONG EATING AND WRONG LIVING HABITS. One unfortunate fact about high blood pressure is that it is not *painful* in the early stages. If early high blood pressure WERE painful, more people would seek curative measures before the more serious stage is reached.

Two Kinds of High Blood Pressure

High blood pressure can be produced by one or both of the following: (a) High *tension* of the walls. (b) Hardening of the artery walls. The first named is called HYPERTENSION, the latter is technically called ARTERIO-SCLEROSIS or arterial hardening.

The excess *tension* of the muscular fibers of the artery walls is usually only a condition of nerve-tightening or vasomotor tension. "Tight" *nerves* mean "tight," tense arteries.

Actual *hardening* of the artery walls is more serious (arterio-sclerosis) and is really a change of the material in the construction of the arteries. This is called FIBROSIS and is a true degeneration. *HARDENING* is generally preceded for some years by the nervous spasms which produce the earlier high blood pressure states (hypertension); then come tiny inflammation areas, then a deposit of cholesterol and minerals, finally the hardening itself.

The Heart and Blood Vessels

Consider the work of the heart, the central pump of the blood vessel system. The heart of an adult man or woman pumps approximately six ounces of blood into the aorta (great artery leaving the heart) at each beat. It takes only 25 to 30 heart beats to pump all of the blood in the body. It takes only about 23 seconds for all the blood to make a complete circuit through the arteries, arterioles, capillaries, back through the veins to the right side of the heart, then through the lungs to be *aerated* and back again to the left side of the heart.

The large arteries from the heart branch again and again into smaller arteries and ultimately into the capillaries.

As a point of physiology, let us recall again that the capillaries are not distinct blood vessels. They are really only mere spaces between the cells of the body tissues.

The blood seeps through the capillary spaces as water does through a blotter. Upon such an apparently simple process of "leakage" or "seepage" does life and existence depend.

Vital Blood-Building Foods

Many men and women are tired, languid, chronically fatigued because their blood is of poor quality; because the normal amount of hemoglobin is absent; because IRON, COPPER, plus Vitamin C are present in seriously deficient amounts.

IRON and COPPER are MASTER BLOOD ELEMENTS, especially when associated with ACIDS, of which Vitamin C (ascorbic acid) is of outstanding value. Study the two tables of food values set forth below and by liberal use of the best liked foods recommended, start BUILDING BETTER BLOOD.

Rich Sources of Iron and Copper

<i>Foods</i>	<i>Milligrams of IRON in a pound</i>	<i>Milligrams of COPPER in a pound</i>
Beef (lean)	13.3 mgms.	0.4 mgms.
Egg Yolk	40.0 "	2.0 "
Liver (calves')	26.6 "	22.0 "
Oatmeal	17.7 "	2.5 "
Orange juice	1.06 "	0.4 "
Prunes	13.3 "	2.05 "
Raisins	13.3 "	2.0 "
Spinach	11.4 "	0.6 "
Cabbage	1.9 "	0.25 "
Potatoes	4.0 "	0.85 "

Rich Food Sources of Vitamin C

<i>Foods</i>	<i>Excellent Sources</i>		<i>Good Sources</i>
Animal products	Liver		Kidney
Vegetables	Kale	Cress	Endive
	Peppers	Turnips	Potatoes
	Tomatoes	Green Peas	Green Beans
	Kohlrabi	Sprouts	Artichoke
	Dandelion	Greens	Onions
Fruits	Oranges	Lemons	Pineapples
	Mangoes	Grapefruit	Bananas
	Strawberries		Cranberries
	Raspberries		Peaches

CHAPTER TWENTY-SEVEN

WHAT TO DO FOR HIGH BLOOD PRESSURE

"The doctor of the future will give NO MEDICINE but will interest his patients in the care of the human brain, in diet and in the cause and prevention of disease."

—THOMAS A. EDISON.

IT GOES without saying that Nature tried to make the human body more or less foolproof. Unlike the lower strata of created things, Nature has, in the case of the human body, to contend with the human faculty of free will.

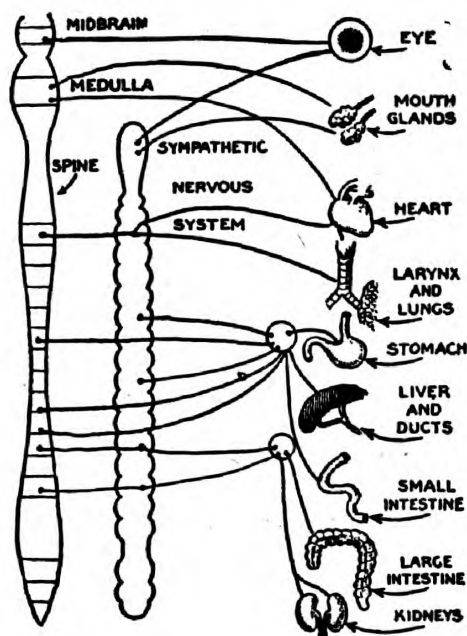
Although by WILL-POWER you cannot prevent any of your glands from functioning, you can by WILL-POWER eat so foolishly as to fail to nourish your glands.

By WILL-POWER you cannot interfere with the healing of a wound, but by unintelligent eating you can create blood of such poor quality that the injury may heal with difficulty.

In the endeavor to make your body fool-proof, Nature has kept 99 % of the bodily functions outside of your direct control, but the food you eat Nature cannot control (excepting by warning signals of pain, ill-health, signs of degeneration, old age and VARIATIONS OF BLOOD PRESSURE).

Arteries Are as Good as You Live

With all the dietary abuse of the body, Nature still has an uncanny way of prolonging human life. For a time, you may eat the wrong foods and injure yourself in a thousand different ways that would ruin any other mecha-



Showing spinal cord and nerves of the central nervous system *connecting* with sympathetic nervous system and suppling all vital organs with signals to "relax" or "constrict" arteries, increasing or decreasing flow of blood to each organ.

nism on earth. Your body will, nevertheless, through the partially "fool-proof" automatic mechanisms, carry on and in most cases pull you through the first 30 or 40 years of your life.

At around forty, this "fool-proof" mechanism begins to weaken in spite of the best efforts. Then, despite the Trojan correction work which Nature has valiantly per-

formed in the face of human ignorance, neglect and indifference, degenerative disease can be prevented no longer. Then, HEART DISEASE AND BLOOD PRESSURE TROUBLES (the great enemies of life, youthfulness and health) strike their deadly blows.

Managing High Blood Pressure

The age of the patient is a very important factor in considering how much and how rapid the improvement may be expected in high blood pressure. Hypertension (high pressure without hardening) may be produced by nervousness. Naturally when one is constantly nervous and fretful, the blood pressure is inclined to rise. In an elderly person a condition of increased blood pressure generally causes some *structural* changes in the tissue of the blood vessel.

This is more serious than mere high blood pressure and if real *fibrosis* has occurred (actual tissue change in the walls of the arteries) improvement will be less. It is difficult to actually "unharden" arteries that have become brittle. However, tension can be lowered somewhat even in advanced cases which gives relief and eases the cardiac burden.

The essence of diet planning in high blood pressure is to enrich the dietary with minerals and vitamins and to sharply decrease the refined foods (such as white flour and white sugar items) that tend to make a carbohydrate "glue," the ultimate effect of which is to "petrify" the tissues and hasten the process of hardening the arteries.

It is important in blood vascular tension that tea and coffee be reduced to a minimum. Tobacco must be ruled out at once without any nonsense about "tapering off."

All forms of smoking are herewith included and their discontinuance must be at once and complete, and, it may be added, permanent.

Whole grain foods, including, of course, stale day-old breadstuffs, are permitted in the dietary in moderate quantities. Liberal amounts of meat and flesh foods are permitted. Milk products, eggs, etc., have their rightful place in the corrected dietary.

New Dietary Facts

Mention may be made of the fact that flesh foods formerly were regarded as very harmful in high blood pressure, but we now know that the real harm more often comes from the unrestricted eating of refined sugars and starches.

Furthermore, an excess of *fatty* foods is very likely closely tied in with the development of high pressure because of the collection of cholesterol in the body. This subject may be reviewed in Chapters XVII to XX, where the discussion of how the glands fight cholesterol was reviewed.

Beyond the foods previously mentioned, the very best foods are unquestionably those that come from the Plant Kingdom; fruit, fruit juices, any of the green and leafy vegetables, plus milk and dairy products. Such a biologic anti-toxic diet will help to neutralize the tissue acids that are generally present in high blood pressure and hardened-artery cases.

Any food that previous experience reveals does not agree, should be omitted. All gas-forming foods (onions, beans, cabbage, etc., should be ruled out of the diet.

TOTAL QUANTITY OF FOOD SHOULD BE

SPARING. A light food intake decreases the load on the arteries.

Milk Whey vs. Hard Arteries

Curiously and prophetically, Samuel Pepys, writing in his diary on June 10, 1663, recounted this item of the day's minutae:

"Thence to the wheyhouse and drank a great deal of whey and so home."

For centuries it has been known that Nature has cleverly concealed very valuable elements in milk. Over many hundreds of years, people in cheese-making countries have known that when they drank whey, better digestive action and better elimination followed.

Whey has even found a place in English folk lore where, in Mother Goose Rhymes, we read of Little Miss Muffet eating "curds and whey." The minerals of milk and the elements of whey are being studied with more of their values being brought to light, the most curious discovery of which is the strange effect in whey to lower blood pressure toward a more normal mark.

Fasting—Gas—High Blood Pressure

The "one-day" fruit juice fast at least once every ten days is valuable for high blood pressure. The results in increased comfort and vitality from the short fast are enormous.

Gas will immediately raise the blood pressure, so avoid foods that create it if you are suffering from high blood pressure. In this condition SALT must be reduced to a

minimum quantity. Sweet butter may be used in place of salt butter.

Fits of anger, habits of fear or anxiety raise the blood pressure, often cause gas and may subject the heart to strain. A happy contented frame of mind is especially helpful in bringing the blood vessel tension *down*. Relaxation is life-conserving here.

Bionomically, we see ample justification for the adage that "a man is as old as his arteries." Hardening of the blood vessels is the penalty of unhealthy living habits and wrong diet. *It is a true degeneration and degenerative diseases are preventable* or postponement is definitely possible, AND PRACTICABLE.

Axioms—High "gas" pressure often causes functional high blood pressure.

High "gas" pressure is aggravated by tobacco, alcohol, worry, chills and cold water on the back.

As the mechanism that controls the "tightening" or "loosening" of the arteries (the vasomotor nerves) is associated directly with the spinal nerves and muscles, it is very clear that bathing procedures are quite important.

Cold-Chills—Blood Pressure

In high blood pressure cold water should never strike the back. Bathing in this condition should be brief and warm water used. Avoid *chilling*, which means that the back (a region especially sensitive in high blood pressure states) should be protected. In warm weather, the back should be protected against draughts after perspiration. In the cold weather the back must be warmly covered. This does not mean excessively heavy clothing, but it does

mean adequate protection. Insufficient rest is very harmful to people with high blood pressure. Frequent short rests during the day are indicated.

For the sake of emphasis and because the point is of the greatest importance, let it be understood that cold water on the back and that chilling of the back muscles by draughts or exposure always produce most severe consequences in those individuals who suffer the disorder of high blood pressure. There are no exceptions. It may take an hour, a day, a week or a month for the effects of a chill to vanish and the blood pressure disturbance to return to previous state.

Four Vital High Blood Pressure Points

1. Short fruit juice fasts are now a recognized help in lowering blood pressure toward normal. Those who have systolic pressures over 150 are likely to be greatly benefited by frequent one-day fasts. On these days, nothing but fruit juice or water is to be taken. Bed rest for that day is an added benefit.

2. Buttermilk, yoghurt and other cultured milk products are very beneficial as they help to improve the intestinal flora and thus may indirectly help to lower the pressure by decreasing intestinal putrefaction.

3. Research scientists have shown that the material actually obtained from the inside of hardened arteries is rich in CHOLESTEROL. Cholesterol is a fatty substance that occurs in foods normally but may collect in the form of brittle artery linings or gall-stones if not kept in solution. FOOD IODINE helps to do this. Daily use of Pacific Kelp or some other ocean vegetation is of great advantage in high blood pressure conditions.

4. Restriction of table salt is very desirable in high blood pressure. Salt causes the tissues to hold water in excessive amounts, which hinders blood circulation.

Garlic-Parsley Therapy

It has been claimed that the Egyptian Pharaohs commanded that their subjects eat garlic to build resistance to the plague. Modern research confirms the wisdom of the ancient idea. Certain bacteria, so deadly and lethal, that boiling for three hours failed to destroy, were rendered harmless after an hour's exposure to the fumes of garlic. Even germs which predispose to leprosy and tuberculosis have been rendered inactive by exposure to the fumes of garlic.

Functional high blood pressure has been affected beneficially by use of garlic in combination with parsley. Allyl aldehyde compounds which abound in garlic, leeks, chives, etc. perhaps actually relax the tense blood vessel walls. Extracts of garlic, combined with powdered dehydrated parsley, are marketed by several reputable concerns in tablet form. These preparations are convenient and are preferred by some to the use of plain garlic in food form. These palatable sweet-coated tablets are obtainable in most drug stores.

Hints for Improving Blood Circulation

To keep well, one must keep active. Normal physical activity (avoiding strenuous games and strain) determines the rate of CIRCULATION, just as vital *nutrition* determines the QUALITY of the blood and life force. Toxins, alcohol, tobacco, drugs, stimulants, food

adulterants and the like are dangerous enemies of the heart, the arteries and of life.

Many men and women, intelligent enough to have become dissatisfied with ill health, too high or too low blood pressure with its train of uncomfortable symptoms have had the good fortune to learn that **BLOOD PRESSURE TROUBLES** are not incurable in most instances and that serious, honest effort returns high dividends in renewed health and normalized blood pressure.

1. Brain workers do not recover from sickness and accidents as quickly as manual workers. This illustrates two points: (a) that manual workers generally have better blood circulation and (b) that brain workers need more normal physical activity than they generally get.

2. Frequent short, rapid walks with rest, lying down immediately afterward, are very beneficial. When walking, do not take short steps and do not walk too slowly.

3. People with high blood pressure are enormously helped by the **ONE DAY RECUMBENCY**; an entire day of bed rest allows the high tension head of pressure in the arteries to travel at right angles to gravity. This is a real life-prolonging measure.

4. Diversion and recreation are essential but they should not come out of *rest time*. If fatigued, do not tire an already weakened brain and body by going to the theater, cinema or by playing cards. Do not ignore fatigue if you wish to achieve more youthfulness and vitality.

5. Fresh air is desirable and essential but too many people sacrifice their own health as well as others in ill-considered attempts to get "fresh air" in home and office. Try to get as much fresh air as possible but not at the expense of creating draughts and causing chills. A few

seconds of exposure to cold air while warm can cause contractions of arteries that may persist for several days afterward. This slows the rate at which oxygen is brought to the brain.

CHAPTER TWENTY-EIGHT

IMPROVING LOW BLOOD PRESSURE

"... Death is not inherent in the individual cell. The mischief of death may be traced to the activity of a black sheep in the society of tissues and organs."

—DR. JACQUES LOEB, *World-famous Biologist*.

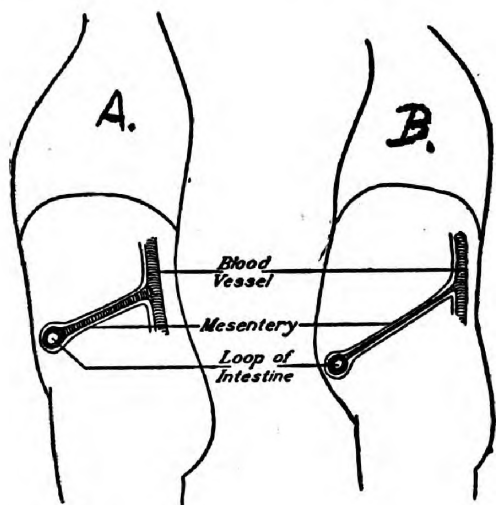
THE BASIS for all blood pressure, HIGH or LOW, is the heart, the most marvelously efficient pump in existence, a pump that each day propels 2000 gallons of a thick fluid (blood) heavier than water, through its valves and chambers. The job of the heart is titanic, a fact easily realized when we learn that the blood vessels of the human body total a length of over a thousand miles, all filled with marvelous, living, intelligent blood.

The facts that at birth we have been given an allotment of several billion heart-beats and that the heart is seriously hampered by "below-par" blood vessels, make the subject of blood pressure one of the most vital in our existence.

Symptoms of Low Blood Pressure

Just as high blood pressure (barring actual hardening) may often be merely a symptom of body disorder, so LOW BLOOD PRESSURE generally is a sign of something wrong, without being in itself a disease.

The rather marvelous thing about the blood vessels and why they allow the pressure to be low or high (without immediate danger) is that the walls of the blood vessels have elastic muscle tissue in them which allows the vessels to stretch wider or to contract tighter.



A. Abdomen contracted.

B. Showing how relaxed abdominal walls and poor posture favor fallen organs and "pooling" of blood in abdomen. Blood pressure is always abnormal when blood collects in this area.

This relaxing or tightening of the blood vessel walls *reduces* or *increases* the pressure of the blood stream as it passes by. This is very desirable and necessary for many purposes, such as the changes in pressure that follow eating, sleeping, exercises, emotional changes, intellectual activities and the like.

However, beyond a reasonable flexibility in variation, the existence of chronic low blood pressure is undesirable.

Low blood pressure is not actually a disease, but it is indicative of low vitality, poor tone tissues and below-par nutrition.

No one can possibly feel as active and alert with a systolic blood pressure of only 100, as when the pressure is closer to the ideal point of 120 mm. The 120 representing the systolic figure denotes the work of the heart while it is contracting, which means while it is working hardest. The lower figure or what is called the diastolic pressure indicates the amount of pressure existing in the blood vessel system while the heart is relaxing, or in diastole, meaning relatively while at rest or that brief split-second that the heart rests between beats.

As the nutrition, tone, nerve energy and general vitality improve there is a general tendency for the blood pressure to approach toward the ideal figure of 120 systolic—80 diastolic.

View on Blood Pressure

Heart disease itself is often but a part of a general body disturbance of which VARIATIONS in blood pressure may be the major warning. Obviously this is more likely to be true of HIGH BLOOD PRESSURE, but the correction of LOW BLOOD PRESSURE will pay high dividends of increased vitality, improved mental function and higher resistance to disease.

The average lay person assumes that blood pressure troubles are states of "high blood pressure." Actually, about one out of four people or approximately 25 percent of civilized men and women suffer from *low pressure* which while not as dangerous as the high tension states, may actually make a person more uncomfortable, tend-

ing to create a feeling of lassitude and fatigue. There is absolutely no foundation in fact for the current idea that variations, high or low, are normal to the human blood pressure mechanism. Good health and good vitality invariably tend to bring adult pressure to 120 mm. systolic pressure.

Low Blood Pressure—Relaxed Vasotone
(Improvement Program)

An individual with low blood pressure has arteries that are "over-relaxed" and that have *too little tone*. Obviously, this condition is the very opposite of high blood pressure. True, the person with low blood pressure will never die of hardening of the arteries or from a stroke of apoplexy. These are advantages it is true, but the fact remains that the condition of *low blood pressure* should be attacked with determination.

Vitamin C—Vitamin C is the master vitamin for "toning" the arteries in low blood pressure. Vitamin C *super-SATURATION* is of supreme advantage. From one to two glasses or more of citrus fruit juice daily (or the equivalent in other juices) is most important. Review details of Vitamin C *super-SATURATION* in the first chapters. This vitamin is paramount.

Anemia-Low Blood Pressure—Although not always present, low blood pressure is often found accompanied by nutritional anemia. This means low hemoglobin and usually *poor circulation*. IRON-COPPER-rich foods are here indicated. Liberal selections should be made from the foods appearing on the "iron-copper" chart. Three very effective *anti-anemia* foods are calves' liver, dried apricots and molasses. A small helping of each daily will

build better blood and combat nutritional anemia very rapidly.

Abdominal Blood Circulation—In low blood pressure there is a strong tendency for blood to accumulate in the relaxed blood vessels of the abdomen. This must be overcome before improvement can manifest itself. This "pooling" of blood prevents good circulation elsewhere in the body.

Deep Breathing is of great help in dispersing this blood. Frequent but very short sessions of LYING DOWN and while lying down, retracting the abdomen inward, will help train the muscles and blood vessels to combat the "pooling." Improvement in posture among "pot-bellied" individuals by wearing an abdominal belt or support, helps the circulation and prolongs life. The idea here, as with "belly-pull-in" exercises and deep breathing, is to force the blood into the chest organs, the arms, the legs and the skin, rather than allow it to "pool" in the abdomen. It is of the very essence that bathing procedures help rather than hinder. Bathing water should be lukewarm temperature, followed by cool water. Very cold water is too much of a shock, hot water too relaxing. For the same reasons, too much sunlight over-relaxes and weakens.

Academy of Life

Long before we left school we learned that merely talking about a principle of arithmetic or algebra never worked out a problem.

A page of problems may lie next to a page of "answers" for a thousand years and nothing will happen until someone comes along and actually does the work by applying the principle.

At school, we spent a large portion of our time looking for "answers" and were not interested too much in the principles.

In our grown-up problems we have to provide the "answers" ourselves and the more we know of the principles back of our problems, the easier it becomes to provide the answers.

Principles of biology and spiritual morality contain all the "answers" to physical and moral illnesses. Merely talking about these principles will not heal the disorders of mind and body. The frantic search for "answers" will cease when we actually start to LIVE THE PRINCIPLES.

CHAPTER TWENTY-NINE

BONES AND JOINTS—BODY WONDERS

"It is a part of the cure to wish to be cured."

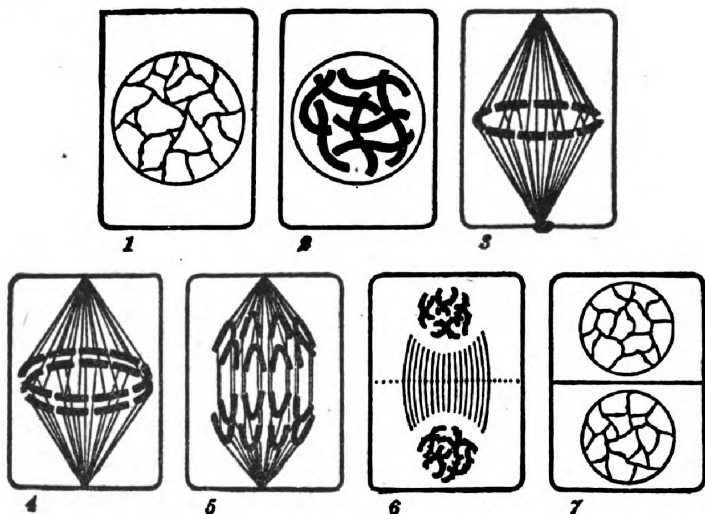
—SENECA, *Roman Philosopher*.

A NEW age of miracles is at hand. From the very midst of world conflict, the halcyon pattern of a new health order may be seen emerging toward a victory over degenerative disease.

In another day, prophets and the saints had the gift of the healing touch. Today, the wizards of science are the wielders of titanic healing powers in the God-ordained union of food with human cells—plant vitamins with human hormones—each of these vitalized by a celestial chemistry.

Bacteria-borne death has been vanquished by the miracle of Penicillin taken from *bread mold*. The dreaded pollution of trench mouth has been routed by chlorophyll, *leafy green magic* of the vegetable kingdom. Gramicidin, germ-killer extraordinary, ten thousand times stronger than the fabled sulfa drugs, rises Phoenix-like from the soil of farm and garden.

Paralysis and polyneuritis are conquered daily by the royal family of the B Complex Vitamins. The insanity of pellagra has vanished in an hour when touched by the power of the Vitamin B NIACIN factor.



Superb diagram of steps in cell division. Cell breaks up into chromosomes which arrange themselves in central rings, then split in two; pairs move to opposite ends, the half-chromosomes become *a new cells*. This miracle process is at the very core of your living and being.

The mystery plasma of human blood itself has been regenerated by the pectin of fruit and its companion Vitamin C. The unlimited power of sunlight passing over into the structure of Vitamin D has transformed the too-soft bones of rickets-cursed babies into the structures that have become healthy, happy human beings.

Explorations into Regeneration

With these inspiring thoughts as a starting place, let us explore the bone structures of the human body, its wonders, some of its crippling maladies, the relation of correct food to the latter, the threefold linking of arthritis, emotions and the skin, concluding with a detailed

consideration of the feet and their relation to other joints and the muscle balance of the body.

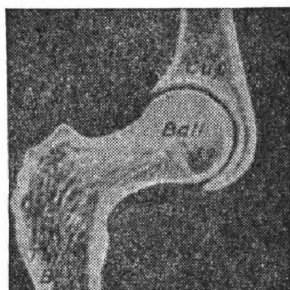
Endless Replacement

In the preceding chapters, we surveyed the importance of a healthy and well-toned BLOOD VESSEL system in the abdominal areas (in relation to general well-being). This is the KEYSTONE in the arch of powerful living and acting. So too are firm “upward-pushing” abdominal blood vessels at the foundation of healthy joints. Poor general circulation is almost as bad for joint and muscle disorders as it is for blood-building and blood vessel tone.

The point must be labored that the body is not a collec-

Diagram of Hip-joint.

We can move a finger in only 2 directions, but above section shows the wonderful ball-and-socket plan which enables us to move our legs in many directions.



tion of “parts” but is exclusively a UNITARY affair of blood, nerves and lymph function in a smoothly-flowing, effortless symphony of power and life. Cast out of mind the *great fallacy*—the supreme untruth—that the body is static. The only permanent thing about the human body is CHANGE.

Not only is there a red cell blood change every twenty-eight days, but every MOLECULE OF WATER is re-

placed every twenty-one days; every ATOM OF MINERAL SALT completely renewed every twenty-two days and so on.

One might suppose that the bones escape this great phenomenon of change—that the bones are “static” and never changing. Quite the contrary, for “tagged” atoms (foods made radioactive) have been seen by x-rays going right into *and out of the bones* and it has been found that bones exchange their structure, day by day and *hour by hour*. Once it was thought that bones needed no more replacement than the marble in the walls of a mansion. The fact is that every so often we get an entirely new skeleton, including a new set of joints.

Body Wonders vs. Engineering Miracles

The structure of living organisms in the body has furnished the basis of most engineering achievements. Several instruments of global warfare have been fabricated from a very careful study of the life processes in animals. The raising and lowering of submarines is actually a result of the study of a device located just below the backbone of fishes.

“Streamlining,” the objective in fashioning the body of an automobile or the fuselage of an airplane, is a tardy copy of what Nature achieves in the body of any fast fish or bird.

Examples of Nature’s engineering wonders are legion; the lowly pair of pliers (indispensable tool of all mechanics) was adapted from a study of the pincers of the ant; the hypodermic needle of the surgeon had its precursor in the fangs of reptiles.

The great achievements in modern dam building are

perhaps less a tribute to man's inventive genius than they are a trick learned from the beavers, who from time immemorial have built dams and stored water against a dry season. These are compelling thoughts when we use them as a prelude to the consideration of the wonders of the human body.

Forms and Architecture of Bones and Joints

There is a *great principle* of human growth. Tissues *increase* in strength at those points where they are subject to repeated stimulation or use.

MONTHS BEFORE YOU WERE BORN, and before the *need was apparent*, Nature foresaw that certain tissues in your developing body would be subjected to pull and pressure and so she organized these SOFT TISSUES AS BONE. The ever-amazing fact of motion and locomotion is that we always find bones just *where they are required*. This is *prophetic* body architecture. This is fact before function. This is anatomy with a spirituelle quality.

Another unexplained fact (and perhaps forever unexplainable) is the peculiar arrangement of size and proportion of the bony parts of the body. For instance, if you extend your arms, the span almost exactly *corresponds* to your height.

As far back as the ancient Egyptians, it was known that the height of the body is NINETEEN TIMES the length of the middle finger. The body's trunk is three times the height of the head, the arm three times as long as the hand, the leg three times as long as the foot. These amazing proportional relationships prove that profound laws of internal harmony regulate and actuate the engineering perfection of the body months before birth.

Whence Come These Wonders?

The very evident aim of Nature in working out the ultimate plan of Almighty God is to culminate all these mighty works and principles into an adult human being. A child has proportions very different from those of an adult. A child is not only smaller but almost a different human being. The ultimate aim is adult stature, childhood being only a preparation stage.

In the consideration of these growth steps, worked out in angelic detail before and after birth, it becomes treason to a sane belief in Cosmic law or order to admit for a moment that swollen, distorted bones and joints are comprehended as a *normal* development of human structure and function.

It is for this reason that the point is ever labored that *unity and oneness possess the body*.

You are not *discrete*, not disconnected. You are one, unified, whole and functioning without separation in the first order of the physical, the second of the mental and the third order of the spiritual—a triune being of eternal destiny.

Bones—Engineering Principles—Arthritis

Let us explore further. The bones of the human body provide a treasure trove of mechanical principles without which patterns, engineering science would never have attained its present eminence; the strength of hollow brick learned from the Haversian canals of long bones (where blood cells are born); levers and cantilevers of bridges and spans learned in superb example from the *joints* of the human body.

A lever is a simple rigid instrument for applying pressure to an object. A workman moving a rock by means of a crowbar is using the crowbar as a lever. Joints and muscles in health, working in reciprocal and mutual sympathy, form the most efficient examples of levers of the first, second and third orders.

It was Archimedes who said that if he could get a lever long enough, plus a FULCRUM, he could shift the earth. Leverage is an endless function in the body for consciously or unconsciously, we are using our joints as levers throughout life.

In the human body, the use of a lever of the first order is seen whenever you lift your face and head towards the sky. The skull is the lever, the fulcrum being the Atlas bone, the weight being the head. Just as the giant Atlas carried the earth, your spinal Atlas (1st vertebral bone) bears the weight of your earthly brain.

When you rise upon your toes, you use your foot as a lever of the second order. When you straighten out a crossed knee if sitting, you use your skeleton as lever of the third order, examples of which abound throughout the body.

It is very plain that if there had not been an amazing distribution and diversified assortment of the principles of weight, levers and fulcrums throughout the joints for use as levers of 1st, 2nd, 3rd and double 3rd orders, our legs and arms would be unbelievably cumbrous and agility would be impossible.

Frequently, sheer mechanical advantages have been thrown to the winds by Nature in the interests of youthful agility of movement and speed. In this phase we see that Nature created levers but has nevertheless shown a

versatility in using the principles unknown to human engineers.

Having considered the body as a storehouse of wonders in principles and functions, the bone, joint and muscle systems of humans are often the locations of the most disabling and crippling diseases that afflict mankind, namely, that class of diseases called rheumatics, of which *arthritis, a joint malady* is the foremost example.

CHAPTER THIRTY

NUTRITIONAL PATTERNS OF ARTHRITIS

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

—MERCHANT OF VENICE.

BECAUSE OF its grave importance as an often-painful and frequently-disabling disease, arthritis is now being studied as a metabolic and nutritional disorder rather than as an infection. However, arthritis is not, as many lay people believe, a modern disease.

Antiquity of Arthritis

Actually, arthritis is the oldest disease of which we have any prehistoric record. Long antedating the appearance of mankind on earth, paleontologic specimens reveal that the disease arthritis affected even the great reptiles of Mesozoic times.

Museums have many specimens showing overgrowth and ankylosis affecting the limb bones and vertebrae of some of these ancient colossi, the largest animals ever to roam the globe.

Arthritis was furthermore a source of great suffering to humans of ancient times for evidence of its ravages are numerous in the mummified remains of the early Egyptians. The bony lesions have been exposed to our modern study by the X-ray.

A rather significant point is that the ancient as well as modern evidences of arthritis center around animals and humans consuming excessive amounts of carbohydrate food.

Nutritional A-B-C's of Arthritis

The entire outlook of arthritis, which for so long has been assigned to CAUSES UNKNOWN, has now radically changed. The foremost authorities are beginning to think as food scientists; are coming to regard *arthritis* as basically metabolic or nutritional, at least as to the underlying causes.

All of the evidence points to the fact that the overabundant use of starchy foods, plus gluttonous consumption of foodstuffs made from white sugar, are among the *causative* factors in arthritis.

Add to these causes, *shortages* of sulphur, iodine, calcium, Vitamins B, C and D and we have a formidable evil foundation for diseases of degeneration.

At this point, the discerning student will realize that one of the chief *reasons* for these last named vitamin and mineral shortages, is definitely bound up with an overconsumption of rich and starchy, sugary foods.

Reason—Carbohydrates are *always* low in mineral and vitamin balances and when refined, these foods which make up such a large percentage of the diet of the average arthritis patient, are entirely DEVOID of minerals and vitamins.

Whereas *gout* is very likely caused more by an excess of *uneliminated* protein waste, excessive *carbohydrate* waste is more largely responsible for rheumatic disorders including arthritis.

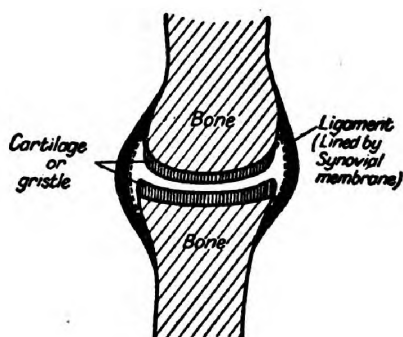
Law—Minerals appear to be the missing factors in most *constitutional* disorders.

Increase the food minerals such as calcium, iron, copper, iodine, phosphorus and potassium in the daily diet from the year of infancy onward and a vast change in disease incidence would result.

The 3 R's of Health

The first sign of enlightenment in health matters is to learn that *all* the curative forces exist exclusively within the body and that these curative forces existing *within* can obtain from *outside* the body only certain building materials that fit into the natural scheme of tissue and cell construction.

Minerals, vitamins and other food principles *help* to maintain healthy blood and good circulation through bones, muscles and blood vessels of joints.



These materials are proteins, vitamins, minerals, auxins, with calories for energy expenditure. *Calories do not build tissue.* Excesses of calories (starches and sugars) predispose to overweight and disease.

Sufferers from arthritis are in especial need of being inducted into the great bionomic truth—that DISEASE MUST BE CONQUERED BY THE FORCES *WITHIN* THE BODY.

Even while absolute cures cannot be obtained in all cases, definite relief from pain is assured and a change for progressive betterment is offered by conforming to the laws of human blood chemistry.

Acid Fires and Extinguishers

The word ARTHRITIS means inflammation of a joint. Chronic arthritis *always* has a preceding history—perhaps of many years—of altered blood chemistry and toxemia. Focal infections of teeth, sinuses or colon may complicate and aggravate this condition, but, in the majority of cases, drastic change of eating habits will accomplish more than hasty removal of teeth or tonsils or surgery of the sinuses.

The altered metabolism in arthritis is now viewed as basically caused by the bloodstream being overloaded with poisons and waste. After a long period of general systemic poisoning, Nature (in despair) deposits alkaline substances in the joints as a protection against these *acid irritants*, just as the thickening and hardening of the skin is a protest and protection against irritating rubbing.

The circulating systemic acids may be figuratively viewed as causing a conflagration or fire (inflammation) in the joints. Nature responds and “puts out the fire” (acid) by summoning calcium as a “fire extinguisher” (alkaline). The *alkaline* neutralizes the acid—in effect—the “extinguisher” conquers the “fire.”

However, a tragic after-effect may possibly be a deformity of the joint, simply because the calcium (the extinguisher) often remains after the inflammation subsides. Figuratively, the element that rescued the joint

from inflammatory destruction now itself remains as an unwelcome permanent guest.

The strategy of improved metabolism calls for a vitally-altered diet. Nutritionists recommend here a diet of such constructive power that it may work at attempting to break up these dead alkaline formations that have crystallized in the joints. *Vital* minerals of the *solvent* class such as sodium, potassium and iodine tend to break up stony formations wherever they exist in the body.

At best, to evolve entirely out of arthritic states requires months and even years. Often great progress is made in a short time when fundamentals of correct eating, emotional control and improved blood circulation are applied.

The rapid progress is generally in the direction of lessening pain. Where complete restoration of function is possible, great determination is needed plus patience with these two qualities leavened by cheerfulness, self-sacrifice and unremitting attention to the job of regaining the best possible health.

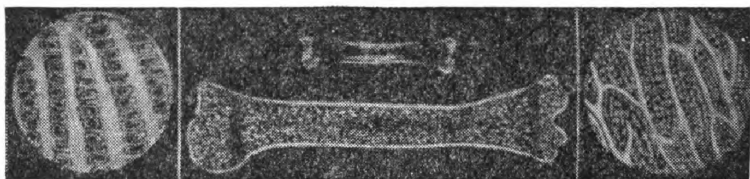
Dietary Program of Improvement

To improve the bloodstream so that toxic elements no longer circulate throughout the body, it is necessary to completely ABANDON pastries, candy, cake and the like, because of their low *food* values and high *fuel* content.

Even whole grains must be used in moderation and whole grain bread used must be always dry, hard, or stale. If nothing else were done than this, some improvement in ARTHRITIS and considerable improvement in general health may be expected to follow.

It is extremely important that the body be supplied with the greatest possible amount of mineral and vitamin elements. This means that fruit, fruit juices, vegetables (cooked and raw) and vegetable juices, vegetable soups and vegetable stews should occupy a large part of the total diet. All green and leafy vegetables are very valuable, with the exception of rhubarb and in some cases prunes. A high alkaline reserve is very desirable in arthritis and this is built up by the liberal use of such foods as

turnips	parsley	spinach	celery	lemons	apples
carrots	onions	apricots	watercress	grapefruit	peaches
beets	beet tops	cabbage	oranges	pineapples	pears



Left. The growth-cells of a growing child's bone.

Center. Dark part on small bone shows the growth-power of a child's bone which gets smaller as the bone grows larger. Axiom: Vital food helps create vital tissue.

Right. Canals and red blood cells of grown-up bone.

Next Step—Liberal proteins are called for and this requirement will be met by meat, fish, cheese and egg yolks. True, these are ACID-ASH FOODS, but are absolutely necessary. However, a high balance of ALKALINE-ASH FOODS OFFSETS THESE END-ACID PRODUCTS. In a word, the acid proteins accomplish their destiny cell-building work, yet need to be neutralized by the alkaline fruits, vegetables and their juices.

As stated in the chapter on Glands, a vegetable grinder

is an important addition to the kitchen equipment. Press out the juices of such vegetables as celery, spinach, watercress and carrots, thus getting highly alkaline elements in *solution*.

Vitamin "C" SUPERSaturation one day a week for a period of four months in most cases will yield very satisfactory results. On the fruit juice fasting day, nothing should be taken but water and the fruit juice.

Either oranges or grapefruit, fresh apple juice or canned tomato juice may be used as the beverage of selection on the "VITAMIN C DAY."

Innocence or Ignorance?

The laws of chemistry do not change from century to century. Unfortunately, neither do the food habits of humans. True it is, that *minerals* and *vitamins*, as imperative diet essentials, are recent discoveries, yet they were just as urgently needed in the daily diet of ancient men and women as they are today, the lack of these diet imperatives producing in those faraway centuries as well as today, the evil consequences of disease and premature death.

Twentieth Century Arthritis Concepts

Many authorities hold that most people over forty have arthritis in some form, even though most do not develop disabling symptoms. In various forms, arthritis is six times more frequent than tuberculosis.

Motion—"Joint rotation each day keeps adhesions away." An important philosophy in arthritis improvement is contained in this little epigram. In chronic arth-

ritis (where there is no pain) joint movement, joint rotation, flexion and extension of the muscles controlling the affected joints should be performed frequently each day *up to the point of pain*. In acute conditions (where pain is present) complete rest is indicated until the *acute* inflammation subsides.

Mental Influences—Mental shocks, violent emotional upsets and chronic personality disturbances may help cause early symptoms of arthritis. "Psychogenic arthritis" probably results from the abnormal stimulation to the adrenal glands. Curiously, emotional shocks produce malevolent effects very similar to the disordered metabolism set up by exposure to severe cold or to the results of infectious diseases.

Internal Heat—Diathermy and radio short wave therapy have proved their worth in serious arthritis. By ingenious methods these electrical modalities bring profound heat into the very depths of the joints and synovial sacs of the joints affected by arthritis. There is reason to believe that these wonderful heat effects achieve their benefits by warming the food minerals (electrolytes) of the blood as it passes through the blood vessels and capillaries of the arthritic joints.

Sunshine—Every arthritis sufferer should explore the marvelous benefits of sunbathing. Sunlight creates Vitamin D. Natural sunlight is best, but even artificial sun lamps (mercury or carbon) create a powerful effect on the joints by helping to disperse the dead, crystallized calcium deposits in the joints. Vitamin D normally helps to control or regulate calcium in the body. If sunlight is not available, the arthritis sufferer should consult his physician regarding extremely large dosages of Vitamin D concentrates.

Natural Sweets—Speedier progress in improvement will be made if the arthritis victim learns, once and for all that white sugar foods and white flour foods should be completely ruled out of the diet. Brown sugar, molasses, honey and all the dried sweet fruits (soaked overnight) are beneficial and carry their own minerals.

Vital Improvement Points in Arthritis

Sulphur—Analysis of fingernails of arthritis patients show deficiencies of the protein element CYSTINE (in which form SULPHUR is required). Importance of SULPHUR in the anti-arthritis diet is because of the part SULPHUR plays in reduction processes (metabolic) in the body. SULPHUR is found in lean meat, cheese, egg yolks, lean fish, beans, brewer's yeast, watercress, garlic, crystalline (synthetic) Vitamin B "one," and onions.

Note—Boiled onions are useful sources of SULPHUR. Boiling drives off the irritating oil, leaving the sulphur values.

Iodine—Iodine is a powerful SOLVENT food element and hence is a very valuable anti-arthritis food factor. Because it assists in regulating metabolism and acts as a solvent in dispersing the deposits of stony material in the joints its importance in arthritis cannot be overestimated. IODINE is found in ocean fish, ocean vegetation such as Pacific Kelp, Dulse, Irish Moss, bladderwrack, sea lettuce and Iceland Moss.

Vitamin C—Shortage of Vitamin C tends to make people more susceptible to rheumatic disorders. Rheumatoid arthritic patients generally have a very low blood plasma level of Vitamin C. Clinical improvement comes about

when patients receive large amounts of Vitamin C. It is curious and significant that any type infection rapidly fights down the Vitamin C levels. These must be kept constantly restored by liberal Vitamin C intake.

Concentrates—Arthritic patients should use multi-vitamin and multi-mineral food supplements every day. These help to overcome dietetic *shortages* more rapidly. Several high grade supplements of this kind in tablet form are readily available. *Concentrates should be more widely used.*

* * *

A thumbnail sketch of diet procedure in arthritis:

1. Entire diet should be characterized by (a) LOW STARCH-SUGAR intake (b) LIBERAL PROTEIN intake (c) HIGH MINERAL-HIGH VITAMIN intake. (Raw and cooked fruits and vegetables.)
2. Protein foods, unlike starches and sugars, build and repair tissue and improve blood circulation. Repair foods are urgently needed in arthritis. Lean meat, ocean fish, cheese, milk and egg yolks are examples of fine proteins.
3. Iodine-bearing foods, sulphur-rich foods, extremely large Vitamin C intake and daily consumption of high grade food supplements in tablet or capsule form should be the outstanding features of the intelligent anti-arthritis diet and the arthritis-improvement diet.

CHAPTER THIRTY-ONE

EMOTIONS—ARTHRITIS—SKIN

"Tell me what you eat and I will tell you what you are."

—BRILLAT-SAVARIN, *Physiologie du Gout*.

WHEN WE come to grips with the matter of such degenerations of tissue as *arthritis*, there is only one real mystery, namely, the cells themselves are immortal.

Cells split and split, divide and divide just as long as they have anything to feed upon and so long as they are not *smothered* by their own wastes.

With this concept as a guide we see that the trick is to learn exactly how to *feed* the cell and *flush* the cell; how to contribute food for *build-up*—but in the correct amounts to facilitate the *output* of waste. This somewhat over-simplified description is really the superb mystery of metabolism: *Metabolism in action!*

Rehabilitation of the Skin

Rheumatic arthritis has been given many different classifications and the number of modalities tried throughout the centuries is beyond count. The *outstanding* feature of the present time is the way that treatment has swung in the direction of building resistance, reinforcing nutrition, *improving blood circulation* and re-awakening the full function and power of the skin.

Food—Reactivation—Circulation

Working on the powerful realization that the body is integrated as one organic whole, let us see now how food relates itself to skin, abdominal circulation, bones, flexibility, youthfulness and free-functioning movement of healthy joints.

Your body at this instant is a wondrous *monument* composed entirely of food material. Every instant from conception to the last moment of life, your bloodstream—**RIVER OF LIFE AND DEATH**—ceaselessly carries, like an endless conveyor belt in a factory, supply substances to your cells.

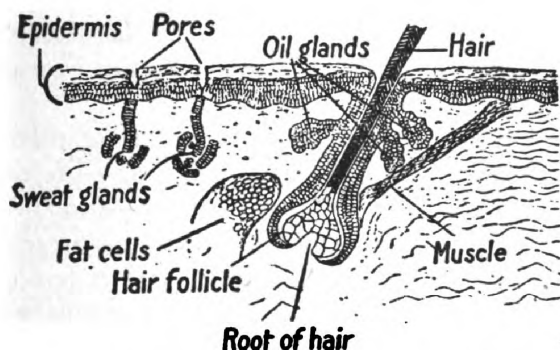
Considering your digestive tube as a storehouse, your blood cells pick up from the food that you eat, certain revitalizing material, conveying this material to the myriad departments of your body as they need replenishment.

The amount of energy and the amount of food material involved in this endless renovation in your body is incredible. Arthritis and other degenerations are really a slowing up in this "conveyor belt" of endless supply. The slowing up occurs because of a suffocation of the cells with poorly selected material (your daily foods), as well as by a marked *deceleration* of the casting off of worn-out and toxic material.

Your Everchanging Skin

Nowhere in the body does this phenomenon of constant change occur with more directness or importance than your skin. Your skin—*visibly* and *invisibly*—is constantly shedding. This cannot be stopped entirely, but in dis-

ordered states like arthritis, this shedding and replacement takes place at a rate very much lower than normal, with consequences that are injurious to the whole body economy.



Showing the complex processes that occur in every bit of skin tissue. *Healthy* skin is tissue that has been trained to hold sufficient blood.

Heavy clothing, warm rooms, deficient exposure of the uncovered body to the revitalizing influences of sun, air and friction—all together form an evil conspiracy to make the average human skin one of the weakest organs of the body. This is particularly harmful in arthritis.

Civilized people ordinarily are not aware that as the skin is reduced to a comparatively weak organ, the burden that it should normally assume is constantly thrown over on other organs of depuration and elimination, particularly on the kidneys.

The vicious cycle of defeated function continues. Not only is elimination interfered with but the skin blood circulation is also weakened.

In arthritic conditions, high grade blood flow and waste disposal in the skin areas is of the very essence. Hence,

skin improvement is a definite part of any intelligent anti-arthritis program.

The Skin as Diagnostician

In addition to lack of exposure to the RENOVATING influences of sun—air—friction, the average skin suffers a lack of nourishment.

Our common civilized practice of eating robbed and denuded food—pasty white flour products—lifeless white sugar products—foods lacking vitamins—foods deficient in minerals—foods loaded with chemical preservatives and adulterants—all fail to nourish the skin, lessen active blood circulation and make arthritic conditions worse.

The dramatic story of the effects of a bionomic diet on beauty, as well as health, has never yet been told. The skin is the mirror in which the general health of the entire body is reflected in a remarkable manner and as such is generally a pallid weak organ in arthritis.

When the diet lacks IRON and COPPER, the skin is overtaken by the pallor of anemia. When the diet has become gravely deficient in PHOSPHORUS, VITAMIN D and CALCIUM (and tuberculosis threatens), the skin reflects this dread plague.

When the liver is functioning improperly and the ducts of the liver and gall bladder are congested and thickened with slow-flowing ropy bile, the yellow skin discoloration of jaundice becomes immediately apparent.

When constipation pollutes the bloodstream with toxemia, the retained toxins circulate through the body and attempt to find an outlet through the skin, perhaps causing acne, pimples, blotchiness and other disorders of the complexion and also lessening vital skin circulation

and hence indirectly acting as a hindrance to improvement in the better functioning of arthritic joints.

Skin Benefits of Changing Temperatures

A varying temperature is best for physical vigor and skin health. The blood is much better off when it chases back and forth in the body than when it stagnates in the abdomen.

Just as racing an automobile engine once in a while cleans out the carburetor, so is it beneficial to "race the blood" back and forth through the skin.

By moving swiftly back and forth between the skin and the internal organs, the blood manages alternately to flush the skin and to drain it.

Assuming that proper protection of clothes is sensibly provided for and that "chills" are prevented, people who keep moving from indoors to cold outdoor weather succeed in having the blood vessels beneath the skin tone and "tighten up." This trains the blood to stay in the skin and muscle areas.

Unvaried warmth enervates and depresses the body very much. People who coddle themselves by staying indoors, or who live in the tropics gradually deteriorate physically. The machinery for blood movement becomes flabby from disuse. Almost as an axiom, it might be said that heat is COMFORTABLE, but it is not HEALTHY if continued too long.

Changing temperature is a good way to startle the blood near the skin without harming the nerves. Getting out in the cold air first constricts and later widens the blood vessels in the skin. Needless to say, these same measures are excellent for the throat and chest, because

they cause deeper breathing. Proper weight and warmth of clothing is, of course, essential.

Stimulating Skin Nerves

Active contact with the elements conquers jaded and tired feelings. The 15-minute bedroom seance of daily nude air bathing while keeping active, increases skin metabolism to a profound extent. Of course, extreme "hardening" measures such as very cold showers or lightweight clothes in cold weather are to be avoided at all costs.

Sunlight is exceedingly valuable in most joint disorders. Soap and water bathing, while necessary, can never alone keep the skin as vital and clean as the daily friction bath with brush or mitten. The weekly salt-glow is a skin smoother and skin cleanser of high merit—hence of *circulatory* benefit to the joints and muscles.

Every arthritis patient should be unremitting in efforts to build up skin functions by these methods.

The next paragraph will disclose a little known and hence generally neglected point which is of the greatest importance in arthritis improvement schedules. Its benefits, incidentally, prove how superbly the body is *unified*—all one organism, not assembled in "parts."

Arthritis Skin Secret

Most arthritis sufferers have poor skin functioning. A pallid, soft, weak skin cannot retain actively flowing blood. On a simple mechanical basis, this means that the blood stagnates in the abdominal pool and hence does not circulate properly through the joints.

Dietary minerals and vitamins, important as they are, **WILL NOT ALONE** take the place of the mechanical routines needed to revive and restore the skin to the point where this "forgotten" body covering will carry its full load of vital circulating blood. Blood-circulation improvement **THROUGH THE JOINTS**—as a result of better skin function—is thus very evident.

Everything learned about the skin disciplines in preceding lessons should be applied to the fullest extent, but the basic skin secret in arthritis is the *FRICTION RUB*. A ten-minute morning or evening session of "frictionizing" with coarse towel, or better still, fairly stiff brush, will gradually train the skin to hold more blood, relieve internal congestion and improve the blood circulation *throughout the joints and muscles* of the entire body.

Arthritis and Emotions

Frequently, the victim of arthritis is also in a state of strongly-repressed emotions. It should be a source of consolation to these men and women to know that the tendency of the blood to "pool" in the abdominal areas may be part of the reason back of the troubled or repressed emotional life.

For this reason, actions that *simultaneously* use nerves, muscles, skin and intellect are of enormous advantage and lead toward most wholesome and definite results. To illustrate joint exercise, stretching, body relaxation and skin friction all employed within a half hour seance of improvement, will typify a half hour profitably and intelligently spent in a frontal attack on the distressing disorders of arthritis.

For purposes of emphasis (the point is important be-

yond any exaggeration) these measures and particularly the **DAILY FRICTION RUB** help to prevent "blood pooling" in the abdomen, help to balance the circulation to the joints, and finally these routines help to balance the repressed emotional states by improving the **BLOOD CIRCULATION** to the brain and nervous system. Better blood circulation means healthier emotional states. This curious truth should be more widely known.

CHAPTER THIRTY-TWO

FEET AS VITAL FOUNDATIONS OF HEALTH

"A strong body makes the mind strong."

—Writings of THOMAS JEFFERSON.

IT GOES without saying that houses are not expected to stand safe and secure when the FOUNDATIONS have begun to cave in. Yet many people hobble through life when the feet have almost caved in beneath them.

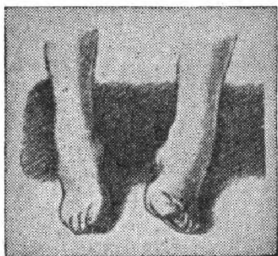
Human feet are singularly like the Pyramids. The foot bones are like the bottom "blocks," having the same broad base and ending in a Pyramid-like apex above (the ankle).

From the feet upward, building "styles" of all centuries pass in review. To be seen are such building themes as the "Doric" effect of the shin bone; the "Ionic" motif of the thigh bone—both of these structures supporting the gate-like Arch of the pelvic dome; then the spinal column finally rising spiral-like in churchly magnificence above these lower placed creative masterpieces.

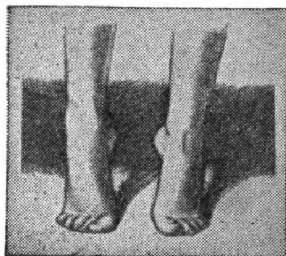
Feet and Joint Traction

When arches fall—some impairment of general health is bound to follow. The *relation* of the feet to healthfulness, youthfulness and the personality is definite and exact.

Most all agile, youthful-looking people over 40 have feet in which every bone is in place and every muscle functioning to carry the body weight lightly and efficiently.



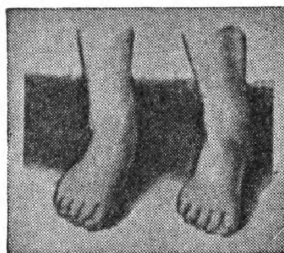
The
outward
roll.
Fine
exercise.



Rising
on
toes.
Fine
exercise.



Normal
footprint.



Abnormal Normal
position position

Lifting the
arch.



Flat-foot
impression.

As will be pointed out in this chapter, your feet deserve your best attention, and assurance is herewith given that you will be fully repaid for the time and effort that you give over to this important part of your body's anatomy.

It is surprising how frequent are the opportunities for strengthening, revitalizing and revivifying the entire body by easily applied rules and practices of foot health.

Structure of the Foot

Primitive peoples generally have no foot defects other than those caused by injuries from external sources.

Because of their *normally* flexible feet and perfectly functioning arches, they walk with normal gait and are able to endure walking great distances without tiring. It goes without saying that *arthritis* is virtually unknown among the primitives.

Not only because of defective feet but also because of improper footgear, people today are forced to abnormal foot POSTURE, as well as the "flat-foot gait."

This "foot-gait" is employed not alone by actual flat-footed persons but also to a degree by all who lack normal FLEXIBILITY of the feet or who wear INFLEXIBLE shoes. All the gain and benefits that come from practicing "pelvic" control are undone by wrong foot gear.

In the human foot there are 26 bones, connected by more than four times as many ligaments and operated by many MUSCLES and NERVES. The foot is a far more wonderful machine than the most perfect automobile.

Through misuse of the foot and particularly from the failure to properly rest and exercise the foot and leg muscles DAILY, or of course, through the wearing of poorly-designed shoes for long periods of time, the arches begin to sag and the bony parts of the foot thus tend to separate. *Rest and massage are just as important as exercise.*

THE BONES MAY EVEN SLIP OUT OF THEIR CORRECT PLACES, at which time pains, aches and suffering inevitably follow. Oddly enough, in such conditions, *relaxing* the foot may be more important than exercise.



Position of bones in an unshod foot.



Position of bones in a well-fitting shoe.



Cramped bones in a pointed too-tight shoe.

Foot Aches Referred Elsewhere

It would be bad enough if the distress following bone slippage in the feet were confined to that area alone.

Often, however, these foot *distortions* affect remote parts of the body, causing headache, fatigue, spinal disorders, impaired digestion, nervousness and other general conditions of body distress. *This is because of the unity of the body.*

If a foundation stone in a building slips out of place, a CRACK MAY APPEAR IN THE CEILING OR WALLS OF THE UPPER FLOORS. So also, if your feet become weakened or the long arch collapses and the foot flattens, you feel the effects in other parts of the body, particularly along the *spinal column*. This calls for "pelvic control," foot rest, foot massage, foot exercise and frequent short periods in the horizontal position.

Fallen Arches

Considering the structure and anatomy of the foot, it is not surprising that a common foot ailment is known as fallen arch or flat foot. This ailment of the pedal extremities consists of a flattening of the long arch that extends from the heel to the great toe. One of the first symptoms to be noticed is a pain under this arch, a pain that may extend up along the rear leg muscles.

On specially-marked carbon paper or on wet sand, the flat foot will show a flat imprint. The NORMAL FOOT shows an imprint NARROW in the middle but wide at the heel and toes, whereas a flat foot will reveal a wide imprint along its whole length and width.

Muscle Discipline for Feet

The opportunities for helpful and healthful foot exercises are legion. Countless opportunities are afforded during working hours, recreation and relaxation periods.

A woman sitting at the sewing table or reading may slip her shoes off and propping her feet on a stool or chair level with the hips, stretch and twist the feet in all directions, the ankle being the pivot. This is very beneficial for the feet and lower branches of the nervous system.

During the morning and evening body stretching routine, or at the office desk, or when knitting, minding the baby or on any one of a hundred other opportunities, the shoes may be slipped off and neglected toes and arches given surcease from tension.

Expose your feet to fresh air and sunshine as often as possible, performing all manner of *twisting, turning, flexing* and *relaxing*.

Correctly treated, your feet will reward you as quickly and completely as any area of the body. For emphasis, because the point is very important, *RELAXING* the foot is just as important as corrective exercise.

Foot Improvement Points

Rigid Metal Supports should be avoided unless the arch condition is irremediable. In certain cases light flexible metal supports may be worn temporarily. Rigid supports cause pressure on the under foot muscles, thus interfering with blood circulation. This leads to a wasting away of the muscles. There is no escape from the law that muscles must be used or they will surely atrophy and waste away.

Barefoot Walking on the outer edges of the feet will help greatly to strengthen the long arch that has weakened or is near collapse. A few moments several times daily will accomplish surprising results. This apparently awkward gait causes a return of the foot arch to its original "pyramid" pattern.

Contrast Foot Baths are extremely useful in promoting vigorous circulation in feet that have become fatigued and tense. Technic for the contrast bath is as follows: Feet should be placed in 2 or 3 inches of very hot water for a minute and a half, then switched to a tub of very cold water for 30 seconds and so on for five complete changes. Following this 10-minute session, feet should be dried rapidly and exercised gently while lying on the back for 10 or 15 minutes. *Massage* of the feet assists relaxation.

Eight Foot Routines—Correct bathing—air—sun—exercise—friction rubs—rest—massage and lying down—are simple foot care measures that involve little time and trouble. Their benefits operate for not only foot health but they extend throughout the body by way of the spine and the nervous system.

Relaxation for some foot disorders is frequently more important than exercise. Relaxation is achieved by lying down very frequently for five minute sessions throughout the day. Ignoring *fatigue*, missing adequate night rest and sleep very directly harms and weakens the feet. Even 20 lbs. of overweight depresses the arches closer to the floor.

"*Shelter Legs*" is often acquired by adults who spend many successive nights in bomb shelters. This condition is a swelling of the legs, **OFTEN PERMANENT**, caused by sleeping in deck chairs in half reclining, half-sitting-up postures. Unfortunately, this condition when once developed appears resistant to all forms of treatment so far employed.

Leisure and the Mind

Inaction of the mind and rigidity of the intelligence are forms of mental arthritis that menace good health and the very foundations of human happiness.

It simply is not true that people die of overwork—either of mind or body. The real causes are more generally worry and faulty food.

The mind can stand a prodigious amount of correct thinking because the brain never WEARS OUT. Worry, fear and intellectual stiffness, however, cause the brain to RUST OUT.

The law of use is the law of life. Action brings *power* and *strength*. Inaction and too much rest bring *atrophy* and *death*.

Whether housewife, artisan, doctor or business executive—explore your daily work and *improve* it. Then—study a language, music, Shakespeare, “collect stamps” or *master the Bible*.

Work, play, study, laugh—mentally and physically—and you will keep healthy, youthful and happy.

CHAPTER THIRTY-THREE

NERVE AND HEALTH PATTERNS

"Scepticism is unbelief in cause and effect."

—RALPH WALDO EMERSON

THE FIRST great nerve drama was enacted two thousand years ago when the dormant, moribund nerve system of the paralyzed human surged into life again at the Messianic decree: "Take up thy bed and walk!" (St. John 5:8)

In this age, another drama of nerve healing is being enacted, for the 20th Century has brought a marvelous comprehension of the powers, structure, potentialities and wonders of the human nervous system. Before the turn of the century, *little* was known of nerve structure, *less* about its function, *nothing* about its nutrition.

In this chapter, let us figuratively take the system of human nerves apart, explore some of its wonders, learn something of its marvelous capabilities, comprehend a little of its role as the metaphysical "bridge" between mind and body, appreciate its utter dependence upon a wise dietetics and attempt to bring into focus the traits of intelligence, emotion and right living habits by which we can mobilize our personalities and energies for greater health, happiness and achievement.

Coaction of Living Processes

Ever and always will a compound approach to the subject reveal the "oneness" and the marvelous coacting of

all of life's parts, for while the terms body and mind are convenient to use, they really represent merely differing aspects of the whole unified organism—the human body.

Walking, sleeping, laughing are physical in their nature; thinking, loving, holding ethical ideals are essentially mental. Yet—whether physical or mental—they all are but functional aspects of the same indivisible living human being.

A physical action requires the thought and generally the consent of the mind; a mental action while first of the mind, also evokes a responsive activity of glands and muscles.

Hence, the all-around perfecting of a human being is at last regaining the high place it held among the Greeks and the Romans and the modern magic of science, co-operating with Nature, is leading us back to the realization that few things equal in value the mental and physical satisfaction of a "sound mind in a sound body"; a poised and serene intelligence at work in a harmoniously-functioning physical body.

Responsibilities of the Nervous System

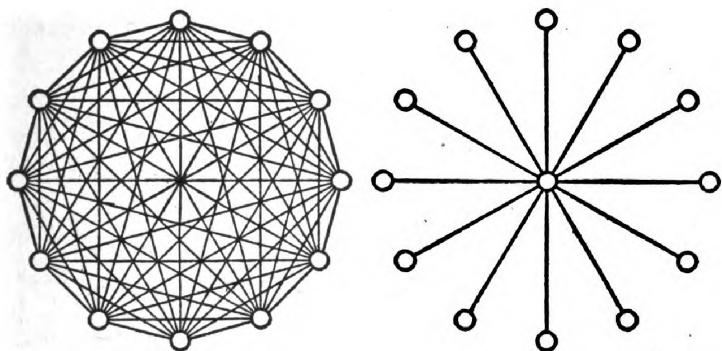
The first great work of the human nervous system is to cause all parts of the body to work in closest harmony and this means all parts should work in ONENESS, UNITY and INDIVISIBILITY. The second great work of the nerve system is to act as the organ of the *human mind*.

You—the genuine, real, mental YOU—reside almost entirely inside the small bony box called the skull. The other part of your body is an organic assemblage of cells, tissues, levers and muscles designed by Nature to carry

out the commands of that wonderful dynamo—YOUR BRAIN—within your head.

If you slip and injure your knee, you feel that it hurts you in and around the knee, but you are mistaken. The pain of that knee injury is actually felt in YOUR BRAIN.

Most of your reasoning and thinking—your decisions as to the issues of your life—are all accomplished with the front part of your brain located just behind your forehead. It is for this reason that in all ages people have been inclined to judge the capacity of the intellect by the "highness" and "lowness" of the forehead.



The first diagram shows the vast number of wires that would be necessary to connect 12 homes by telephone if there was no central office.

The second diagram shows how wonderfully the matter is simplified and the fewer number of wires necessary to connect the same number of houses THROUGH A CENTRAL OFFICE.

The human BRAIN and SPINAL CORD act together as a central office for the human nervous system. The number of nerve fibers that would be necessary to connect all parts of the body *without* the BRAIN and the SPINAL CORD as a central office simply cannot be imagined.

The fact is that the shape of the forehead is far *less* of an indication of mental capacity than the QUALITY

of brain tissue or the depths of the brain convolutions. However, it is true that one would hardly expect to find as great an order of mentality in a low and retreating forehead as in a lofty and well-shaped brow.

If an accident destroys the front part of the brain, the person may live for many years, but the intellectual faculties and the reasoning power are lost. Life, as such, becomes meaningless.

Electrical Mysteries of Life

Almost every movement that you make is controlled by this forward part of your brain, called the motor (movement) area. From your brain (the dynamo and power house of your life), electrical currents run down over your nerves and reach the 600 or more muscles of your body; causing the voluntary muscles to act almost instantaneously in response to your will.

The beginning of a complete change in the scientific estimate of all nerve cells is now occurring. In place of mere plain living matter, the nerve cells are found to be radiating centers of superb energy; in fact, they are generating dynamos from which flows undreamed of power.

Not only are nerves composed of electrical units of unplumbed power, but they obey brain laws that stamp them as possessing super-intelligence.

Even the human eyes, animated by nerves, radiocast actual vibratory waves which affect cells of fungus growths held several inches away from the eyes. The brain itself is a powerful broadcasting system constantly sending outward waves of power that can be measured in terms of micro-volts.

Organisms Create Their Own Electricity

These electrical wonders of the human brain and nerves are easier to visualize if we remember that electricity is now known to be common to all living things.

According to scientists who have kept a careful record of the electrical discharges, the *electric* eel that is found in the waters of the Amazon and Orinoco rivers generates an electrical impulse of 110 to 500 volts. Natives living along the rivers fear these high tension electrified creatures as much as they do the most dangerous animals of forest and jungle.

Young and tender carrots, onions and other things of the vegetable kingdom broadcast outward tiny waves of ultra-violet electrical energy as definitely measurable as X-rays or radium rays.

Thus, an innate principle of electrical energy seems to pervade the universe of all living things, a crossroads as it were, where mind acts upon matter, soul upon body, God upon His creative masterpieces of matter. At no point is this inexplicable reservoir of power more wonderfully portrayed than in the hemispheres of the human brain.

Right and Left

In addition to the MOTOR area of the fore-brain, through which the power impulses to the muscles of your body are generated, there is another important brain region called the SENSORY area (where sensation is felt). It is located just behind the motor area of the brain. This is the part of the brain that becomes aware of pain when you cut your finger, burn your hand, stub your toe or injure yourself in any other way that creates *pain*.

If the nerve of your tooth is injured by exposure due to a cavity, actually the pain is felt in the sensory area of the brain. By way of your nerves your brain is kept informed of conditions throughout your body *almost instantaneously*.

Whether it is *motion* or *sensation* (movement or feeling), your brain, the great dynamo within your skull, is in intimate touch with every cell of your body by way of the nerve pathways, which through subdivision *connect every part of your body with every other part*. If for no other reason than this marvelous network of nerves in your body, we can say again that the human body is superbly INTEGRATED—INDIVISIBLE—COACTING.

Preliminary Axiom—FEED YOUR NERVES AND LET THEM PROPERLY CARRY THEIR FULL LOAD OF WORK.

With a first nutritional principle set forth, it is interesting to know that one-half of your brain controls the *opposite* half of the body. Thus, the left side of your body is controlled by the right hemisphere of your brain and vice versa.

To illustrate—If by reason of hardened and brittle arteries, a small hemorrhage occurs in the *left* hemisphere of the brain, the resulting stroke of apoplexy will paralyze the *right* side of the body. Lest one think that it requires a large and serious hemorrhage or blood clot to cause serious disaster, the fact is a small hemorrhage no larger than a pea (inside the brain) can destroy all motion and sensation in the *opposite* half of the body.

Nerve Cells and Food

The nervous system has been likened to that of the telegraph. In the telegraph system, wires run from all

directions to various offices. In each office an operator learns what messages the wires bring and he then sends back orders or answers. A skilled telegraph operator can tap the wires anywhere and learn what is going over them. So can your nerve ganglia.

In your marvelous nervous system, your nerve fibers are like the wires and your nerve cells each like an operator. Wherever nerve cells occur, they can take the sensations and give the orders. Curiously though, they do not send back orders by the *same* wire that brought the message, as the telegraph operator does.

When a brain cell operator in your nervous system receives a notice of sensation or feeling by one nerve fiber, it sends back an order for motion or movement of muscles *by another fiber*. Hence, the first fiber is called a SENSORY NERVE (nerve feeling) and the other a MOTOR NERVE (nerve motion).

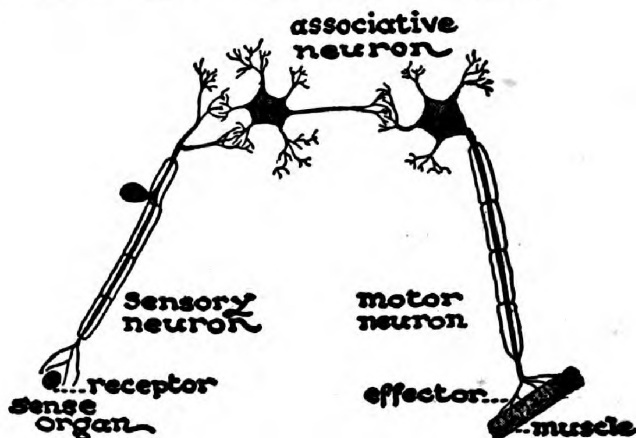
Two nerves (one of each kind) are bound together in a SINGLE sheath and there is no visible difference between them, BUT THEY NEVER GET MIXED UP—never do each other's work.

Axiom—KEEP IN MIND THAT EVERY NERVE IN YOUR BODY MUST BE FED THE *RIGHT* FOOD EVERY DAY. RIGHT FOOD MEANS STRONGER NERVES.

Nerves Must Be Fed

One of the truly great discoveries of modern times is the inseparable connection that exists between nerve tissue and diet. All that has been said, explanatory of the wonders and marvelous mechanisms of your brain and nerves, is merely preliminary to the unqualified statement

that the physical structure and quality of your nervous system with its billions of nerve fibers, is a kind of reflection of the quality of food that you have used to maintain your body during preceding months and years.



The associative neuron lies between other types of neurons and sets up connections between them.

When we say that food (minerals, proteins and vitamins) affects your nerves, you may take it to mean that food may have something to do with the neuritis (nerve inflammation) of your arm, or the sciatica of your leg. This is true as far as it goes, but we actually mean that *every single nerve trunk, nerve fiber, nerve tendril* (billions of them) in your body is affected by the quality of your food.

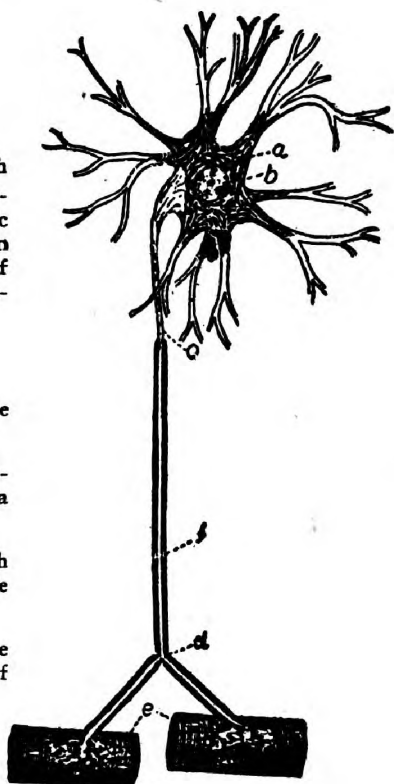
Vastness of Nerve Distribution

The ramifications of your nervous system are so vast and so incredibly numerous that were it possible to magically *dissolve* away every tissue and structure in your

body *except* the nerves, the nervous tissue remaining would form a perfect outline of your body even to the point where the features and expressions of your face would be recognizable. For practical purposes, we can say that you are a man or woman completely made of NERVE TISSUE.

Diagram of
A NERVE CELL and Its Outgrowth
This complex little bit of highly-sensitized nerve tissue is the basic unit of the nervous system. Upon it life and intelligent function of the various organs and tissues depend.

- (a) Nerve cell body;
- (b) Mysterious nucleus of the nerve cell body;
- (c) Axon or the cylindrical extension of the cell resulting in a *nerve fiber*;
- (d) Branching points by which nerve elements go to muscle fibers;
- (e) Muscle fibers connected to the nerve endings, impulses of which *move* the muscles.



Every cell of your body has to have a nerve connection, else the cell would not live. From this you may estimate the profound importance and incredible distribution of

nerve tissue and also the importance of the manner in which you feed your nerves.

Nerve Food Factors

At this point, realize fully that nerve tissue is merely an extension of brain tissue and that the nutritional laws of NERVES are the nutritional laws of BRAIN. YOU CAN WEAKEN YOUR BRAIN BY PERSISTENTLY EATING *DEBASED, DENATURED* and *REFINED FOODS*. YOU CAN STRENGTHEN YOUR BRAIN AND NERVES BY *GOOD FOODS*, complete, mineral-rich, vitamin-rich balanced foods containing *ALL, not merely some*, of the elements decreed by God and Nature, as essential for healthful human life.

Among the more important food elements that especially build and repair exhausted nerves—CALCIUM—PHOSPHORUS—LECITHIN and VITAMIN B family vitamins are fundamental.

CHAPTER THIRTY-FOUR

NERVE FEEDING EXPLAINED

"The brain is the citadel of the senses."

—PLINY THE ELDER.

LIKE THE fragments of deathless animal tissue that are being kept alive in research laboratories throughout the world, our human cells specialize and organize themselves into skin, eyes and the incredibly delicate tissues of the brain and the nerves.

Because we have finally learned these truths, entirely new concepts have now been accepted throughout the whole science front and they are these:

If the human body is maintained at high rate of energy by consumption of vital foods.

If civilized humans will abandon the hopeless practice of attempting to live upon lifeless, refined, denuded and emasculated foods.

If the body and blood are kept pure from contamination by unsuitable cell-building material.

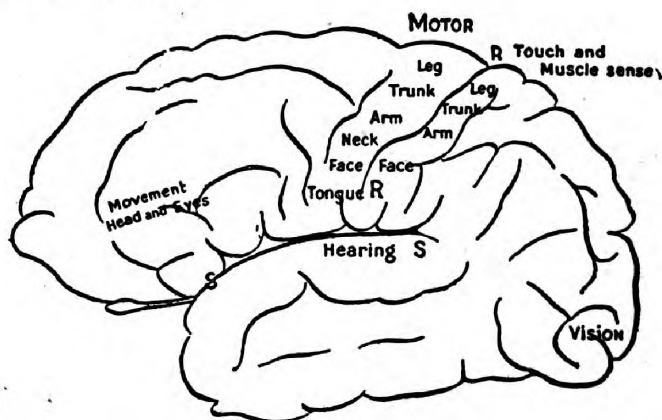
If every part of the body is made to carry its own eliminative load.

If bowel, kidneys, lungs, skin, mucous membranes and their channels are kept free and openly drained by right living and right food.

life can be lengthened—more vitality and youthfulness can be achieved BECAUSE, all of these directly create brain and nervous tissue of higher power.

Encouragement for Middle Age

These newly discovered facts, favorable and encouraging to middle-aged people, certainly bear witness that there is no science so valuable as that of knowing how to live healthfully, which in its final analysis, mostly means **HOW TO EAT.**



Every deliberate motion and action arises from one or more brain areas.

It is interesting to know that very exact tests now indicate that the *power* of thinking generally shows no decline whatever as the years go on. In certain instances the *speed* of thinking may be lessened, but even this, under energized nutrition and the delivery of vital power to the nerves by right food, can be speeded up and more youthfulness in thought and action made evident.

Remarkable Restorations

As an instance of brain and nerve rebuilding consider this: At an Illinois State institution for the insane, a

liberally-increased intake of Vitamin B Complex in the daily diet of the inmates resulted in a striking improvement of the mental states of many of the subjects in the so-called "hopeless" category.

At a Massachusetts State hospital, the administration of vitamin therapy "in senile psychosis has materially changed the behavior pattern of the individual patients to such an extent that some have become better hospital citizens and some have returned to the community." Thus may be seen certain sociologic aspects of high-power nutrition therapy.

A new protective effect of Vitamin B Complex was revealed recently when tests showed that Vitamin B foods (in very liberal concentrated form) protect the brain from convulsions induced by long continued shrill sounds, that in the absence of Vitamin B, produced serious effects.

A distinguished otologist has reported successes in improving the hearing and revitalizing the auditory nerves of fairly deaf persons by treating them with concentrates of Vitamin A and Vitamin B.

Government pictorial charts show in vivid form the almost miraculous recovery of paralyzed, dying animals following intensive feeding of Vitamin B Complex food. **THE RECOVERIES TOOK PLACE IN LESS THAN 48 HOURS.**

1 in 1000 Escape Malnutrition

Recent State surveys announce the almost unbelievable fact that only a mere handful in each 1000 people escape malnutrition.

Surveys show that the average American diet is dangerously low in vitamins and minerals, which cannot be differ-

ent as long as otherwise intelligent people attempt to live on a diet so largely made up of white flour products, refined white sugar products, overcooked and mineral-robbled foods—foods that have lost their vital factors through oxidation, transportation and age.

Deficiencies of such basic diet necessities as food calcium found in dairy products and green vegetables, plus shortages of Vitamin B Complex family, found so liberally in whole grains, fresh vegetables, dairy products, glandular meats, fresh quick-cooked vegetables, are widespread.

The tragic results of these common deficiencies so complacently disregarded by the average person help to start the sad journey toward disease, the steps of which are first *unseen* and painless, the last steps of which are *visible*, painful and develop with ever-quickenning tempo.

These states of deficiency (even of the B Complex alone) may cause a marked lowering in the *resistance to*

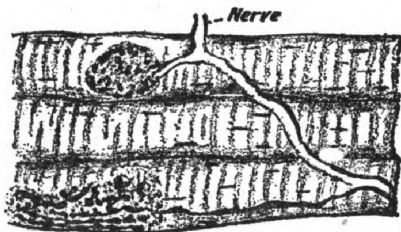


Diagram of nerve and muscle fibers illustrating very clearly the axiom: "A tense nerve means a tight muscle."

infection. In other instances, serious functional disorders, such as affections of the brain, the gonad glands, of the kidneys, heart block and rapid beating of the heart, develop with mathematical certainty.

In other cases, loss of appetite, impaired digestion, lack

of stomach secretions, loss of tone of the digestive walls, constipation and even in the serious disorder, gastric ulcer, may be states of food deficiency *solely*.

There may be loss of weight, development of puffy swellings of the feet and ankles, chronic fall in body temperature directly resultant from B Complex shortage.

Important Note—In the final stages of vitamin deficiency, particularly of shortages of Vitamins A, B and E, dreaded muscle paralysis may ensue with degenerations of the central nervous system of different types. The unbreakable union between strong nerves and good food has been proved beyond question.

Tranquillity—Food—Nerves

In your personal efforts to rebuild your nerves and bring your brain and nervous system to their highest levels of efficiency, base your efforts—first—on *nutrition*.

Many experiments prove that the child who does not get an adequate amount of *calcium, phosphorus* and *Vitamin B*, does not learn as rapidly as he should.

Parents naturally desire superior vigor of thought and mental endurance for their children.

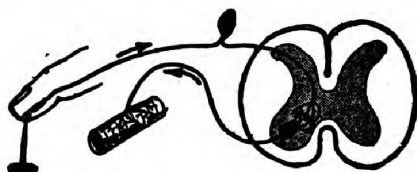
To insure this, a child's diet should be completely reorganized so that it includes abundant CALCIUM—PHOSPHORUS—VITAMINS A and B.

Vitamin B has been called the "vitamin of courage." It is actually a fact that people who receive an adequate intake of these special nerve food factors, tackle daily tasks and problems with increased confidence and energy.

Even the faculty of memory is aided by the correct dietary and many weaknesses and impaired states of the mind disappear entirely under the benign influence of foods rich in vitality-building, nerve-strengthening units.

The drawing illustrates what is called a reflex arc. In a sense, a reflex arc works faster than conscious thought.

In this instance the tip of the finger feeling the pain produced by pressure on the sharp point of the tack is



withdrawn from the pain or danger quicker than any deliberate brain thought could accomplish. The reflex arc works like this: the message of pain is relayed from the nerve of the finger tip to the spinal cord and is there switched off onto side tendrils of a neighboring nerve and the impulse to withdraw the finger is accomplished without the original pain impulse going all the way to the brain.

Nature has been very wise in her creation of reflex arcs in the nerves because these save us much pain and in certain instances may even save our lives.

Specific Foods for Nerve Welfare

While *all* minerals and vitamins are necessary for vibrant health, FOOD CALCIUM (while usually thought of in connection with bones and blood) is also a specific requirement of the nerves.

The following table shows common foods that are very rich in this "youthfulness-conserving" element—CALCIUM. One or more of these foods should be in the dietary every day.

Skim milk powder	Turnip Greens
Milk of all types	Dried soy beans
Cheese	Dried beans
Molasses	Broccoli
Almonds	Lentils
Figs	Cauliflower

Note—Rhubarb and spinach contain oxalic acid which prevents the absorption of an equivalent amount of *calcium*; hence their food value is questionable.

* * *

Above all other elements, the royal Vitamin B Complex family is the factor, par excellence, for a virtual rebirth of the nerve system. A good dietary may almost be described as pivoting around an abundant daily intake of B Complex foods.

The following table shows common sources of this master element—VITAMIN B COMPLEX—the nerve of “courage,” the “anti-fear” factor, the vitamin of morale, strong nerves, the “intelligence” vitamin.

Liver	Brewer's yeast
Dried milk whey	Dried legumes
Whole grain breads	Kidney beans
Brown rice	Lean meat
Apricots	Dried beans
	Fresh Lima beans
	Dried Lima beans
	Dried peaches
	Swiss chard

These Vitamin B Complex foods promote nerve health, strengthen the heart and help burn up the acids of fatigue.

CHAPTER THIRTY-FIVE

PERSONALITY—NERVE FORCE—FEARS— COURAGE

"Our foster nurse of Nature is repose."

—KING LEAR, Act IV.

WE HAVE been accustomed to think of thought as expressing the very essence of speed. In fact, the expression "quick as thought" is very frequently used.

Insofar as thought operates through the brain and over the nerves, its speed is only about 75 yards per second. On an hourly basis this speed along the nerve pathways is only 100 or more miles per hour, which of course is exceeded even by the speed of an automobile, not to speak of the airplane. Hence, we see that thought-speed along the nerves is really rather slow, physically speaking.

As might be expected, however, each individual possesses a characteristic speed of nerve conduction, which is affected by nutrition, prevailing emotional states and the habit-patterns of a lifetime.

We all differ greatly, some reacting to certain nerve signals in one-fifth of a second, others in two-fifths and some in a half second. These time intervals thus show that individuals differ phenomenally in reaction speed as much as 500 percent.

Truth About Aptitudes

Every individual is better equipped for certain kinds of reactions than for others. By far the most illuminating truth that we have learned regarding human potentialities is, that as individuals we are much more talented than we think we are.

There are only about a dozen **KNOWN** *human aptitudes*. A curious fact is that practically every individual has at least six *strong* aptitudes out of the known twelve or more.

The reason that most people accomplish far less than they can and achieve far less happiness than they might, is merely because only a handful of people ever actually *use* more than one or two of the strong aptitudes they possess.

This hit-or-miss method of choosing a life work and trying to build happiness, all too frequently results in deterioration of the mind, frustrated ideals, loss of ambition and even "inferiority complexes."

For that matter, a great majority of people go through life merely earning a living and actually not calling upon a *single one* of the *half dozen* aptitudes lying dormant within.

The time is very close when we will all have our natural *aptitudes* tested and evaluated with the same matter-of-factness that we have blood pressure measured, kidney excretions analyzed and our teeth X-rayed.

In aptitude testing all of the tests, not a few only, should be taken. Individuals are sometimes tested for only a few aptitudes in which they may score low merely because those few aptitudes are not the ones in which they excel.

Every individual, regardless of education, has some aptitudes in which he or she will score high. This science of human technology which will someday be applied to all is of greatest usefulness when it is applied during the formative years.

It goes without saying that no real happiness can result from a lifetime spent in doing work that is disliked or in work that does not yield some sense of personal creative achievement. The factor of poised and tranquil nerves is implicit, at least to a degree, in this truth.

To each of us, this is a strictly personal problem. Robust vitality is, of course, not the sole ingredient for either success or happiness but it is a good foundation for both.

Basis of Fears

The basis for every fear lies in the unknown. Out of mystery springs fear. Of the legion of fear states, only two are born in us, namely, fear of falling and fear of noise. Every infant comes into the world with these two fears which are essentially *protective* fears.

All other fears are acquired through *experience*. Some are good, some are bad. The fears that lead to normal caution in the avoidance of danger help us. The fears that are acquired through unharnessed imagination and that lead to character dispersion, weakness and cowardice, spring principally from chronic fatigue, ill health and severely-impaired nerve nutrition.

Out of the conditions just mentioned arise various neuroses, phobias (fears), "repressions" (abnormally-suppressed emotions), "compulsions" (irresistible desires to do certain things) and the like.

Sex Concepts and Psychoanalysis

In certain "modern" systems of psychology, these painful and undesirable mental states have been ascribed to the sexual phantasms of infancy, repressed distortions of the instinct toward love of the mother and other strange behavior ideas. This is all the weirdest scientific foolishness. It is simply unmitigated nonsense—untrue and undignified.

Mental freedom can never be found in untruth. The conquest of fear, the rebuilding of nerve cell energy, the sane guidance of our feelings can only be achieved when we learn that a composite mental health can generally be directly pursued and attained.

Further, that the lack of mental health is first most frequently a physical matter induced by wrong food, chronic fatigue, which in turn vitiate the health of the nerves, thus laying the foundation for all sorts of abnormal fear, anxiety states, phobias and repressions.

Abnormal Forms of Fear

It seems curious and contradictory that the human mind which can rise to the triumph of weighing the sun, measuring the heat of a star, or reading the message of a lost universe that started on its story of light waves to us a thousand years ago—can also become the victim of insignificant, but very painful abnormal fears.

Some of these curious fears appear so frequently among humans that psychiatry has attached names to them, giving us such descriptive terms as claustrophobia (fear of closed spaces); agoraphobia (fear of open places), the list of terms being endless.

In the olden days, the ancients personified certain fears. Thus, we have the word *panic* arising from the imaginative terror that the goat-footed Pan inspired in the enemies of the Greeks.

The sheer power of uncontrolled imagination and fatigued nerves can paralyze the limbs, blanch the face and sicken the stomach.

These pathological fears are generally dismissed as ridiculous by those who do not suffer from them or who have not observed their devastating effect on the victims. Some people abjectly fear lightning (*astraphobia*). Other common *abnormal* fears are:

Nyctophobia	(fear of darkness)
Acrophobia	(fear of heights)
Aquaphobia	(fear of water)
Triskaidekaphobia	(fear of number 13)
Monophobia	(fear of being one)
Kenophobia	(fear of an empty place)
Thalassophobia	(fear of the sea)
Hematophobia	(fear of blood)
Mysophobia	(exaggerated fear of dirt)
Bacillophobia	(fear of germ diseases)

Important Realizations

Fortunately for the victims of pathological fears, the remedy generally does not call for the endless time and financial outlay required by "psychoanalysis."

The fear victim cannot reason away the psychological states because reason no longer is in control. We cannot reason ourselves out of pneumonia or cancer and no more can we reason ourselves out of these excessively disturbed mental states.

We have to strike directly at causes. These causes are:

Dangerous states of chronic fatigue which cannot be remedied by rest and relaxation alone;

Severely impaired nutrition of the nerves due principally to long-continued deficiencies of Vitamin B Complex, phosphorus, proteins and certain minerals;

Long continued bad emotional and imagination "performances."

The remedies come about to the degree that these evil causes are set aside and the right actions and nutrition superimposed over them. Paramount is the matter of rest which means GENUINE RELAXATION. Intensive nerve feeding must accompany the gradually-acquired relaxed states. Change of environment if possible, new scenes, attractive clothes, harmonious use of colors in the home, cheerful classical and symphonic music add real benefits to the relaxation and nutritional program. The particular fear involved must be understood as being a physical thing as well as mental. Fear victims really fear the curious body sensations rather than the fear itself. This realization alone helps many to more quickly disperse the fear and abolish its power over the victim.

Improvement Points

(Fears—Neuroses—Psycho-neuroses)

Nutrition—The *physical* structure of fear should first be approached by intensive rebuilding of nerve tissue through liberal intake of B COMPLEX, CALCIUM and PHOSPHORUS-rich foods. A vitalizing nerve "cocktail" can be made by beating an egg yolk into orange juice and honey. Several such cocktails a day are fine energy

metabolism tonics, especially when under mental and emotional strain. A glass of tomato juice with Brewer's yeast or yeast extract is also a good nerve tonic.

Note—A very severe Vitamin B (1) deficiency is disastrous to the nerves. Squeezing the calf muscles of the leg may be very painful in these advanced states. Arising from the squatting position may also be very painful due to atrophy of the leg muscles.

Rest-Relaxation—For a period of several months, practice muscle relaxation before sleep. To do this, get into bed about an hour earlier than the regular time for retiring. At ten-minute intervals (between periods of light pleasant reading) practice two-minute sessions of complete relaxation from neck to feet—tensing the muscles tightly for a few seconds and then “letting go” completely. Doing this night after night for a period of weeks or months, builds up a reservoir of new energy, a “pool,” so to speak, of nerve electricity, which tends to “untense” the fear or phobia tension. Masked, long-continued fatigue is always present in neurosis states.

3-Point Formula—Performing certain maneuvers SIMULTANEOUSLY brings satisfactory results greater than when the same maneuvers are performed SEPARATELY. Try this: (1) Take an amount of Brewer's yeast tablets or crude Brewer's yeast to equal 600 units of VITAMIN B (one). (2) About a half hour later (to enable the vitamins to be absorbed) lie down on a firm surface and “let go” as before described. (3) Mental suggestion: In order to break down old association of ideas and set up a new association to refund the previously misdirected energy, about five minutes of autosuggestion will accomplish wonders IF THE NERVES ARE FED

VITAL MATERIAL and are SIMULTANEOUSLY RELAXED.

Say to yourself "I am relaxing. I am letting go. I am gaining confidence. My bodily feelings are pleasant. I am getting well and my nerves are working with a feeling of strength and *security*. My nervous system is becoming stronger and stronger every day."

These words reach the inner consciousness by means of the ear apparatus. In time (if the nerves are relaxed and well-fed with nerve elements) these suggestions begin to take root and the conditions *suggested* gradually come about.

CHAPTER THIRTY-SIX

NERVOUS SYSTEM AND STOMACH DISORDERS

"Everything in excess is opposed by Nature."

—HIPPOCRATES.

SCIENTISTS AND nerve specialists, who are skilled in connecting causes and effects, nerves and action, reflexes and motion, are agreed that the human body, as a machine, is perfect. Further, that body and nervous system bear no interior marks or signs by which its decay can be predicted.

Strange as it may seem, it would appear that the body apparently is built to go on forever. It is only by the experience of death that we learn that the human body will not go on endlessly.

Despite mankind's experience with death, one basic fact stands out STARTLINGLY. *Life has no fixed limit.* We are learning that life refuses to be fixed when the laws that govern it are UNDERSTOOD and *obeyed*.

Technically speaking, there is probably no such thing as serious disease of a single part of the body alone for, via the *nerves*, all parts are *interconnected* and intercommunicating.

No organ stands by itself. No organ can function as if it had rented space in the human body, conducting a performance to suit itself. Every organ is tied up with other organs and the organism as a whole functions by virtue of

the various parts played by each organ, each connected by nerves to each other. Health is a symphonic blend of all parts, not a series of solo performances of separate "organs."

Connection Between Healthy Nerves and Digestion

The nervous system first of all (because it requires nerve food) requires a normal digestive system.

Digestion—stomach efficiency—absorption of food from the small intestines—are not processes that run independently of the rest of the body.

All the organs of the body including the digestive tract, are *coordinated* by the nerves.

Maladies of the stomach or small intestine require a great deal of skill for their proper treatment and unless the sufferer from gastric disorders is viewed as an entire, organic entity possessing blood, glands, nerves and brain (in addition to a stomach) little along the lines of permanent relief can be expected.

The causes of gastric disorders are generally multi-form, not single. A man may harm himself physically and mentally for a long period of time. Finally, something goes wrong—by the inevitable law of *cause and effect*.

In a certain percentage of instances this "something gone wrong" will be a digestive disturbance of some nature. If this digestive disturbance goes on long enough, ulcers may be a logical sequence to the evil living habits.

Physical Causes of Gastric Disorders

Primarily, the physical faults lie in wrong food selection. The tendency of civilized and unbiologic eating

habits is to select too many refined foods, which lead to the "acidulation" of the tissues until their normal and necessary alkaline reserves become impoverished. A summary of the most serious errors that lead to digestive disturbance and ultimately even to ulcers, are:

- Excessive white flour products
- Excessive white sugar products
- Insufficient liquid intake
- Lack of fresh vegetables
- Lack of fresh fruits
- Too many fried foods
- Rapid eating
- Over-eating
- Too much tea and coffee
- Tobacco
- Alcoholic drinks.

Mental Causes of Gastric Complaints

The stomach is a vital digestive organ profoundly disturbed, via the nerves, by wrong thoughts and wrong emotions. **THE STOMACH CANNOT DIGEST WORRY.** One or more of the following emotional or mental upset states will generally be found accompanying chronic indigestion, in addition to the dietetic errors just enumerated.

1. Worry and fear
2. Sense of injustice
3. Economic depression
4. Anxiety or insecurity
5. Anger or jealousy.

* *

Promoting Digestive Health by Food

Aside from emotional upsets, "brainstorms" and other shortages of personal discipline, when the stomach is upset, most people naturally incline to lay the blame on something that has been eaten. Yet in certain digestive disorders, particularly in chronic nervous conditions, the real cause may lie in what *has not been eaten* (deficiency states). That "lack of something" may cause body disorder is strictly a modern truth of *recent* discovery.

Remember that some of the digestive juices of the body are normally *acid*, while others are normally *alkaline*. This alternating system of digestive "checks and balances" is like this: mouth normally *alkaline*, stomach normally *acid*, intestines normally *alkaline*, colon normally mildly *acid*.

Hyperacidity of the stomach, nausea, heartburn, belching of gas, distention of the stomach or pressure on the heart from gas—all such conditions may at times be traced to a disturbance of the natural alkalinity or acidity of the digestive juices.

From this background of various digestive insufficiencies may come headaches and irritability; mental alertness can become very much reduced and the ENTIRE BODY may become slothful in its metabolic work.

Maintaining the digestive juices in a normal acid and alkaline condition is principally dependent upon two things. First, the exclusion of senseless *non-foods* and *near foods* from the diet. Second, adequate mineral salts and vitamins must be supplied in the diet, as these are the raw materials from which the body creates certain digestive juices.

Axioms—

- (a) Correct food, although it helps to build *sound nerves*, CANNOT remedy *uncontrolled emotions*. Grownup discipline of the emotions and a healthy imagination must both be mastered.
- (b) The opposite realization is equally true, i.e. the most

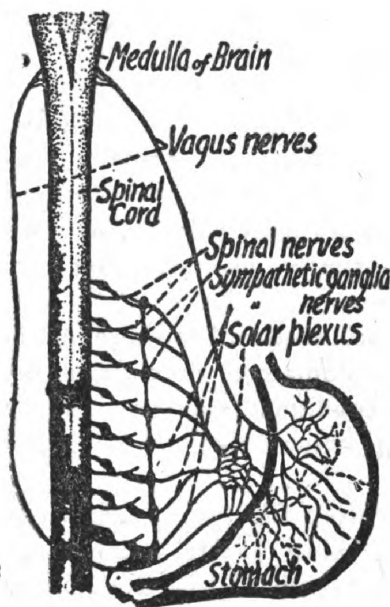


Diagram indicates vastness of nerve distribution to the stomach glands.

serene and disciplined *emotional control*, although essential, cannot rebuild the nerves, nor improve digestion that has been impaired by wrong food. These two simple propositions cannot be contradicted. They are however generally ignored. **THEY SHOULD BE REMEMBERED BEFORE—NOT AFTER—DIGESTIVE AND NERVE DISORDERS OCCUR.**

Advanced Acid-Alkaline Points

(Nerve and Body Nutrition)

Proteins—While *protein-rich* foods, e.g., meat, fish, eggs and cheese are absolutely necessary for body repair, they tend to exert an ACID effect in the body because when they are metabolically “burned” (oxidized), their normal end products are ACIDIC. These acids are rendered harmless when they are balanced by alkaline material (fruits and vegetables).

Rule—Proteins (acidic) are neutralized by fruit and vegetable ALKALINE minerals.

Fats and Oils—The normal diet should contain fatty foods (butter, milk, vegetable oils, etc.). However, *fats* result in ACIDIC end products when they are metabolically “burned.” These acid (acetone) end products are rendered harmless when they are burned in the presence of carbohydrates (starchy and sugary foods).

Rule—Fats (acetone acids) are neutralized by starches and sugars.

Note—This explains why reducing diets must contain a reasonable amount of starches and sugars in order to prevent a very serious type of acetone acidosis that always results when *fatty* foods predominate over *carbohydrate* foods.

Carbohydrates—*Starches and sugars* are indispensable for the formation of body fuel and body energy. These indispensable foods also result in an acid reaction when they are “burned” in the body. These acids (like the protein acidic end effects) are rendered harmless when they are balanced by such alkaline foods as milk, fruits and vegetables. However, in order to “burn” the starches

and sugars in the body *effectively*, definite amounts of VITAMIN B COMPLEX are necessary.

Rule—Starches and sugars (acidic) are neutralized by plant kingdom ALKALINE minerals. Carbohydrates also require a metabolizing “spark” found only in the VITAMIN B COMPLEX family.

Conclusions—If a diet swings more to the acid side than to the alkaline side, the alkaline reserves already in the blood, bones, teeth and muscles are drawn upon. This injures the nerves, the blood chemistry and may even tend to a “thinning” of the normal density of the hard bony structure. Roughly, two-thirds alkaline-type food and one-third acid-type food give superior nutrition.

Psychology versus Nerves

Familiarity with technical terms, titles and names does not necessarily imply any genuine knowledge of a subject.

The word *psychology* comes easily to the tongues of many people today.

"Oedipus complexes"—"fixations"—"compulsions" and the like are airily discussed and serious psychological problems are thus disposed of with a few glibly-spoken terms.

Unfortunately, thousands who "talk" psychology are still innocent of any honest attempt to use it which must be added to the fact that much of the psychology that is "talked about" is *simply not true*.

The whole body of modern psychology—its millions of words in thousands of books—has yet to match the stainless truth that Jesus uttered: "As a man thinketh, so is he!"

For advancement to the highest earthly success not a jot or tittle more truth is needed than is at the core of those seven words.

"As a man thinketh" is so terse and starkly illumined a truth that its very simplicity veils its power.

In a single second, those magic words—*genuinely understood* and *accepted*—could forthwith change the course of a whole life.

CHAPTER THIRTY-SEVEN

COMPLEX PHENOMENA OF SLEEP

"Sleep that knits up the ravell'd sleeve of care,
The death of each day's life, sore labour's bath,
Balm of hurt minds, great Nature's second course,
Chief nourisher in life's feast."

—SHAKESPEARE.

MAN TODAY, by Nature, is much the same sort of individual that matched wits with Aristotle, listened to the Heavenly Preacher voice his Supernal Sermon on the Mount, prayed with Washington at Valley Forge, and marched with Eisenhower in the Old World.

Man had his problems of living in earlier times and he has them now. In actual fact, there are a thousand difficulties in living today that our forefathers never knew, in spite of the fact that length of living in modern times has greatly increased (perhaps due more to improved practices in child hygiene than anything else).

The uncomfortable truth remains that despite the knowledge actually available and the great improvement in environmental conditions, much unnecessary poor living still goes on. We have a bewildering array of comfort conveniences and gadgetry, but with all these we must avoid anything like complacency. The reason is this:

The average grownup is *far* from being really healthy. He is equally far from possessing what are called "*The Normal Characteristics of Youthfulness.*"

These "characteristics of youthfulness" are really normal states and they come about principally as a result of *better nutrition*. The steps work out about like this:

Better nutrition improves blood chemistry.

Better blood chemistry leads to better-functioning heart and blood vessels.

Better "blood pumping" leads to *above-par* nerves and glands.

Better nerve-gland patterns lead to better muscles and organic functions.

In turn, all of these together lead to more vitalized living as well as to a more energized *relaxation* and to better quality, reconstructive sleep.

Thus we come full cycle to energy and life metabolism because in the strange mysteries of the sleep state we do know that red blood cells, in the warm caverns of the long bones, speed up their birth and that life's electricity is stored in the glands at a faster pace during sleep than at any other time.

The general idea that sleep results from fatigue hardly covers the full significance of sleep. Fatigue produces a *need* for sleep, but we have indisputable proof that sleep alone cannot overcome the *acid* state of fatigue.

Beyond any question of remaining doubt, Nature utilizes the sleep period to distribute the ALKALINE food elements to counteract the *acids* of fatigue. Hence, sleep is merely the reverse side of the perennial problem of life, action, metabolism, nutrition, mineralization and acid-alkaline balances.

A little known fact is that the sleep period *is the only time that red blood cells* are renewed. This adds an important truth to our growing knowledge.

Sleep is a phenomenon of normal acidosis of body tissue *accumulated* by fatigue of mind and body. However,

if the daily diet is overbalanced by acid-ash foods, sleep cannot relieve fatigue and recharge the batteries of life.

Man—Matter—Magnetism

What the vital property is that we mean by the term "life" or "living" no one can exactly tell. We do know that some of the commonest elements of matter (carbon, hydrogen, oxygen and nitrogen with a dash of sulphur, phosphorus and some other elements) frequently join and exhibit the characteristics of "living matter."

Without going deeply into the matter it is sufficient to say that protein molecules seem to reproduce in some way akin to the reproduction of living cells. Science knows, as yet, virtually nothing of this "reproduction" of inanimate matter.

Living matter and living cells have marvelous powers of growth, repair and REPRODUCTION, together with a quality of spontaneous action, originality and independence.

The most wonderful machine made by man can receive no higher compliment than for one to say that it seems "almost human," but contrarily, it is not a compliment to any living thing to describe it as "machine-like."

So, while we do not know what "life" is, we can study "life" almost as well as if we had a thorough understanding of it, because we can study the most important aspect of this phenomenon—"life"—by its actions and reactions.

We are as far as ever from a real understanding of what electricity and magnetism really are, but our knowledge of the ACTIONS of electricity-magnetism progresses by leaps and bounds each year. So, while no man understands what electricity really is, still there are many

men who know so much about electricity that they may justly be called scientific masters of the science.

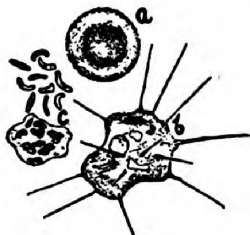
By the same token, while no one knows the actual constituents of the marvelous force that we call "life," your aim in life should be to know so much about the actions of your "living" body, that you may earn the title of master of the art, the science and the philosophy of "living" with yourself—satisfactorily. There are virtually no higher or more pleasant achievements.

Personal Advancement and Progress

Many of the things that you did last week, last year and the years before have little significance today, but your present BIONOMY OF POWER studies should be of such caliber that the results will remain with you as long as you live.

The objects of these studies are to instruct you about the organs and functions of your body; to show you how your health may be kept; to develop your powers of observation and knowledge by the use of anatomical, nutritional and physiological facts, phrases and illustrations.

3 of the Bodies found in Blood Plasma, a. red cell; b. white cell; c. platelets. During sleep, red blood cells experience rapid regeneration.



Throughout this book the means by which certain forms of illness may be vanquished and health bettered have been approached by new and proved methods, based

always on the **INDIVISIBILITY** of your body and the oft-forgotten truth that the greatest power your body has is the power of *self-renewal*.

You have become familiar with many parts of your body. You have come to learn that the **BONES** of your body are *supporters* and factories for the manufacture of new red blood cells; that the more than 600 **MUSCLES** of your body are movers; that the **SKIN** of your body is not merely a covering but a *vital, breathing, eliminating and renewing organ of your body*; that food **VITAMINS** act as sparks igniting the fires of "life" within your cells; that food **MINERALS** are not only the **BUILDING BRICKS** of your cells, but that they are *MOVERS* of poisons.

Axioms—Bones—blood—muscles—skin—heart—glands ARE
MADE BY FOOD.

GOOD FOOD results in strong tissues.

WRONG FOOD results in weak tissues.

Your Chemical Strength Comes from Food

The manifold systems, functions and departments of your body are better understood if you conceive the very essence of your body to be electrical in nature. It will help if you will regard your body as a dynamo that must be renewed in its electrical charges. *Correct food and rest are the materials of renewal.*

Sleep and Body Recharging

Throughout the active hours of your day, energy is used up faster than it is stored and the tissues of your glands, organs and muscles and blood cells are worn out faster than cells are formed to repair them.

For this reason, Nature has devised sleep as a period during which the human dynamos inside your body can be recharged, the state in which your nervous system and brain can renew the energy expended during your waking hours and the red cells can resume their march of the networks.

We could say that sleep is a state in which repair *gains* upon waste. The operation is successful if alkaline food elements, minerals and vitamins are present in sufficient quantity. Hence, *sleep has an imperative nutritional blood-renewing side.*

From this we see that complete and perfect recovery from fatigue is dependent upon, not one, but two factors—*adequate sleep* and *adequate intake of alkaline minerals*. Briefly, we may summarize a chronic fatigue state as a phenomenon of wrong diet as well as of unrefreshing sleep.

CHAPTER THIRTY-EIGHT

SLEEP AND BLOOD CHEMISTRY

"Life's manifestations, simply and fundamentally expressed, consist of electrical energy exchange."

—DR. ROSENWANE,
St. Marys Hospital, London.

TO THE average man or woman, fatigue would appear to present no greater problem than the question of avoiding it. For the most part, people will not take issue with the definition of fatigue as it appears in the dictionary:

"Fatigue is the loss of power due to continued work, but *removable by rest*."

The problem of fatigue, rest and sleep is far from being as simple as all that. There is acute fatigue and there is chronic fatigue. It is perfectly true that acute fatigue brought about by arduous muscular work *can* be removed by rest.

However, some of the chronic forms of fatigue are not directly related to muscular overwork and labor and they are *simply not remediable by rest*, even if long continued.

Fatigue in many instances can actually be regarded as a serious disorder in itself. For that matter, some types of chronic fatigue, when associated with a condition of low blood pressure—poor vascular tone—can be better relieved by *increased physical activity* rather than by rest.

Double Fatigue

It is also very obvious that the same individual can suffer simultaneously from both the acute and chronic forms of fatigue.

It is in chronic fatigue that the story of nutrition has some of its brightest chapters; some of its most startling restorations.

One recent discovery of great importance shows that the "capillary vitamin," *Vitamin C* (the cell-cement vitamin), is a prodigious worker in dissolving chronic fatigue states that have come about through poor tone of the blood vessels of the brain.

(*Note*—Very large amounts of Vitamin C seem to act directly in both fatigue and insomnia. It "tightens" the relaxed blood vessels of the brain.)

Reasons for Insomnia

To the normal human being sleep comes easily when one is normally tired at the end of the day. Laboring people and those who work hard and out-of-doors a great deal, as a rule, fall instantly asleep as soon as they lie down.

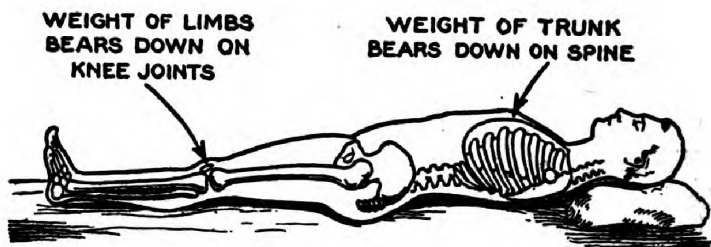
However, in the instance of people who lead indoor, sedentary lives, more and more demands are made upon the nervous system (without adequate muscular outlet) and thus a person may, in a sense, become dead-tired and yet be unable to sleep because of the agitated condition of the nervous system.

Over-relaxed blood vessels may also be responsible for insomnia. VITAMIN C tones the blood vessels, preventing loss of tone of the brain blood vessels.

Constipation and food delay, which bring about retention of wastes which result in chemical changes set up by the absorption of toxins, may bring about insomnia in some people.

Emotional reactions of a disturbing nature frequently cause insomnia, especially in those who are the victims of the pernicious habits (and they are habits) of fear and worry.

Also among victims of insomnia we find some persons who fail to sleep because they are afraid they will not sleep. This invariably brings into play the law of "fixation of attention" (we get what we think much about, either good or bad). Job stated this very succinctly: "That which I feared hath come upon me."



Lying flat upon the back with legs extended straight is not restful if long continued for hips are at wrong angle, spine flexed wrong, internal muscles and organs strained. Changing postures (most people do this naturally while sleeping) relax muscles and organs and prevent continued static congestion of the blood in any special area.

There are also some people who think they must have just so many hours of sleep out of each 24 hours. They work themselves up into an emotional state of fretting if they do not average a specified number of hours and thus bring about unsettled mental states that react unfavorably.

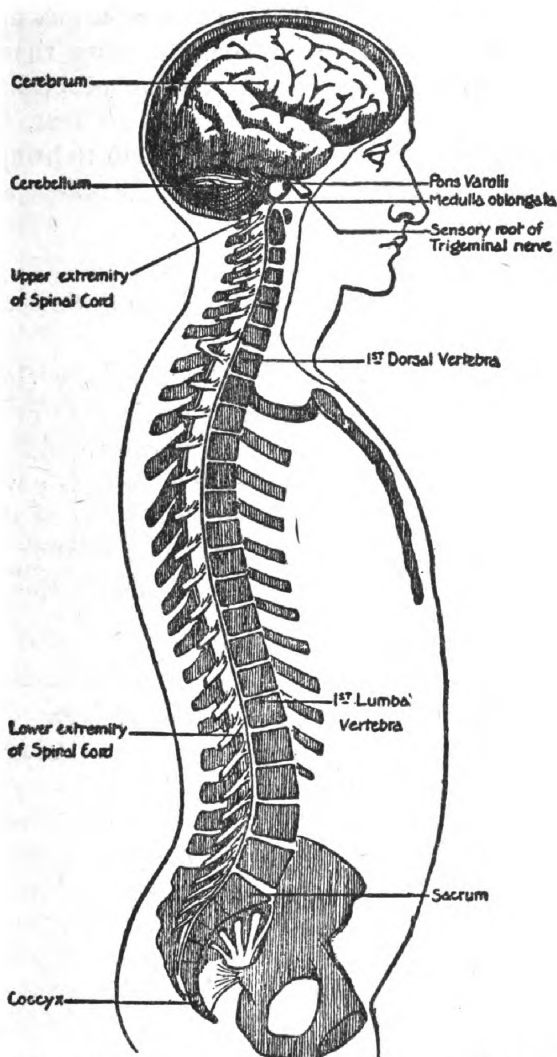


Diagram to show brain and spinal cord and spinal bones (vertebrae). During sleep (and because in part of the horizontal position) the small bones of the spinal column separate slightly which removes pressure from nerve filaments and increases the height to a small degree. Thus, we are slightly taller in the morning after a night's rest.

In emergencies, extra food and special sessions of brief relaxation seem to compensate for lost sleep. However, this can be only for a perilously short time. There is no substitute for sleep.

Insufficient sleep and rest are especially harmful in high blood pressure states. Contrarily, too much sleep and not enough activity may be harmful for those with low blood pressure.

For these people the following is offered: A perfectly normal person rarely sleeps soundly more than three hours a night; the remaining hours are generally spent "twisting and turning," with *intervals* of rest, but not sound sleep. This biological fact may help to bring about a more stable mental attitude and thereby relieve a source of unfounded worry.

Note—Normal sleep is a complex period of changing postures, averaging from 30 to 60 different positions in the course of a night's rest.

Poor circulation of blood, due to inactivity (long sessions of bridge or sitting at theatre or cinema) may cause the feet to become cold. This circulatory condition can defeat attempts to sleep. The remedy here is obvious; a short seance of active exercise, brisk rubbing of the feet, or if necessary a hot foot bath, then immediately retiring to bed. Foot exercise routines are valuable in this connection.

CHAPTER THIRTY-NINE

EASY STEPS TO SLEEP

"What sculpture is to a block of marble, education is to the soul."

—ADDISON, *The Spectator*.

SINCE ANCIENT times man has pondered over the question of sleep, but it is only during these early decades of the 20th Century that some of the technical patterns emerge from behind the veil of mystery.

It is a curious but very valuable discovery that the tissues that have *high metabolic rates* fatigue most quickly. Thus, the nerves fatigue very rapidly when they are made to work excessively and the closer the nerve tissue is to the brain and cord the more rapidly the fatigue comes about.

On the other hand, the heart is least subject to fatigue, which supports the growing belief that the heart is perhaps the strongest organ of the body.

The heart *may* become irritable through fatigue but it does not generally falter in its work or cease working, as some organs do that have a quicker fatigability.

Perhaps the wonder-mechanism of the heart owes its prodigious strength to the split second respite that it gets between the systolic contractions.

Boredom—Tense Muscles

The mind, quite apart from fatigue, has a great deal to

do with sleep and wakefulness. Conditions of boredom or monotony induce sleep very easily, as we all know.

Where *tense muscles* lead to wakefulness, achieving mental relaxation actually imparts this "quiet" to the tense muscles and (in a reclining position) the passage into the sleep state may be surprisingly rapid.

Changes During Sleep

That the intelligence at work in the body immediately uses the sleep state for repair metabolism is very clear, for soon after sleep begins, blood repair, perspiration secretion and assimilation of nutrients is stepped up.

Mental Systems for Inducing Sleep

A comparatively recent method of inducing sleep, resulting from studies carried on in Europe, is the idea to "see yourself asleep." This is especially effective for those whose failure to sleep is due to mental, rather than to physical states.

The person testing this mental method of sleep inducement should first be comfortably in bed. He should put other things out of the mind and concentrate upon how he looks when he is asleep. As a result, slow, deep breathing starts, circulation to and from the brain improves and presently sleep overcomes the individual. This method is really an imitation of the natural procedure; which is a "shutting out" of the outside world.

Another mental approach to inducing sleep is the reading of religious or philosophical matter while lying in bed. Naturally, exciting subject matter may produce the opposite effect, but *serious* reading often proves to be

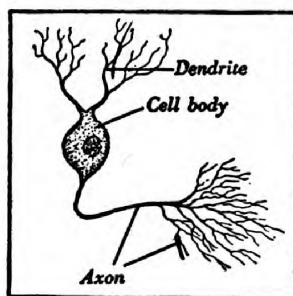
sleep-inducing. Obviously, the light should be nearby so that as drowsiness overtakes the reader, it can be switched out.

Physical Requirements for Sleep

The bed should not be too soft, nor the covering too heavy. If the bed is too soft, the fatigue-contracted muscles receive no impulse to relax. We might employ a crude comparison here and say that if the muscles are fatigue-contracted and the bed is too soft, the bed (not the muscles) relaxes.

However, if the mattress is firm and not too yielding, the fatigue-contracted muscles encountering the firm surface receive an impulse to relax, because if the *bed* does not "relax," the muscles with their natural qualities of intelligence and adaptation, having no recourse but to relax against the *firm* surfaces, do so in "self-defense."

Well-toned muscle states lead to more relaxed nerves, thus to better sleep and rest. The nerve cell is the *primary* cell of both consciousness and sleep.



A ten-minute stretching—twisting—turning—tensing—relaxing routine is a splendid prelude to good sleep.

Cultivate the art of thoroughly relaxing; then stretch the arms, the legs, the fingers, the toes, the spine and the neck areas. This promotes good blood circulation, for when a muscle is stretched, the corresponding nerve *re-*

laxes. Good muscle states are prime requisites for good sleep.

If one has had a somewhat heavier-than-usual evening meal (which has taxed digestion and created wakefulness) a glass of grapefruit juice is excellent before retiring. Grapefruit (in this special circumstance) seems to relax the nerve tissue and may counteract the nerve irritability caused by overeating.

Some people find that a glass of warm milk serves the same purpose. It is unwise to go to bed actually hungry. Light, easily-digested food should be taken even immediately before retiring if one is hungry.

As in every organic function, a high alkaline, balanced, vitamin-and-mineral-rich diet throughout the day is of enormous help in producing the biological muscle attitudes and chemistry for perfect sleep.

There must be proper ventilation of the sleeping room with open windows. Direct draughts are very irritating to the nerves on the side of the body exposed to the draught. Under no circumstances should there be artificial heat in the room during sleep.

New Biologic Facts About Sleep

While admittedly impractical for many, the fact remains that a midday nap has been found by experience to be a fine habit with a beneficial influence on health generally. *It does not impair night sleep.* This is in line with evidence which proves that short 5-minute periods of complete relaxation lying down (several times a day) produce phenomenal restorative results out of all proportion to the short period of time involved.

Among other reasons, this partially explains the superb

effect of frequent (but not long) periods in the lying-down position. We can safely phrase this rule as follows: One cannot lie down *too frequently*, but one can lie down *too long*.

Adopt as a rule of life—short, frequent sessions of complete relaxation *lying down*. Constant practice of this idea will yield increasingly more effective results. It can be regarded as a true secret of “regeneration.”

Even as little as two minutes (completely relaxed) in the lying-down position effects a surprising recharge of the electrical batteries of nerves, brain and glands. We do not fully understand the precise reasons for this fact but we do know the results. It no doubt has something to do with the work of the associative neurons (connecting nerves).

Values of Broken Sleep Periods

The idea gains ground that *several* short sleep periods regenerate the vital forces even more effectively than one long unbroken sleep. The reason for this is that the greatest benefits of sleep take place during the *first* hour or two hours. By means then of short sleep periods at intervals, more efficient “functional” sleep is obtained.

So efficient have these short sleep periods been found to be that they seem to be no handicap to creative thinking and health maintenance and may for that matter help it along. It is just as if one were to eat a single meal to last 24 hours. While this could in extreme cases be done, it is more efficient to eat the day's total food supply at intervals.

Note—Coffee should not be taken during the evening hours. It over-stimulates the brain and lessens depth of sleep. Bromides

and sleeping powders may seriously affect the brain cells, heart and skin.

Sleep is induced by good health, hard work, fresh circulating air, mental poise, *preceding the proper nutritional alkaline reserve*. Without a sufficient supply of right food, health cannot be attained. Without sleep, we cannot live. Both are needed. One complements the other. Sleep is the natural anesthetic that recharges the batteries of your body with vital energy.

* * *

The phenomenon of creative sleep is a complex blend of actions initiated in the blood, the blood vessels, the nerves—and above all—in the brain.

All functions of the body should be kept at the highest point of efficiency that can be attained. If this is done, brain, nerves, blood and blood vessels blend into a smoothly-flowing, energized, creative rest—and RE-CREATION.

Improvement Points—Sleep Control

Worry-Fear Chemical—The need for mastering *worry-fear* emotional states (or being sufficiently ingenious to prevent conditions that lead to them) is very plain in any study of sleeping habits. An actual *worry-fear chemical* has been discovered in the blood of people showing marked anxiety and fear. This chemical can cause symptoms of *insomnia*, as well as indigestion, cramps, nausea and diarrhea. Obviously in such instances there is no remedy except *controlling wrong emotions*.

Lung Ventilation—A very good habit to acquire is the two-minute ventilation of the lungs by double-range

breathing (slow, complete, in-breathing and out-breathing). Do this before an open window, avoiding draughts by closing doors, just before retiring.

Hunger Contractions—Hunger contractions of the stomach walls may cause wakefulness. A glass of hot milk, some hard bread or crackers or a glass of milk with a teaspoon of honey will slow the stomach contractions. Some people find fruits or fruit juice more effective. Despite the old adage, fruit is "golden" at any time of the day.

Note—As germs simply will not grow in acid fruit juices, a fruit diet for several meals will *disinfect* the digestive canal and often stave off a "bilious attack," a headache or a spell of wakefulness.

Calcium-Phosphorus Depletion—Arduous mental work, so-called "brain-fag" may contribute to insomnia by exhausting the blood level of these two food elements. The reserves must be refunded. Liberal intake of CALCIUM-PHOSPHORUS foods (dairy products and green vegetables) replenishes the "nerve bank," restores the ability to work the brain hard and may cancel the tendencies to wakefulness. Incidentally, the influence of CALCIUM on moods, melancholia and anxiety states has been very clearly established.

Shoulder Tension—Interesting electrical tests on shoulder muscles record "potentials" produced by tight, contracted, tense shoulder muscles. These tests show shoulder tension as important insomnia and headache factors. Slow, gentle relaxing neck and shoulder exercises afford surprising and gratifying results.

Ephedrine and Wakefulness—Many hay fever and sinus "remedies" as well as "nose-drops" contain the

ancient Chinese drug *ephedrine*. If these are used too frequently they may set up a continued wakefulness. The same may be said for benzedrine, the so-called "pep" tablets often used by students to combat sleepiness.

The "B-C Vitamin Union"—Startlingly fine results in insomnia arising from nerve disorders and poor blood vessel "tone" have been brought about by heavy intake of the *destiny* VITAMINS B COMPLEX and C COMPLEX. No approach to conjuring better and deeper sleep is complete without a total reorganization of dietary habits to include *VITAMIN C* and *VITAMIN B* super-SATURATION. This dual refunding of low vitamin levels directly and rapidly energizes (a) the nerves (b) the blood vessels. *Better sleep, better health, more vitality* ensue as a matter of course.

CHAPTER FORTY

PAIN—RELIEF OF HEADACHES—KIDNEY FUNCTION

“It (food) probably plays an important part in setting the pattern of nervous and emotional responses that make up the personality.”

—HUMAN NUTRITION,
U. S. Dept. of Agriculture.

HEADACHES OF various kinds are common complaints nowadays. They inflict much pain and cause an enormous amount of disability to the victims and may be the sole reason for insomnia.

To understand PAIN in the light of modern biological teaching and to relieve or treat pain intelligently, we must have some knowledge of the production, transmission and perception of pain.

In order to be aware of pain, the sensation must be carried by nerve fibers to certain brain centers which sort out the nerve impulses, coordinate them and interpret them *in* the brain as PAIN.

Axiom—PAIN IS A VALUABLE WARNING SIGNAL THAT NATURE HAS DEvised TO MAKE US AWARE THAT ALL IS NOT WELL WITHIN THE BODY ECONOMY.

Pain if located in the head is termed a HEADACHE. Nature often gives us a clue to the organic area causing the pain within the head by *zoning the head*.

Thus a *low* frontal headache is frequently due to congestion, irritability or strain in the region of the *eye* (its muscles, nerves and appendages), or to a congested sinus.

A *high* frontal headache frequently has a disordered stomach or digestive upset as its cause. A "top of the head" headache may frequently be due to renal disorder (kidneys below par in their toxin-draining work).

Following the "zoning plan" of Nature farther backward, we find that the dull occipital headache occurring at the *back* of the head is often due to congestion, pressure or irritation in the pelvic organs.

Law of head pain—HEADACHES ARE LOCALIZED REFERENCE PAINS OF HARMFUL CHANGES IN THE BODY LOCATED ELSEWHERE. HERE AGAIN WE ENCOUNTER UNITY—ONENESS and COACTION of the body.

Conquest of Headaches

Certain toxic headaches may be almost magically relieved by increasing the body's supply of food *calcium*. The reason for this is readily understood when we remember that CALCIUM, being an alkaline element, is a great acid neutralizer.

We need more CALCIUM, proportionately, than any other element. About three-quarters of a *gram* daily is needed for minimum body needs. Twice or thrice this amount would be far more desirable.

The fact that of all of the food minerals, CALCIUM *should* predominate in quantity and ordinarily is most seriously *deficient* in the human body (barring iodine), furnishes us with the explanation of many obscure headaches.

VITAMIN C is of greatest significance in controlling many headaches. This is because of its primal function of helping to "tone" all blood vessels (large or small) without exception.

Stomach Headaches

To eat when the energies of the body are preoccupied with such debilitating emotions as worry, grief, fear, anger, disappointment and jealousy is to invite trouble. Remember that this admonition applies even to the best of food. When the body is occupied with destructive emotional states, even the BEST FOOD becomes a burden. If any food is taken in such instances, the best substance is sugar in some form—honey, brown sugar or molasses.

People who are at a low energy ebb from previous hurry, overwork or excitement should not immediately eat. In nine cases out of ten if one eats when tired or hurried, there is a tendency to eat too rapidly and without sufficient mastication. A short rest, preceding eating, will accomplish a great deal.

All food (right or wrong) in excess of the needs of the body or the digestive capacity of the stomach and the intestinal juices, leaves a residue that immediately constitutes an influence for irritation of nerves and disturbance of rest and sleep.

Migraine Headache

Bilious headache—sick headache—hemicrania—migraine—are all terms applied to this obstinate headache condition which has caused as much genuine misery and temporary disability as any other functional ailment in the history of civilized human living.

The symptoms are generally one-sided paroxysmal pain in the head (with or without vomiting), intolerance of light and noise, a considerable amount of prostration and temporary incapacity for mental work.

If one were to believe prevailing opinion, we would have to cite digestion, disturbances, female troubles, worry, eye strain and many other disorders as causes for migraine.

However, it may be understood now that regardless of the exciting or secondary influence that may *precipitate* an attack of migraine, the real cause, at least in part, may be nutritional, principally involving shortages of CALCIUM and VITAMIN C.

Importance of Kidney Function—No example of mutual partnership—of unbelievably intelligent coaction—between two organs is more clearly seen than in the life and death balance of the skin and the kidneys.

We know a great deal more about the skin than we do about the kidneys and the pressing problem of keeping the kidneys strong and well is a complex one.

Like the Egyptian Pyramids, the tiny PYRAMIDS of the KIDNEYS still veil some of their functional mysteries. Millions of tiny tube filters arrange themselves in conical *pyramidal* masses and from the terminations of the *pyramids* the entire bloodstream is filtered, strained, drained and cleansed—constantly.

Each drop of blood is sent through the kidneys for cleansing many times each day and in the course of a single 24-hour period the kidneys, in a life-conserving performance, process and renovate hundreds of quarts of blood in order to abstract a *mere two ounces or more* of solid waste material.

If the kidneys stop work for only a few hours, dread

uremia sets in and the skin starts a valorous *overworking* to compensate. When the skin reduces *its* elimination (as before the "break" in a fever), the kidneys at once double their *normal* work in compensation.

What the Kidneys Need

More than is generally regarded, the kidneys are powerful "alkalinizing" organs. Among their myriad functions, they manufacture *ammonia* from the protein waste products as they pass through the tubules. This ammonia helps keep the blood from becoming "acidified."

In order to accomplish their pre-eminent work, the kidneys need enough pure water, enough too of the cleansing minerals and liquids of fruits and vegetables. They need enough VITAMIN A for the mucous linings of the filter tubes. They need ample VITAMIN C for the kidney blood vessels; enough B COMPLEX for the kidney parts that "move" and function.

On the reverse side the kidneys should not be burdened with the toxins of alcohol, too much coffee and tea, tobacco, lead arsenic spray residues from carelessly washed fruits and vegetables, too much hard water.

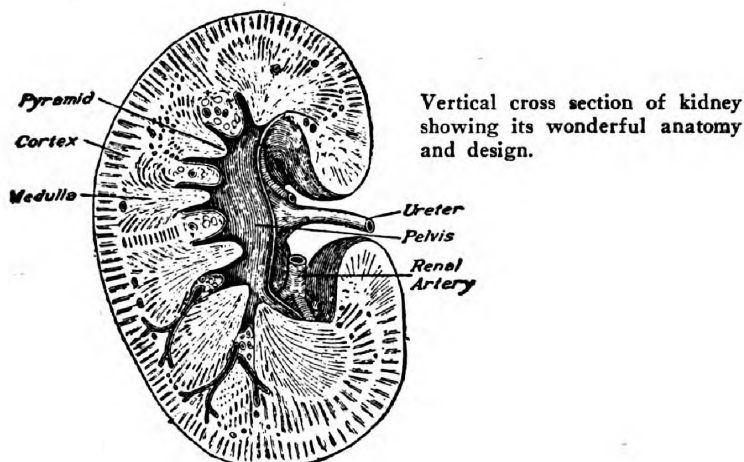
When kidneys are impaired, several days of milk and fruit juice exclusively generally produce marked benefits. A "fruit-juice day" (VITAMIN C super-SATURATION) strengthens and improves kidney filter function. High blood pressure is perhaps the greatest enemy of kidney efficiency.

Headache Improvement Points

As headaches arise from many different causes, relief in individual instances will be afforded by neutralizing

the *particular* cause involved. The following suggestions are general, although some of them may prove to be of *specific* help:

1. Reduce eye strain immediately by ceasing use of the eyes in close work or reading.
2. Relieve colon by enema. For fundamental routines, refer to Chapters 13 to 16.
3. Skip a meal or two in gastric headaches. Sip hot water.



4. If headache is typical migraine, increase blood calcium by taking 15 to 20 grains of *organic calcium* tablets (dicalcium phosphate tablets—*purified bone meal*).
5. Ventilate the lungs and reduce amount of carbon dioxide in the body by *rapid* walking and *deep* breathing.
6. If the feet are cold and circulation in the lower extremities is reduced, warm them by exercise and a hot foot bath.
7. If the headache is of the eye strain type and resists milder measures, retire to bed in a darkened room applying cold compresses to restore blood circulation to strained eye muscles and tense optic nerves. "Palm," relax, see black.

8. Some chronic headaches are due to nicotine poisoning. The obvious remedy is to discontinue tobacco in all forms.
9. Excessive coffee and tea drinking frequently cause chronic headaches by overworking the kidneys, which are made to eliminate more water but less toxin material.
10. Many obscure, intractable headaches are due to the deadly carbon MONOXIDE gas encountered in heavy traffic, busses, around leaky gas ranges and other gas appliances.
11. Sinus headaches should be treated as one would treat colds, namely, fruit juice fast for 24-48 hours and eliminate starch from diet until sinus inflammation subsides. Refer to Chapters 37 to 40.
12. Of particular value are the neck-rotating exercises in virtually all headaches. Nerve pressure and nerve tension are improved by neck exercises:

TWIST—TURN—STRETCH—RELAX!

Time Is of the Essence

Mathematicians and space searchers tell us that **TIME** is relative—a mere dimension of the universe like length, breadth and thickness.

For us simpler folks, the common experience of mankind since the days of Adam has been that **TIME** is divided into a *past*, a *present* and a *future*.

The only commodity in which we all share equally is time.

The only way in which we can make **TIME** well-spent is to throw all of our energies of head, heart and hand into our work, our play, our thoughts. The wellspring of these energies will be our sincerity, enthusiasm, intelligence and ambition.

Therefore, **TIME** on our hands is not a mathematical dimension. It is the flavor of the minutes, hours and days of our lives and our living.

CHAPTER FORTY-ONE

THE HEART—MASTER MOTOR

"... the greatest tragedy that comes to man is the emotional depression, the dulling of the intellect and the loss of initiative that comes from *nutritive failure*."

—DR. JAMES S. McLESTER,
Former President American Medical Association.

THE *closed* Stream of Life! No more exact phrase could be used about the circulatory apparatus for it is a closed system of vessels through which the fluids of the body (blood and lymph) are kept in continuous circulation.

This continuity of red motion is LIFE. It is utterly wonderful, matchless in its perfection, far beyond human praise.

It is the red blushing of the prime cells of life in the presence of their Creator.

Vital Mechanics

There is no pump on earth as perfectly constructed as the human heart. *It is not a delicate organ as is commonly believed.* Actually, it is the *strongest organ* of all the complex structures that comprise the human body. It is endowed with its incredible strength because it must never stop in its operation, *which must be continuous.*

It is the mightiest miniature motor on earth. If the

pumping action were to fail for only a few seconds, death would follow.

Preliminary Axiom—Heart trouble in adults generally comes from unbiologic living.

Who would not laugh at the thought of a bird troubled with constipation, a butterfly with a headache, an eagle with a fever or a lion with valvular heart disease. Childish as these comparisons are, they point out that there is no *natural* reason for the human heart to become *sick* or *diseased*. For all practical purposes, your heart was perfect at birth.

This magnificently designed pump, during the average but *short life span* of fifty years, pumps about forty million gallons of blood through the blood vessels.

Modern physiologists say that this strongest organ of the body *should last* 150 years.

What the true possibilities of the heart are, no one will know until the heart is fed properly and relieved of its daily barrage of denatured robbed food, gas pressure, toxins of tobacco and alcohol, unrelieved fatigue and the function-destroying poisons of body toxemia.

Classifications of Heart Disease

At this point, it is most important to learn the following truths about "heart trouble." *Functional* derangements of the heart can often be traced to gas pressure, sympathetic nerve disturbance, digestive irritation and over-use of tobacco and alcohol.

Further, some very serious heart diseases can *originate* from grave dietary deficiencies of CALCIUM and VITAMIN B Complex.

It is a true bionomic fact that when biologic food values are supplied, when bowel toxemia is brought under control, the entire clinical picture of "heart disorder" may change most encouragingly. Regardless of the special *form* of cardiac disorder, the most satisfactory treatment is one that removes every possible tax on the heart and particularly the crushing burden of toxic and narcotic poisons and *food deficiencies*.

It goes without saying that before a weakened heart can be trained to carry its full biologic load, such abnormalities as overweight and high blood pressure must be attacked with energy and determination.

Mere indigestion and nervousness are sometimes mistaken for heart trouble and these conditions cause an amount of needless alarm that is pathetic as well as avoidable. Right living habits, correct and vital food selection *always* help the heart whether it is strong or weak, improvable or incurable. RIGHT LIVING ALWAYS TENDS TOWARD CORRECT FUNCTION OF ALL ORGANS.

The Mind and the Heart

Fortunately, the heart mechanism is so perfect and so fool-proof that Nature has arranged that our minds can have little effect upon the heart.

However, wrong *emotions* (anger, worry, fear) do have a functional effect upon the heart action, by virtue of the fact that emotional states contract or dilate the blood vessels of the body, which in turn affect the heart by altering the caliber or width of all blood vessels. Shock (mental, surgical or accident) is the best example of this.

Destructive emotions, added to a *deficient diet*, may act

as the last straw that impairs the strength of the heart. However, it is likely that even destructive emotions cannot *seriously* injure the heart until it has first been weakened by deficiencies of VITAMINS and MINERALS, or by the onslaught of bowel toxins, tobacco, chronic infections and the like.

The finest watch made by man cannot compare in delicacy, nor can the finest machinery made by man compare in relative strength to the human heart. The accuracy of your watch is a matter of minutes and seconds.

In your heart, the timing is a matter of *split* seconds and when *properly fed*, your heart and its auricles and ventricles can perform for a lifetime without being one-tenth of a second out of time.

A powerful automobile engine wears out after a few years' use, but your heart, no larger than a closed fist, when *properly fed*, can perform decade after decade without the slightest lapse in its work NIGHT and DAY.

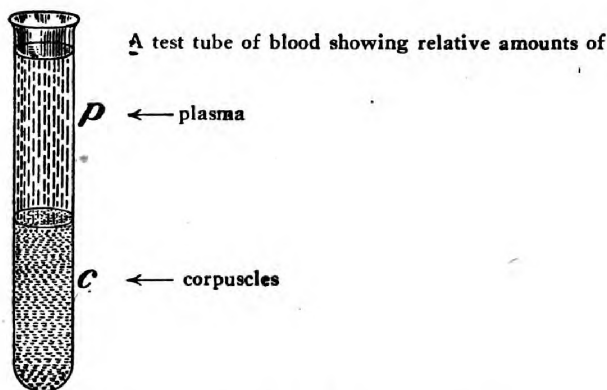
Journey of a Drop of Blood

With the aid of the illustrations it will not be difficult to trace the blood's journey. It is an interesting and enlightening "journey."

A drop of blood reaches the heart, *blue* in color because it is laden with carbon dioxide and other impurities which it has picked up on its journey all the way to the chest from the very tips of the nose, fingers and toes.

All impure blood first reaches the *right auricle*. For a fraction of a second, while this drop of "blue" blood and millions of its fellows are flowing into this first receiving chamber—the *right auricle*—the heart stands still. Suddenly the muscle fibers in the right auricle contract, tak-

ing about one-tenth of a second to accomplish the job. As this auricle contracts, the drop of *blue* blood and its companions are forced down into a chamber just beneath—the **RIGHT VENTRICLE**.



The march of time in human life is in the blood *corpuscles*.
The phenomenal effects of *plasma* are actually protein mysteries.

Almost instantaneously, the right ventricle contracts and forces the drop of "blue" blood and its millions of companions into blood vessels that lead to the lungs.

Our drop of blood in passing through the lungs is freed of its *poisonous* gases and takes up oxygen to carry along with it as it returns to the heart on a short journey.

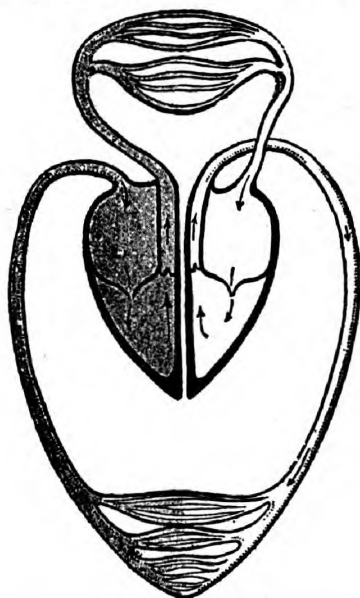
Now, this drop of blood which has become *red* is drawn back into another heart chamber, this time the upper left "fourth," the left auricle. Thence it passes into the lower left "fourth," the **LEFT VENTRICLE**, to be shot out like a bullet for its long voyage as a pure **RED BLOOD CORPUSCLE** through the main blood vessels of your body.

Biological Living for the Heart

Living rightly can help you forget your heart. Many of the signs which in the past have been thought to indicate "heart trouble" are in reality "false alarms." Pain in the region of the heart, irregularity of the beat, skipping of the heart beat and shortness of breath, in many instances are not caused by any *serious* condition of the heart.

SCHEME DRAWING OF BLOOD CIRCULATION

A graphic drawing of the balance and flow of pure and impure blood.



Follow arrows; impure, dark, venous blood enters *upper right* heart chamber, flows into *lower right* chamber and from there is pumped into the lungs for OXYGENATION.

Purified, *bright red* blood flows from lungs into *upper left* heart chamber, thence into LOWER LEFT VENTRICLE—from there to *every body cell*.

These annoying symptoms very often are due merely to the presence of toxins, after-effects of degenerated, lifeless food and the *excessive* use of stimulants, such as tea,

coffee, as well as to even the *moderate* indulgence in tobacco and alcohol. Shortages of certain minerals and vitamins are implicit in the use of refined, overcooked, overoxidized food.

Axioms—

1. Watch evil living habits, not your heart!
2. The body *does not need* medicine in its *normal* cycle of living; it *does need* proper food.
3. The body should not have to carry the burden of *worry-some emotions*; it should have *BIOLOGIC* thought.
4. Eliminate bad bacteria from the colon by corrective eating which helps change the flora and in the course of time NATURE will make use of your purified bloodstream to help rebuild and restore the degenerated tissues.

CHAPTER FORTY-TWO

IMPROVING HEART FUNCTION

"My pulse as yours doth temperately keep time
and makes a healthful music."

—HAMLET, Act 3, Sc. 4.

THE HEART-BEAT rate is tied to the life span. Careful studies of long and short-lived groups show that the *fast* pulse characterizes the *short lived* group.

When we use up the several billion heart beats that were rationed to us at birth, *our life span is ended*. Our habits, in relation to the loads placed on the heart, determine whether our heart beats are being used *quickly* and unwisely *or slowly* and wisely.

Power and vitality depend upon these cardiac pulsations and their vigor.

How the Spark of Life Is Quelled

Reflect that very few people *die*, using the word die to signify *natural* death. At first, this will make us feel that we do not know as much about *thanatology* (knowledge about death) as we might. The fact is this very decade that has just passed has brought us incredible knowledge about the causes of death. More than has ever been suspected, *nutrition is the missing link*. The *nutrition*

of the heart is the first consideration of healthful living.

The *weakened* heart cannot be expected to successfully contend against the forces of blood flow, strain and gravity. In the curiously divinatorial words of Shakespeare, the center of "the earth draws all things to it," for do not *aging* people carry around the increasing weight of pull from the earth's core—that bends the body, decreases the height, enfeebles the step, shrivels and dries up the tissues.

The *strengthened* heart, made so by right care and, above all, correct nutrition with generous allotments of such friends of the heart as FOOD CALCIUM, ROYAL B COMPLEX VITAMIN FAMILY, THE WONDER-WORKING BLOOD VESSEL VITAMIN C, can withstand these enemies of strain, gravity and blood flow.

Adding Years to Existence

The most scintillating pages of nutrition have not yet been written, but even present knowledge holds the crystal-clear promise of longer and happier lives for us all. Stronger hearts and better blood vessels are implicit in the promise.

Death is not itself evil. Graceless and unbecoming senility is an *avoidable* evil. A few simple rules for better cardiac function are now set forth.

Cardiac Hygiene (Improvement Points)

Item 1—Cultivate better digestive hygiene by having two-thirds of your diet made up of fruits, fruit juices, vegetables (raw and cooked), fresh vegetable juices, sweet and cultured milks, Yoghurt, buttermilk and dairy products. Add extra rations daily of B COMPLEX and other vitamins in the form of Brewers Yeast, high-grade multi-vitamin and multi-mineral food

concentrates, tablets and supplements. These dietetic factors tend to strengthen the heart.

Item 2—Many heart symptoms are due to incarcerated stomach gas. Here it is necessary to avoid the foods that personal reaction have shown to have a gas-forming tendency.

The effects of gas pressure on heart action are often quite severe and obviously sheerly mechanical. When the stomach entrance and exit close and gas starts to generate within the stomach by *diffusion* from the stomach walls, considerable pressure develops. As this is frequently exerted in an *upward* direction, the effect on the heart is very easy to comprehend. Gas that has become incarcerated in this way can cause alarming functional disorders such as rapid beat, "skip beat" and palpitation.

Item 3—For improved heart strength, it is only elementary common sense to abandon completely the use of devitalized, refined foods such as white flour products, refined white sugar and foods that contain these low-mineral, low-vitamin substances.

These two food substances (white sugar and white flour) are practically devoid of CALCIUM and VITAMIN B Complex. "Enriched" white bread is a recent improvement, but in no way equal in value to whole grain breadstuffs.

IT IS A TRAGIC COINCIDENCE THAT THESE TWO ELEMENTS—CALCIUM AND VITAMIN B COMPLEX—ARE ABSOLUTELY INDISPENSABLE FOR THE PROPER PERFORMANCE OF THE HEART.

All sufferers from real or imaginary, functional or organic heart disorders should engrave the names of the following two special *heart* FOOD FACTORS deeply in their minds:

Calcium—Present in milk—cheese—kale—soy beans—green vegetables—bonemeal (calcium concentrate tablets).

B Complex—Present in calves' liver—glandular meats—Brewer's yeast—rice polishings—whole grains—potatoes, etc.

Item 4—An occasional fruit-juice fast for one day is a veritable holiday for the heart. Sufferers from cardiac trouble may multi-

ply the value of the "one-day fruit juice fast" by *remaining in bed*.

Frequent *short* rests, as well as mild exercise while lying down, are fine for the heart because the blood (while lying down) flows in a *right angle* to gravity. This takes the strain from the heart *while* it is being strengthened.

On the other hand, too much rest and overly-prolonged rest may be injurious to the heart. The heart (just like every other organ, tissue and cell) must be re-educated to carry a normal load, but it must be given the BUILDING MATERIALS to do so.

Item 5—Even mild indulgence in tobacco and alcohol may interfere with normal cardiac and blood vessel function. While alcohol is perhaps more injurious to the body generally than tobacco, tobacco may be the more injurious to the *heart muscle itself*.

Cardiac Friends and Enemies

The general heart *enemies* are three: (a) NARCOTICS, TOBACCO and ALCOHOL. (b) BOWEL TOXEMIA. (c) VITAMIN and MINERAL DEFICIENCIES.

The heart *friends* are: (a) Foods which contain an abundance of the two food factors in which the average American diet is deficient—namely, CALCIUM and VITAMIN B. (b) Sufficient rest and exercise *before forty*; sufficient rest with little exercise *after 40*. (c) Correct postures in walking, sitting and standing.

Changing the Death Rate

At the present time, heart disease is the ranking cause of death. The cancer death rate is high, but heart disease deaths out-number cancer deaths. More dietary CAL-

CIUM, more **VITAMIN B** in the daily foods of America would improve this picture. **FOR STRONG HEART ACTION**, check your diet for *CALCIUM*. **FOR IMPROVED HEART RHYTHM**, check your diet for *VITAMIN B*.

CHAPTER FORTY-THREE

MENOPAUSE—A NEW LIFE

"He that is of a merry heart hath a continual feast."
(*Proverbs 15:15.*)

DISEASES ARE "ghosts" of our yesterdays, heart disorders included. These yesterdays of ours are more nutritional in their effects that we have hitherto believed.

Correct diet factors—food chemistry—and *not* the onward march of the hour-hand spell youthfulness, vigor and good health for one test animal; wrong diet dooms to decrepitude and premature old age its brother or sister.

Substitute human beings in this example and we have the principal clue to the mystery of middle age versus youthfulness.

Have one set of human beings subsisting on whole and complete natural foods—a diet fortified with all necessary factors—and the other group living on the impoverished refined food products in common use and there will emerge graphic pictures of a man's or a woman's age—which is merely *physical condition* in respect to heart, glands and nerves. This will be determined largely by how the man—how the woman eats.

Middle Age for the Gentle Sex

The period of life which is characterized by the decline

of reproductive or child-bearing activity in a woman (ordinarily regarded as her first step in sexual twilight) is commonly called the "change of life"—the CRITICAL age.

This last expression is entirely false, as this period is no more critical than puberty (the period of development of sex organs). It can be the most delightful and creative period of a woman's life, for "creativeness" goes far beyond child-bearing, for it includes all imaginative, intellectual and spiritual accomplishment.

When we hear that this so-called autumnal phase of life is particularly propitious in woman for the development of *cancer*, we find no more necessary truth in this than to say that in the early twenties, *tuberculosis* and *chlorosis* are to be expected as a matter of course or accepted with resignation.

The "birth" of the ovaries (which are the general regulators of body function) is just as much of a "crisis" as the extinction of their function. This last-named phase *should be* a gradual, painless, uneventful but satisfactory period of life.

Let us draw on the reassuring facts of physiology and common sense for the benefit of the many women who dread the "change of life" as they would the arrival of a spectre. *This* period is not more dangerous than any other phase of life.

Briefly, all the illnesses so frequently (but not necessarily) found at the menopause, are found just as frequently in the other periods which preceded it. The menopause is not a *pathological* condition, nor a *malady*. It is an eminently normal and physiological phenomenon.

Banish Unfounded Fears

Too many women literally hypnotize themselves as regards the potential dangers of this "critical" age. At this crossway of life, it is merely that the whole female organism becomes slightly more sensitive. At this age and during this normal cessation of menstruation and reproduction, the female body reacts more quickly, more easily and perhaps more dramatically to the changes which are taking place.

A great number of really healthy women who have maintained nutrition of the glands through careful living, sane eating and avoidance of over-indulgence in rich and inadequate foods, have passed serenely and imperceptibly into the physical and mental poise that should follow the "change of life."

The limit in age as to menopause cannot definitely be stated, but in *normal* circumstances it does not usually come abruptly and should not be a time of distress.

Contrarily, as menstrual function ceases and the periodic loss of red cells and plasma ends, the quantity of vital blood constituents actually rises higher. This is distinctly beneficial under any circumstances.

Heart—Circulation—"Flushes"

Next to the disappearance of the menstrual periods, a certain vasomotor (blood circulation) disturbance is a frequent sign of arrival of the menopause. Sometimes this is a sensation of flashing heat, followed by a copious perspiration. Frequently these vasomotor disturbances are accompanied by nervousness and a feeling of irritability, both of which are really trifling and transient.

Generally these flushes affect only the head and neck and upper part of the chest. Occasionally a woman has the sensation of heat over the entire body or a feeling of heart "irregularity."

In many women, these signs are not so frequent nor severe as to cause special discomfort, coming as they often do only at intervals of a few days.

More rarely, these "flushes" may occur a dozen or more times in the course of a day and may even happen at night, often interfering with sleep. Even when the flushes are as frequent and annoying as this, they are neither permanent nor serious, and if a natural, healthful and intelligent plan of living is followed, they can in great part be lessened or made less frequent.

Many women at this time become frightened by a feeling of dizziness or by a slight palpitation of the heart. Others complain of numbness or tingling in various parts of the body, chiefly the arms and hands. Once in a while women report a troublesome itching. There may also be an irritability of the bladder in some instances, which is generally of nervous origin.

Headaches may become regularly occurring nuisances at this time, even accompanied by acute nausea. Neurotic women are far more susceptible to these symptoms than their less nervous sisters who may have more important duties and tasks to think about.

As a general rule, all of these formidable-appearing symptoms represent really very little **TO WORRY ABOUT**, for the menopause is not a pathological period. It is a normal epoch in every woman's life and the signs and symptoms can be normal rather than abnormal in nature.

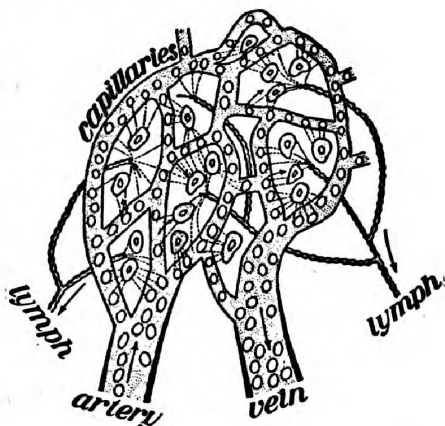
In general, the better a woman's health—the more

stable her nervous system—the less she has time to think about herself as she approaches the climacteric—the less mental and physical change will she notice.

Most of the so-called “symptoms” of the menopause are symptoms of general poor health and if the health is improved at this period, normal feeling of well-being will supervene in exactly the same way that right living and change of bodily chemistry produce normal well-being *at any other period.*

HOW ARTERIES AND VEINS JOIN

Most people know that the “pulse-beat” in the arteries at wrist and temples comes from the heart. Why veins have no “pulse-beat” can easily be comprehended from this scheme drawing. Arteries and veins are connected by millions of tiny capillaries. The “pulse-beat” is lost by diffusion in the capillaries and is not regained when the blood is returned *through the veins* to the heart.



Anti-Senility Improvement Points

Anti-Gravity Posture—Frequent, very brief sessions of lying down (2-3 minute periods) enormously aids the heart and blood vessels. Lying down is an “anti-gravity” posture that dissolves the pull of gravity against the vertical bloodstream (erect position).

Knee-Chest Stretch—Stiffened back muscles have a

curious and harmful effect on blood circulation. Mild stretching of the back muscles has wonderful benefits. Lying on back, bring bent knees toward chin. Pull gently with arms, avoiding back muscle strain. Several 2-3 minute sessions daily. **AVOID STRAIN.**

Gonad Glands and Tobacco—Nicotine constricts the small capillaries. Because of this, the use of tobacco in any form may have serious circulatory effects within the tissues of the sex glands. **LAW**—Blood driven by constriction out of one area, congests elsewhere.

Battle Shock-Vitamin C—Vitamin C given to soldiers just before they enter battle helps to prevent "battle shock." As shock may cause death (shock is blood vessel-cardiac failure) guard against Vitamin C shortages by frequent single days of Vitamin C **SUPER**saturation plus at least 1500 units Vitamin C every day.

(Citrus fruits, green vegetables, etc. Consult earlier chapters.)

Copper-Vitamin C Union—Recent heart studies point to a previously unsuspected union between copper and Vitamin C. It is now believed that if nutritional copper is deficient, Vitamin C is not utilized effectively. Copper is present more or less abundantly in calves' liver, molasses, apricots. (Consult earlier chapter tables.)

Thoughts and Emotions—Thinking does not usually affect the heart although "feelings" and emotions may. "Brainstorms," anger, fear and long-continued worry may seriously impair normal cardiac rhythm and blood vessel tone. The moral here is plain; we should use more intellect, less emotion; more cerebration, less "feeling."

Heart Tone and Exercise—The pumping work of the heart is vastly aided by any *mild* exercise. Exercise actually helps to distribute the blood mechanically and by

force independent of the heart. This relieves the heart of doing the job all by itself.

Breathing and Blood Circulation—Deep breathing (in moderation) aids the blood circulation through the action of the dome-shaped diaphragm muscle. The upward and downward action of the diaphragm works against stagnation and "pooling" of abdominal blood.

Crucial Effects of "Chilling"—"Chilling" of the upper back areas is very hard on the heart. "Chilling" constricts muscles and nerves in the back which in turn constricts the heart tissues and circulation of blood may thus be cut down for hours and even for days after a hard chill. Keep back at least as warm as other areas.

CHAPTER FORTY-FOUR

MANHOOD AT 50—CROSSROADS OF VITALITY

"... for strength of Nature in youth passeth over
many excesses which are owing a man till his age."

—LORD BACON.

THE DREAM of keeping virile and youthful has been with man since earliest recorded time. Attempts to conquer senility and premature old age have been unending.

The rites of the pagan gods and goddesses have for 30 centuries been a reminder of man's early misunderstanding of the sources of creative life.

The neurasthenic aristocrats of early days believed that by the practice of certain weird rites in honor of Ishtar, declining vigor would be arrested and the virility of youth restored again.

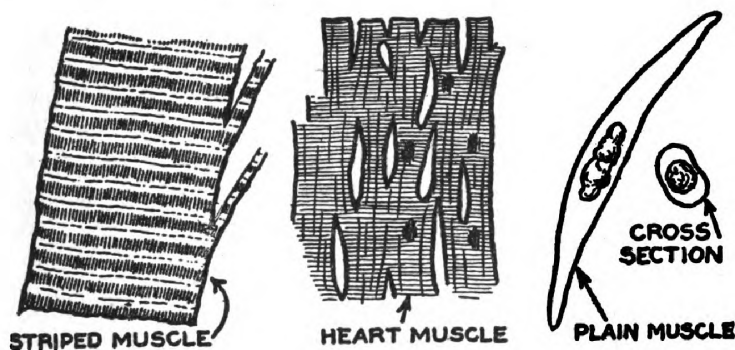
Barren women too paid tribute to their goddess in the rites of the myrtle groves of Isis and even the faded frescoes of Pompeii and Herculaneum help to link the centuries in an unbroken stream of man's ever-hopeful dreams that the secret of remaining youthful is a discoverable fact.

In our modern days, men and women are no less wanting in the desire to keep youthful. Unlike all previous epochs of mankind upon earth, the portals to this knowl-

edge are opening. We know the constituents and ingredients of vitality. We know that premature old age is in itself a form of disease. We know of the herculean effects of nutrition in maintaining heart, arteries, nerves and glands at high efficiency. **WE KNOW THAT WITHOUT A STRONG HEART**, youthfulness cannot be mastered.

Modern Miracles

Youthfulness is not an entity. It is a blend or mosaic of many healthful processes. Youthfulness is **NORMAL**, yet in fact it is a complex series of phenomenal processes that by themselves work effortlessly, yet must have and result from ideal function of heart, ideal tone of arteries, ideal manifestation of nerve force and full function of glands and their miracle hormones. No competent physiologist will seriously dispute this brief summarization.



Left—Drawing of “striped” muscle. We can contract this type of muscle at will. Right—drawing of a single cell of “plain” muscle. This type of muscle is found in blood vessels and organs within the body. We have no will control over these muscles.

CENTER—Drawing of heart muscle which is peculiar in the fact that it is different from all muscle structures in the human body.

It is the destiny of all humans to pass from birth to death. No power on earth can reverse this process indefinitely. Time cannot actually be turned back, although in the certain restorations to health it may appear that this is actually the case.

"Rejuvenation" has been so seriously misunderstood that it would be better to abandon the word entirely, but "reactivation" may be defined as a reawakening of powers and functions possessed by an individual in his earlier years. Physiologic reactivation does not mean a miraculous bestowal of functions and vitality never before possessed.

The application of modern knowledge concerning nutrition, heart tone, arterial flexibility, nerve rebuilding and gland strengthening have been brought to bear with astonishing results on many *prematurely* aging men and women.

Plant Hormones—Human Youthfulness

(a) "The rule of the artery is supreme." Even more so is the TONE of the artery. Prodigious and continued ample intake of Vitamin C deeply reactivates the tone of *all blood vessels*. This is the "collagen" mystery. Vitamin C alone is an important nutritive factor in reversing the processes of *premature old age*.

(b) Long-continued liberal intake of the royal vitamin family of B Complex factors starts profound processes of vitality and well-being throughout the vast ramifications of the brain and nerves. Strong and poised nerves must accompany the gradual drama of reactivation.

(c) Dietary iron, calcium, copper, phosphorus and *plant iodine* achieve astounding results in bettered blood

chemistry, glandular improvement and vitality through stepped-up hormone action. Iodine alone has been well-called, an "anti-old-age" element.

The juices of fruits and vegetables contain substances that are closely akin to the hormones of glands. Some investigators state that human hormones are manufactured in great part from vegetable hormones, enzymes and minerals.

A SUBSTANCE APPARENTLY IDENTICAL WITH THE HUMAN FEMALE SEX HORMONE HAS BEEN FOUND IN CERTAIN PLANTS.

A SUBSTANCE APPARENTLY IDENTICAL WITH HUMAN PANCREATIC INSULIN HAS BEEN FOUND IN CERTAIN BERRIES.

SHORT-LIVED FRUIT PLANTS HAVE BEEN GRAFTED ONTO LONG-LIVED PLANTS AND THEIR LONGEVITY TRIPLED AND QUADRUPLD. THIS APPARENTLY IS THE WORK OF PLANT HORMONES OF GREAT POWER.

The significance of all this is that men and women at the half-century crossroads, unless hopelessly incurable, may employ the new nutritional, right-living precepts to the problems of regaining vitality with the reasonable hope and expectation of gaining more than they demand.

Home

Home is the first provision for the happiness of mankind.

From home comes the weaving into our characters of the finest felicities.

Our friends—and the world—react to us in ways that are determined by character patterns molded in the golden circle of home.

It was in the charmed milieu of home that our mothers made their distinctive contributions to our characters.

It was at home that we learned why there is nothing in Nature, nothing in history, to match the reverence that flows to our mothers from human hearts everywhere.

The evil of war does not entirely obscure two sanctities that always emerge from war—a return to religion—a return to home.

CHAPTER FORTY-FIVE

CONQUEST OF OVERWEIGHT—FACTS AND FOLLIES

"The body overcharged with excess weighs down the mind together with itself and fixes to the earth that particle of the Divine Spirit."

—HORACE.

AS AN eternal rebuke to human conceit and arrogant mentalism, the Divine Doctor queried mankind thus: "Which of you by taking thought can add one cubit unto his stature?" (*Matt: 6, 27.*)

As a cubit represented the length of the forearm in ancient Aramaic measure, the question was really a reminder to the human race that all thought and action out of accord with the laws of God and Nature can never flourish.

However, when it comes to the matter of *subtracting* a cubit measure, more or less, from girth, we really begin to comprehend the near miracle that correct nutrition can achieve for men and women who have let themselves become seriously overweight.

Waistline and Lifeline

Particularly at middle age overweight is a very serious disadvantage. The United States Public Health Service

has recently revealed data gathered from a brand new study of the relation of weight to physical defects and long life.

Finding—Studies indicate that by the time middle age is reached, it is a definite *advantage* to be *underweight* for height.

Finding—There is a greater excess of mortality than was previously thought among overweight persons *whatever the age*.

Little Known Nutritional Facts

Reducing weight is actually nothing more than the burning up of the person's own tissue fat and oil. However, many people have started on reducing diets that run afoul of very important nutritional laws.

Many of these nutritional laws are perilously unknown. The role of *protein*, of *calcium*, of *B Complex*, the effects of salt on water balance, the function of carbohydrates (starches and sugars) in actually helping to burn up excess weight, are frequently ignored. These, and other important laws are matters of vital information to those who wish to reduce weight intelligently.

The shadows of fatness generally are the shadows of a shortened life for, biologically speaking, no fat person is ever in perfect health. It has been said that "gluttony kills more people than war." The insurance companies subscribe to this and consider the fat person the "poor risk."

No fat person, however, who has reduced by drugs or unbalanced "starvation" methods, is likely to be as well afterward as *before the violent reduction was started*.

Overweight, curious to relate, is actually a result of a kind of "starvation." Fatness is often STARVATION

in the midst of plenty. Fat people watch the "calories" and generally ignore the matter of missing minerals and vitamins (CALCIUM and VITAMIN B).

It is interesting to know that the dangerous dietary deficiencies that are now counted as the cause of *overweight* are the same ones that are responsible for *many forms of heart trouble*, discussed in the preceding chapters.

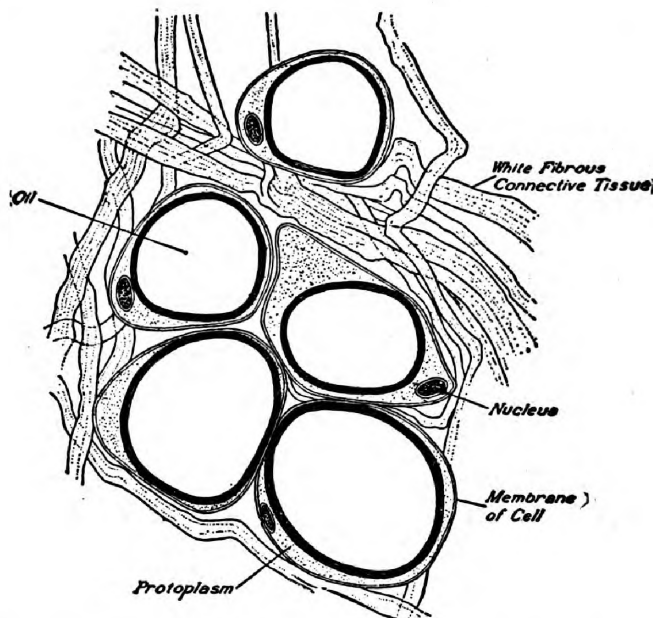
The fat person in his over-weening indulgence for the high calorie foods has failed to learn the intensely important dietetic law that "calorie counting" cannot act as a substitute for CALCIUM, IODINE and VITAMIN B Complex as well as the other vital minerals and vitamins.

Time and time again, experimental animals fed on a *high* calorie diet containing an abundance of refined proteins, starches, sugars and fats, GAIN IN WEIGHT, but decline in health and if the diet is continued—DIE. Death here ensues from mineral-vitamin lack even though plenty of refined food is consumed.

In the dietetic treatment of illness and even more important, in the maintenance of health, the actual number of calories (units of heat) consumed daily is of importance, but, it should be understood that the estimation of calories alone becomes valueless to the *nth* degree of dietetic nonsense *unless* the diet is estimated also as to its *protein, mineral and vitamin values*.

Among scientific nutritionists the intense enthusiasm for a diet calculated only on a calorie basis is past.

"Calories" cannot put IRON into the red coloring matter of the blood; "calories" have nothing to do with providing the bone structure with CALCIUM, PHOSPHORUS and VITAMIN D.



Fatty tissue. Five fat cells. Scientific reducing diet programs burn the oil in the fatty tissue cells.

"Calories" do not neutralize the acidity of the tissues, nor do "calories" preserve the normal alkalinity of the blood and other internal secretions.

Anatomy of the Double Chin

Let us briefly analyze what goes on in one cubic inch of unneeded fat. In a single cubic inch of adipose tissue, we find there are actually 30,000 fatty lobules (tiny lobes).

Each lobule has to have a food supply and drainage, also a small artery with a capillary network leading to

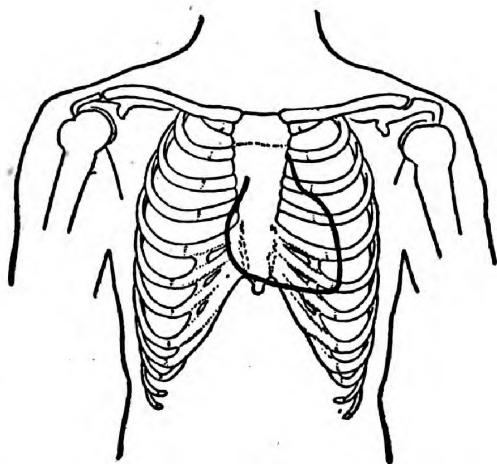
two small veins. These blood vessels have to be filled with blood every $5/6$'s of a second and this blood supply must be pumped into the blood vessels by the heart.

By simple multiplication we can determine that the person who is thirty pounds overweight has in these thousands of fat lobules about 25 MILES of totally unneeded blood vessels. It is easy to comprehend why insurance companies view the writing of insurance on overweight people with great caution.

It may sound mere rhetoric to say that the best road to slimness is really through EATING rather than STARVING, but this is a fact.

The popular idea that all starches and sugars should be *eliminated* in a reducing diet has proved to be a fallacy and is a very dangerous untruth, because FAT can only be burned in the body by sugars and starches.

Additional facts of great importance are that CAL-



Diagrammatic "projection" outline of the heart on chest wall.

Serious degrees of overweight cause a deposit of fat in the heart muscle.

CIUM helps to "melt" fat and VITAMIN B plus IODINE help to complete the "fat-burning" job safely.

Biology of Normal Weight

In this era of *scientific* knowledge about food, no one need be overweight. No one need carry around amounts of extra poundage that if placed as a bundle weight on the shoulders would be considered a hardship to handle.

Excess fat is disfiguring, inconvenient, embarrassing, conducive to fallen arches and flat feet; it is a constant threat to the heart and a sure predisposition to poor health and early death.

The adage "never put off until tomorrow what you can do today" is especially timely for fat people.

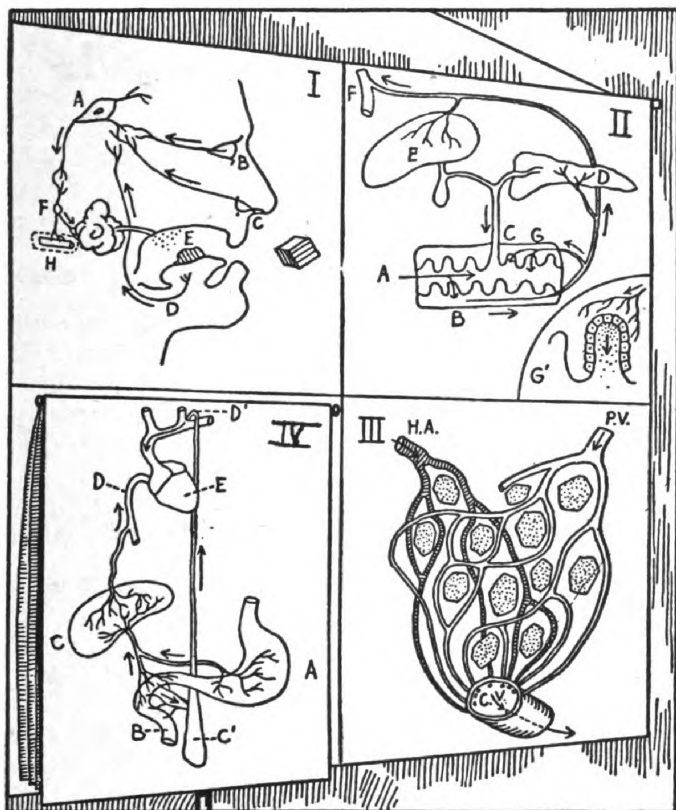
After all, a person cannot wait forever to start reducing. The longer it is put off the more weight is gained—and the more weight accumulates that must be lost.

Also, it is well to abandon some timeworn concepts about causes of overweight. The convenient pegs of "inherited tendency to fat," "glandular disturbances" and others upon which so many stout people hang their excuses for avoirdupois may be discarded for they are simply *not true* in 99 out of 100 instances.

Human beings become fat because they eat more than they need. True, a *few* are fat because of glandular trouble, but most are fat because of *too much food*.

It is not will power that is needed (except to start) so much as "appetite control," which is achieved by a switch to a biologic diet high in *minerals* and *vitamins*, sufficient in protein, moderate in starches and sugars and practically no fatty foods. This is the plain biologic fact of the overweight problem.

The Complex Digestive Processes
of Human Metabolism That Help Determine Weight,
Frame and Longevity



Picture I. Stimuli B, C, D (smell and taste) cause dilation of blood vessels (H) which supply the saliva glands and cause increased secretion of fluids needed for first steps of digestion.

Picture II. Elements of food (a) enter the assimilative villi at (b) and form secretin. This digestive substance is carried to essential glands, to liver and pancreas (G, D and E). From liver, juices pour into intestine.

Picture III. Circulation in liver lobule. Branches of hepatic artery (h.a.) and portal vein (p.v.) enter central vein (c.v.)

Picture IV. Proteins and sugars absorbed from A & B pass to liver at C. FATS IN FOOD ABSORBED FROM (B) ENTER THORACIC DUCT AT (C'). During the reducing diet program this process slackens and the flesh of the reducer is used in place of dietary fats and oils.

*No Fat Person Is Ever Found Breaking
Records for Longevity*

Scientific Diet Points

(Preliminary Survey)

1. Low total calorie content (800-1200 calories daily).
2. Very low fat content (no food fat at all at the beginning).
3. Low but sufficient carbohydrates (sugar and starch).
4. Sufficient protein to prevent *dropsical swellings*.
5. Very high in alkaline minerals (fruits and leafy vegetables).
6. High in all vitamins especially B COMPLEX and VITAMIN A.
7. Sufficient bulk for intestinal stimulation and to help reduce "hunger feeling"; liberal fruit and vegetable intake achieves both.
8. Limitation of table salt to normalize "water balance."

CHAPTER FORTY-SIX

METABOLISM OF "SLENDERIZING"

"Give me health and a day, and I will make the pomp of emperors ridiculous."

—RALPH WALDO EMERSON.

WEIGHT LOSSES from six pounds a week upward may drain vitality, may give a hollow-eyed appearance to the reducer and in the end, the last state can be worse than the first.

The paramount point is not how many pounds one can burn off the *first* week, but rather how many *weeks* can one remain faithful to the rules while the weight is returning toward the ideal.

Fat People Always Vitamin-Poor

In a typical case of obesity it is safe to assume that the daily diet of the person has been *vitamin-poor* for many years. This mineral and vitamin *lack* is proved by the fat person's usual craving for sugars and starches. (Unfortunately, most cereals and breads have had most of their vitamins and minerals removed or destroyed in the refining and denaturing of the foods.)

Enriched breads are an improvement over the refined articles, but inferior to whole grain breads.

In the instinctive effort to get enough vitamins, the fat person eats more starches, sugars and fats than can be

metabolized. This particularly applies to *VITAMIN B Complex*, which is the vitamin that METABOLIZES starches and sugars.

Note—REMEMBER THAT *FATS* MUST BE BURNED IN THE PRESENCE OF *STARCHES* AND *SUGARS*—*STARCHES* AND *SUGARS* IN THE PRESENCE OF *VITAMIN B COMPLEX*.

Note—Fat people who consume a great deal of salt generally reduce a few pounds and will FEEL BETTER if they abstain from salt entirely for a short time, although complete abstention from salt for long periods is undesirable.

General versus Normal

Become aware of a great scientific truth—*general* does not necessarily mean *normal*. There is a wide discrepancy between these two conditions, although many people regard as *normal*, conditions that are merely *general*.

If the foods on the supper tables of 10,000 homes are examined, it would be plausible to conclude that what is GENERAL on these tables, represents *normal* diet. This is not so, for the average diet is far from being a normal one and the almost universal ill health bears this out.

In your progress toward perfection of the splendid powers that lie within your body and in your mind, you must be constantly aware of this fatal tendency to confuse *general* and *normal*.

Your Personal Progress

Your present studies are going to help make you unique. Generally speaking, you will stand out among those around you. One of the concomitant results of your studies will be this very event that we are discussing.

You will generally tend toward normal, but your con-

dition of body and mind may not be general among those around you. This is a gravely important distinction.

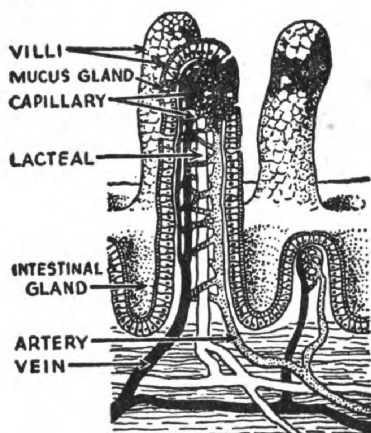
The commercial practices of food processing, the refining and adulteration of the sustenance of human life are not conducive to the progress and capabilities that humans are potentially capable of. The aim should be to draw away from this civilized *unfitness*. The aim should be to live a *personalized* bionomy or system of power development.

Few wild animals can survive contact with human beings and remain unchanged. By actual test, many wild animals starve in the presence of what *seems* to be adequate food supply, because of their inability to substitute foods which to mankind appear "just as good" as the *natural* foods of these animals.

Scheme drawing of area where our food is absorbed. Each elevation depicts a villus (pl. villi). The lining membrane of the small intestine is studded with these villi. Sugars, starches after conversion to sugar, and digested proteins pass thru the villi walls into tiny blood vessels.

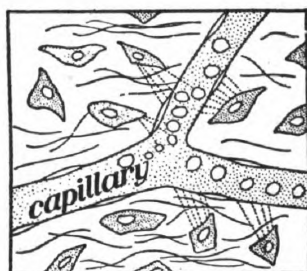
FOOD FATS soak into the small lacteals, which are part of the lymphatic system.

In ridding the body of excess fatty tissue, little or no food fat is needed as the body gives up its own cellular oil.



Civilization has meddled with Nature. You, as a student of personal progress and this course of studies, have tacitly expressed the determination that *you* are going to rise above the meddling that has produced the unbiologic situations of our day and age.

You are interested in being the *recipient* of science's discoveries, rather than the *victim* of civilization's mal-

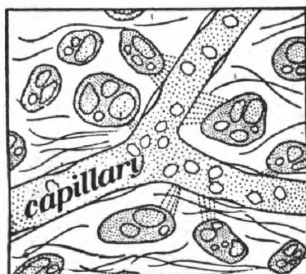


a

3-Step Diagram of How the Body Uses Fats.

Drawing A

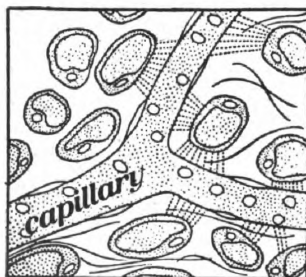
Connective-tissue cells changing to fat cells. This is the slow but remorseless journey from slenderness to obesity.



b

Drawing B

Fatty tissue forming from two or three globules of oil in each cell that has passed through from blood.



Drawing C

Fatty cells largely filled by a *single oil globule*.

practice. Again, what is *general* is not *normal*. We should continually bear this distinction in mind.

The theme of life in the future must be founded on the

idea that chemical elements of biologic food are an indispensable part of bodily structure and mental development. Rightly selected food will help you to develop highly individual but *normal* characteristics and sources of strength.

Tons of Food

In the lifetime of the average man or woman who has reached the age of sixty, 70,000 pounds of food have been consumed—at least 20,000 pounds of which the body *did not need*. A little imagination will suffice to comprehend how much chronic disease, pain and suffering that 20,000 pounds of *unneeded food may create*.

CHAPTER FORTY-SEVEN

FAT—OXIDIZING DIETS—OBESITY TO HEALTH

"The Lord has created medicines out of the earth ;
and he that is wise will not abhor them."

(*Eccl. 28:4.*)

OBESITY is plainly and simply defined as a nutritional state in which there is an excessive storage of FAT. In the milder forms of overweight, there is merely an increase of *subcutaneous* fat, which is deposited near the skin surfaces.

IN THE MARKED FORMS OF OVERWEIGHT, THE EXCESS FAT IS DEPOSITED IN THE HEART AND AROUND OTHER VITAL ORGANS.

IT IS BECAUSE OF THIS THAT OVERWEIGHT BECOMES A THREAT TO LIFE.

Normal and comparatively small amounts of fat are found in nearly all parts of the body. Fat constitutes nearly 1/10 of the brain, 2/10 of the nerves. This proportion changes markedly in the tissues that comprise excess weight or so-called adipose tissue, for here the composition is nearly 8/10 pure fat.

This unneeded tissue oil (which is prevented from becoming hardened fat like tallow and lard only because of body temperature) is stored in cells so small that a

group of 50 cells would be no larger than the head of a pin.

Bath salts, bath powders, creams, liniments and lotions are advertised as weight-reducing agents. They may, without exception, be classified as frauds for there is not a scintilla of evidence that any such preparation ever effected any weight reducing.

A semi-starvation diet can effect weight loss but with the certain sequel of injured health and vitality. In Lord Byron's day, vinegar-drinking was in vogue as a "reducer" but weight lost through such a bizarre method can be attributed to a resulting anemia and indigestion.

The Secret of Successful Reducing

Selection of a scientifically proportioned weight-losing diet—plus the character to adhere to it—spell success in streamlining the figure to normal proportions.

The period of discomfort and hunger is generally short—a matter of only a week or ten days. This corresponds to the time that the body is becoming accustomed to drawing upon the potential energy stored away in the excess fatty tissue.

In a nutshell, the candidate for "girth control" should abandon the high-calorie, high-carbon, weight-gaining (especially fatty foods) factors, which are mainly:

foods with "shortening"	ice cream
rich dressings	pastries
rich gravies	cookies
saucers	cakes

These foods, low in vitamins and minerals, should be replaced by more green vegetables (as much as one wishes):

vegetable juices	skimmed milk (cream removed)
clear soups	buttermilk
fruits of all kinds	Yoghurt
fruit juices	cottage cheese

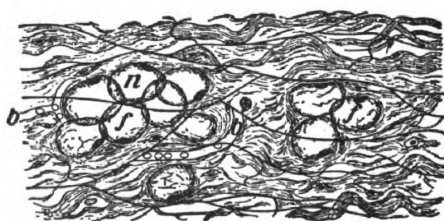
sufficient amounts of the nerve-building protein food—lean meat—fish—eggs—cheese and very restricted use of whole grain stale breads.

As it happens, such favorable foods also are rich in **CALCIUM** and **VITAMIN B**—those two all-necessary factors for over-weight people who wish to reduce *safely* and *sanely*.

Royal and Only Road to Slimness

The biologic weight-reducing diet is a powerful stimulant to better health, as well as to more normal weight. On the other hand, such reducing drugs as dinitrophenol are metabolic “stimulants” so powerful that fat people who use them for reducing, literally “cook” the flesh away.

Some States have passed laws making it impossible for drugs of this type to be purchased without a doctor's prescription.



Fat cells showing in the connective tissue just under the skin. b. b. blood vessel, f. f. oil globules, n. nucleus of each cell (black dot).

Dietetically, the first consideration is to avoid a too-strenuous reducing diet. To reduce with *comfort* and no secondary bad effects, the steady weekly loss should be

usually around two or three pounds, which insures that the reduction will be accompanied by a steady *gain* in general resiliency and vitality.

Axiom—THE OBJECT IS TO LOSE WEIGHT AND GAIN HEALTH—NOT MERELY TO LOSE WEIGHT.

Vital Nutritional Laws

All safe reducing diets must conform to the precepts enumerated below:

1. Excess weight must be lost strictly in line with cellular laws. Combustion within the cells proceeds in the following "triple-step" order. 1. The reducer abstains from all fat and starts to "burn" his own fat. 2. This tissue fat burns *safely* when sufficient starch and sugar are permitted in the diet. 3. The starches and sugars are converted into healthy energy via the action of the *B COMPLEX VITAMINS*.
2. Remain on the low calorie diet program outlined in the next section as long as needed or until weight is down to a figure only 10% higher than desired.
3. In liberalizing the diet, increase proteins, starches and sugars *before increasing fatty foods*.
4. Keep diet alkaline. Fruits and vegetables should comprise two thirds or more of diet weight.
5. Overweight people cannot reduce SAFELY unless there is sufficient carbohydrate (starch and sugar) in the reducing diet. Fat (as food or as the flesh of the reducer) cannot burn harmlessly except in the presence of sugar.
6. Carbohydrates (starches and sugars) require ample daily intake of Vitamin B COMPLEX for their metabolism. There can be very little *energy metabolism* without the royal B COMPLEX vitamins.
7. Protein foods are absolutely essential in reducing overweight. Limitation of protein below body requirements may bring on a peculiar dropsical disease. In times of famine or war, this disease is known as war-edema.

8. Free use of table salt must be discontinued while reducing. Any salt above the basic minimum daily requirements (about $\frac{1}{3}$ thimbleful) disturbs "water balance" by holding water in the tissues. This causes "waterlogging."
9. Food iodine, as found in ocean fishes and ocean vegetation—(Pacific Kelp, Dulse, Irish and Iceland Moss, etc.) helps to normalize upset metabolism via the thyroid gland.

On the following pages are suggested diet programs for scientific reducing. Two of the diets are arranged to furnish approximately 1000 calories, the two other diets about 1200 calories.

On a daily basis, the suggested meals are adequate in protein and most important, are adequate in starch and sugar (to burn body fat safely without fatty acidosis—ketosis).

A hardly less important factor is the matter of keeping every diet (reducing or otherwise) *highly alkaline*. The following diets are rich in CALCIUM, and other ALKALINE FOOD MATERIAL.

After a few weeks of satisfactory reducing, the fat content of the diet may be liberalized by adding very small amounts of butter on bread or toast.

For variety, lean fish in about the same amount may be substituted for lean meat.

The 1000 calorie diets and the 1200 calorie diet are, for ordinary purposes, interchangeable. Naturally, where the weight is very excessive, the fewer the calories (within previously-defined safe limits) the quicker the body fat is melted away.

Drink as much water as desired during any reducing period. However, **NONE AT ALL AT MEALS.**

Use salt sparingly while reducing.

It is desirable to add supplementary vitamins A and B COMPLEX to the reducing diet. There are several satisfactory high grade multi-vitamin concentrate vitamin tablets available at most drug stores.

Reducing Diet—1000 Calories

BREAKFAST

Orange Juice—full glass
 1 Soft Boiled Egg
 1 Slice Bread
 1 Glass Skim Milk
 Any Hot Beverage
 (no sugar)

LUNCHEON

Stuffed Tomato Salad
 (Tomato—1 Medium
 Cottage Cheese—6 Large Teaspoons
 Lettuce)
 Dish of Beet Greens
 String Beans—3 Large Tablespoons
 Baked Apple
 Skim Milk—1 Glass

DINNER

Roast Veal or Lamb—1 Slice
 Dish of Carrots
 Lettuce Salad
 (Lettuce— $\frac{1}{3}$ head, Lemon)
 1 Sliced Banana
 1 Glass Skim Milk

Reducing Diet—1000 Calories

BREAKFAST

Full Glass Grapefruit Juice—
Dish of Applesauce
Skim Milk—1 Glass
Bread—1 Slice
Coffee (clear) or coffee substitute

DINNER

Lean Steak—(2 or 3 oz.)
Asparagus—10 Stalks
Tomato and Cucumber Salad
Bread—1 Slice (Wholewheat)
Sliced Peaches—3 medium size fruit
Skim Milk—1 Glass

SUPPER

Vegetable Plate (Spinach—1 Baked Tomato—Carrots)
1 Poached Egg
Cottage Cheese Salad
(Pear—2 halves, Cottage Cheese—2 large tablespoons
Lettuce)
Skim Milk—1 Glass

Reducing Diet—1200 Calories

BREAKFAST

Orange Juice—Full Glass
Banana—1
Shredded Wheat Biscuit—1
Bacon—2 slices
Butter— $\frac{1}{2}$ Square
Bread—1 Slice (Wholewheat)
Skim Milk—1 Glass
Hot Beverage or Coffee (clear)

LUNCHEON

Clear Soup
 Combination Vegetable Salad
 (Tomato—1 Medium—Okra—3 Stalks
 String Beans—2 Large Tablespoons)
 1 Hard-boiled Egg
 Cottage Cheese—2 Tablespoons
 Bread—1 Slice

DINNER

Roast Lamb—1 Large Slice
 New Peas—3 Large Tablespoons
 Cauliflower—3 Large Tablespoons
 Summer Squash—3 Large Tablespoons
 Asparagus Salad (Asparagus—6 Stalks—Lettuce)
 Fresh Pineapple—Medium Dish
 Skim Milk—1 Glass

Reducing Diet—1200 Calories

BREAKFAST

Orange Juice—Full Glass
 Cantaloupe— $\frac{1}{2}$
 Scrambled Egg—1
 Bread—1 Slice (Wholewheat)
 Butter—1 pat
 Skim Milk—1 Glass
 Hot Beverage or Coffee (clear)

DINNER

(Boiled Dinner)
 Boiled Beef—1 Large Slice
 Turnips—3 Large Tablespoons
 Carrots—3 Large Tablespoons
 1 Baked Potato
 Dish of Figs (4 Fresh or Cooked)
 Bread—1 Slice
 Skim Milk—1 Glass

SUPPER

Cottage Cheese—2 Large Tablespoons

Medium Dish of Swiss Chard

1 Artichoke

1 Sliced Tomato

1 Slice Bread (Wholewheat)

1 Cup of Fresh Raspberries

1 Glass Skim Milk

CHAPTER FORTY-EIGHT

UNDERWEIGHT—STRUCTURAL APPROACH TO WEIGHT INCREASE

“By lighting successive small candles of will power we at last generate a beam that illuminates our entire life.”

—DR. ALEXIS CARREL.

FORECASTS OF new developments in the science of food to help produce a race of super men and women and raise the mental level of the human race are frequently heard in these golden days of science.

When we study and consider the human body, we perceive that there is a *NORMAL PRINCIPLE* at work. This trend toward a constant NORMAL is ever at work in the body. Under ideal circumstances of living (good food and biologic habits) this NORMAL trend follows just as direct a path as the sun in its course across the heavens.

Ideally, with normal co-action of all tissues, your *weight* will be normal—your *glands* will be normal—your *heart* and *blood vessels* will be normal, your *joints* and *muscles* will be normal—your digestion will be normal—your *elimination* will be normal—your *skin* will function normally.

The sum total of all that you can do can never go beyond LIVING and THINKING RIGHTLY. However,

when you do *less* than that (eat, think and live wrongly) you cannot be *normal*. You will be ill in some way or other. Your weight will be too great—perhaps your weight will be too little.

Slenderness and Health

Thousands of slender people not knowing that slenderness is a downright necessity for healthful living, have been victims of the unbiologic advice to “stuff” and “gorge” in order to gain weight.

Those who have been misguided enough to follow such advice invariably have the opportunity to prove to their sad satisfaction that “gorging” on food merely to gain weight is a precarious procedure.

For those desirous of gaining weight, first be sure that you *should* gain weight. Curves and “plumpness” are not part of the biologic life.

If we refer to the Book of Nature, we will see that only the *overfed*, indolent, domesticated animals have curves and plumpness. The wild, hardy, enduring animal living a completely natural life in its natural environment is invariably slender even to the point of gauntness.

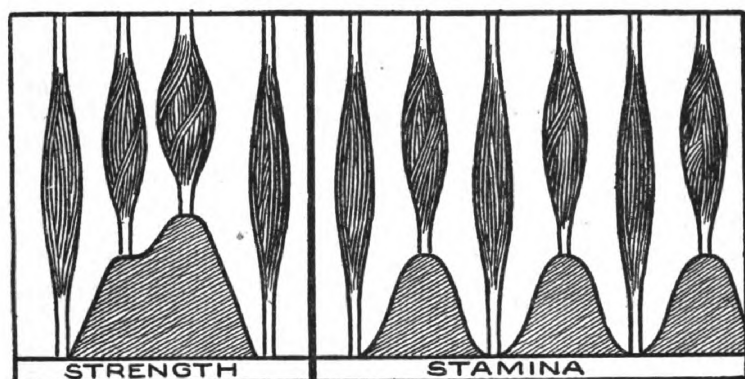
The biologic specimens of Nature in the wilds practically never die of disease. They live out their natural *life-span*. Domesticated and plump animals in the care of humans are afflicted with as many diseases as man himself has.

Primitive *humans* also enjoy a freedom from disease similar to that shown by wild animals.

Time and again, scientists and explorers report a singular freedom from disease among certain primitive tribes. The natives are generally noted as being slender, of great

endurance and with a length of life far beyond that of men and women of civilization.

Lacking the niceties of culture, they are nevertheless more nearly normal from a biologic standpoint than the civilized contingent of mankind.



A Study of the Muscles Affords a Valuable Weight-Gaining Clue

Rapid muscle movements do not fill the large blood-vessels of the muscles but such movements do tax nerve energy reservoirs.

Slow, resistive muscle movements fill the muscle's blood vessels, enlarge them, and in time lead to greater muscle filling capacity. This leads to increased weight.

6 Very Important Weight-Gaining Suggestions

1. More exercise (slow tensing movements, avoiding fast motions).
2. Occasional one-day fruit juice fasting to improve absorptive and assimilative powers.

3. More frequent *short* periods of rest.
4. Emotional control to reduce excessive gland activity.
5. Discontinue tobacco in order to *enlarge* the arteries.
6. Discontinue alcohol in order to prevent over-rapid oxidation.

Forced eating to gain weight is a direct way of injuring the liver and ordinarily results in no *permanent* addition to weight.

The "short fast" is not only useful in fighting disease, but it can help those who, while not sick, are not truly well. This applies to those who are actually underweight.

An occasional fruit fast of one day's duration can enable the actually underweight individual to increase *assimilative* powers; to cross from "negative health (which is merely absence of misery) to positive radiant health, which means *normal* weight, clear eyes and an exuberance of well-being.

Types of Favorable Foods

Within the limit of digestive tolerance, such foods as potatoes, bananas, avocados, milk and butter, are foods for the underweight to favor. Eating should be slow, deliberate and the foods should be thoroughly masticated. This favors better absorption of the food.

Vegetable juices obtained through the juice extractor mineralize the body more rapidly than fruit juices and should be favored by the underweight people. The minerals and vitamins of *vegetables* and *vegetable juices* tend to normalize gland action. *Fruit juice* acids are splendid, but perhaps tax the oxidation machinery slightly more than vegetable juices.

Frequent five-minute periods of reclining and attempting to achieve utter relaxation favor upward return of

weight to normal. Frequent sessions of slow stretching, twisting, turning, favor muscle enlargement and weight gain and also favor deeper breathing and improved oxygenation.

Underweight people are often shallow breathers, due to nervousness and tenseness from worry and anxiety states. Underweight people are often dehydrated (lost water balance). Total liquid intake daily during the weight-gaining period should be a glass of liquid (water, milk, vegetable or fruit juice) for each 18 pounds of present weight.

Work and Talk

The taciturn person is seldom found winning honors for personal charm—yet—too much idle talk, bragging about our ambitions and future plans weaken the likelihood of their fulfillment.

Energy dribbled away in repetitious talking about plans reduces our power to accomplish them.

A garden hose punctured full of holes will only dribble water from the nozzle even if the pressure of water is very great. The water cannot concentrate its power.

The sun does not start fires until its rays are concentrated and focussed by a magnifying glass.

"See that ye tell no man" is a Biblical counsel of great value. This means for us to *concentrate* our wills, feed our ambitions with hard work, but not dribble these forces away by idle talk.

If we will wait to talk about plans until we have accomplished them, the fruits of our work will be visible to all without talk.

CHAPTER FORTY-NINE

BREATHING PATTERNS AND BLOOD COLOR

"God gave His creatures light and air
and water open to the skies;
Man locks him in a stifling lair
and wonders why his brother dies."

—OLIVER WENDELL HOLMES.

WITHIN A decade many and far-reaching changes in human vitality and youthfulness will be commonplace.

Old age is no longer tolerated in scientific circles as a fixed, inevitable phenomenon. Old age is a state in which a man or woman has prematurely succumbed to certain forces: inadequate nutrition—gravity pull—bent posture and body strains—inadequate *aeration* of the cells due to lowered lung and cell respiratory capacity.

Negative forces literally pull the average, civilized person into an untimely grave.

Living at the bottom of an immense ocean of atmosphere (stretching scores of miles above our heads) and pulled to the center of the earth by the unseen force of gravity—men and women may now learn how to vitalize the cells and glands with elements powerful enough to mitigate these negative forces of premature old age and early death.

The Two Respirations

As a wondrously clever and ingenious system in the body, the breathing apparatus holds high rank. Hitherto we have thought of *respiration* exclusively as a lung affair. External respiration *only* occurs in the lungs and this function subserves the GREATER RESPIRATION—*internal* or tissue respiration that takes place in every single cell of the body.

In this chapter, let us take up respiratory phenomena step by step, learning new truths as WE UNLEARN untruths and fictions. Vitamins and minerals affect breathing. Posture affects it. Emotions, gravity, speed and temperament all play their roles.

The Breath of Life

The body can exist for from forty to sixty days without food, five or six days without water—but only a few minutes without air.

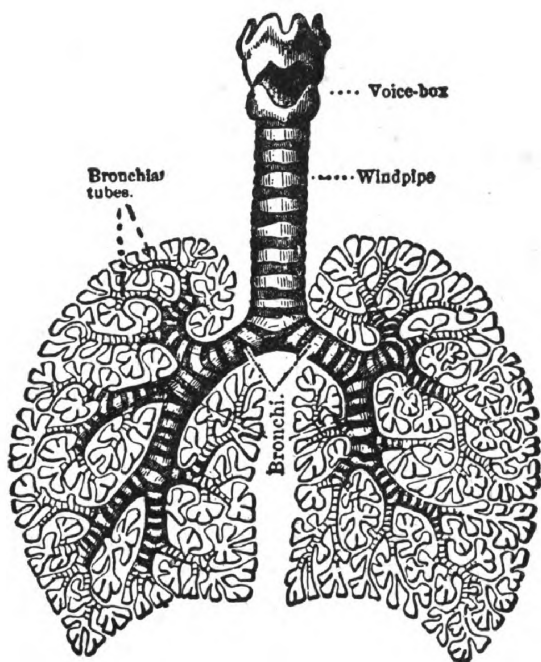
At the first moment of life the infant draws in a long deep breath, retains it for a few seconds to extract its life-giving properties, exhales the waste gas in a long cry—and its *independent* life on earth begins.

From the beginning to the end of life one might say that life is a long story of inhalation and exhalation. Concerned in this affair are various gases, some of which we know in detail, a few of which we know simply nothing about and perhaps never will. The structure of these gases is very curious, having no resemblance to the common earthly gases.

A Tree of Life Upside Down

The breathing apparatus may well be likened to an inverted tree with its roots at the base of the tongue and the "trunk of the tree" extending downward, dividing into two main limbs, the *right* bronchus and the *left* bronchus.

These main limbs further divide into branches that terminate in "leaves"—the air cells. There are many mil-



The inverted "tree of life." This is where red blood takes on oxygen (O_2) and blue blood gives up CO_2 .

lions of such "leaves" or air cells and when your lungs are fully expanded, the lung surfaces exposed to the inbreathed air are many times greater than the *surface of the entire body*.

Actually, there are more profound mysteries than are immediately apparent because we actually breathe out gases *that we do not breathe in*. These may even be strange gases generated by the cosmic rays of interstellar space.

Certain processes of blood, cells, enzymes and gases are so profound that we may conclude they will ever remain the inscrutable secrets of God.

A human being of average size has somewhat more than a square yard of *skin surface*, but has approximately 90 square yards of *lung surface*.

After the "inverted tree" of your breathing apparatus divides and subdivides into the two bronchi and many bronchioles, these branches and bronchioles finally reach dimensions of microscopic smallness until they are almost lost in the air cells of the lungs.

In the actual infinitely-small air cells of the lung, the inbreathed air comes in contact with the BLUE blood of the veins, which gives up part of its carbon dioxide waste gas (CO_2) in exchange for the oxygen contained in the inbreathed air.

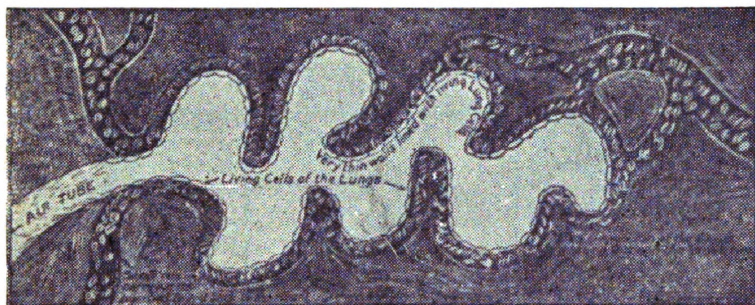
This vital exchange turns the blood RED and it travels back through the arteries as vitalized blood. (Review the Journey of a Drop of Blood in the 41st chapter.)

These chemical and physical phenomena are scientific miracles of the first order.

Law—RED BLOOD FOR BLUE BLOOD IS AN EX-

CHANGE THAT MEANS *NEW* CELLS FOR *OLD* CELLS—*LIFE* FOR *DEATH*.

Law—RED, OXYGENATED BLOOD IS THE CROSS-ROAD OF LIFE AND CREATION—THE CONTACT POINT OF GOD WITH THE PHYSICAL LIFE OF HIS CREATURES.



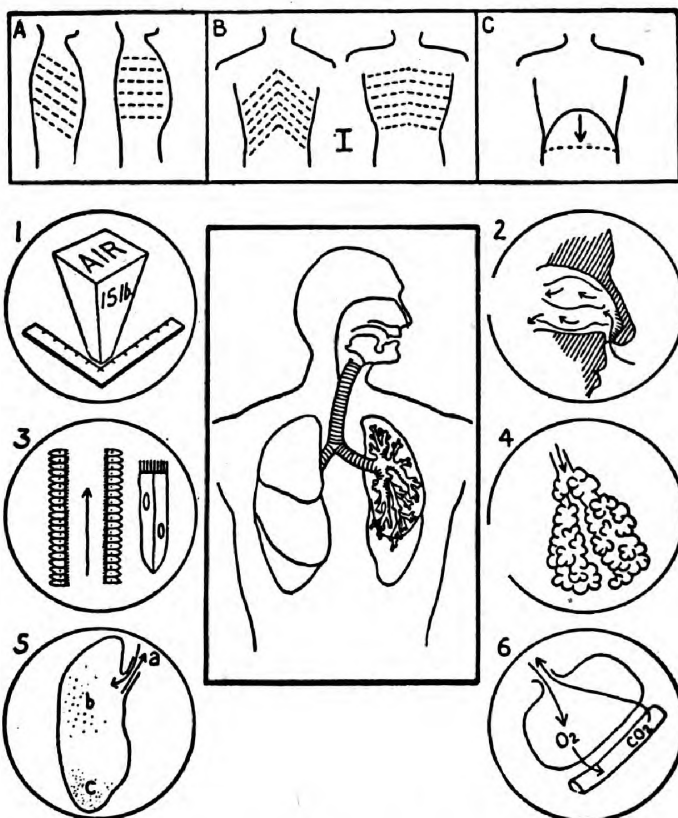
River of Air. Diagram of a single tiny air-chamber in the lungs (greatly magnified) to show how the walls of an air sac have air on one side and *blood* on the other.

Tiny muscles alternately expand and contract the air-chamber. Food iron and food copper are among the important nutritive factors that help to bind the oxygen tightly to the circulating blood as it passes through the air-chambers.

* * *

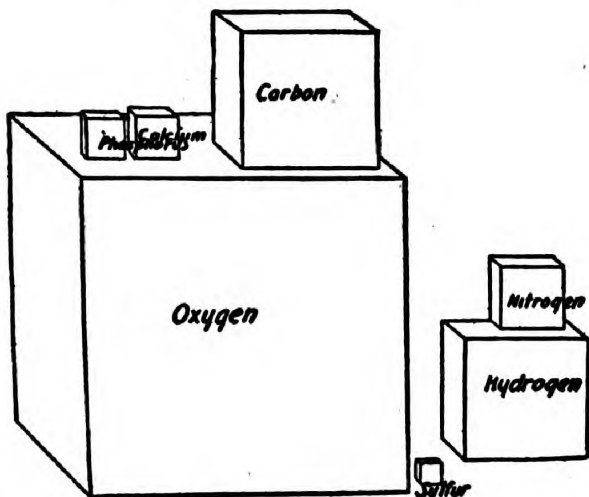
Respiration

(The Mechanics of Breathing)



Illustrations *A B* and *C* show how the *elevation* of the ribs PLUS the descent of the diaphragm increase the chest size in **THREE** directions.

1. Weight of air per square inch. 2. Nasal passages where incoming air is inspected, filtered and warmed. 3. Ciliated cells that line the trachea (windpipe). 4. Minute air cells of the lungs. 5. (a) tidal air. (b) reserve air. (c) residual air in lungs. 6. Exchange of gases between lungs and blood. Lungs bring in oxygen (O_2 or dioxide) to the blood and blood gives up carbonic acid (CO_2 or carbon dioxide).

Marvels of Body Chemicals

Elements are simple materials which cannot be further divided. The entire Universe—stars (giant suns), planets, comets, asteroids, the earth, the moon—are made up of about 92 elements.

Roughly, about twenty of the 92 elements are found in the human body. The element OXYGEN is the most abundant element in the body. Rough proportions of a few of the elements are shown in the accompanying diagram.

Curiously, the health-giving effects of OXYGEN finally depend to a great extent on two food elements—IRON and COPPER—which are present in the body in such relatively tiny amounts that they cannot be shown in this proportional illustration.

First Principles

The following preliminary considerations are vital to an intelligent understanding of breathing. All are discussed in greater detail on later pages:

- I. All methods of breathing are good and have their special uses with the exception of RAPID breathing. Rapid breath-

The Nitrogen Miracle

Ordinary air	Carbon dioxid 0.03%
Nitrogen 78.09%	Oxygen 20%
Expired air	Carbon dioxid 4.1%
Nitrogen 78.09%	Oxygen 16.4%

At sea level, human beings live at the bottom of a vast atmosphere of gases, 80 percent of which is NITROGEN. Note on accompanying drawing the fact that the same amount of NITROGEN breathed *in* is breathed *out*. Although we need considerable NITROGEN in our food (proteins) and although we breathe in thousands of quarts of NITROGEN every day, we cannot utilize one iota of NITROGEN in the air we breathe in.

We would starve to death for NITROGEN were it not for the grace of a tiny soil germ that fixes atmospheric NITROGEN into such plants as beans and other legumes.

ing is always injurious. In an emergency, rapid breathing is useful to temporarily improve breath-holding capacity.

2. *Maximum* benefits from improved breathing habits can come only when dietary habits are correct. Ample B family vitamins are needed for "oxidation" work; ample food *IRON* and food *COPPER* are needed to "capture" and "bind" the inbreathed oxygen to the blood.

Anemia allows the oxygen to *leak* out of the blood.

3. *ENLARGING* the chest by exercise and stretching—together with frequent stretching seances to make the ribs *FLEXIBLE* are the quickest of all means to ensure vitality and improved health via improved breathing.
4. It is possible to "over-breathe." This is very injurious and concentrates too much oxygen in the blood. In this instance—

too much oxygen is poisonous. Measures to combat and avoid this are discussed fully on later pages.

Emergency

The average grown-up can hold his breath for between 30-50 seconds. If an accident or dangerous emergency makes it necessary to hold the breath for 2 or 3 minutes, remember this: rapid, forced, breathing for several minutes will enable a person to *hold the breath for another several minutes.*

This is a valuable emergency measure because it depletes the blood reserve of carbon dioxide, the element which compels us to breathe. This is however "over-breathing" and never should be done excepting when necessary.

CHAPTER FIFTY

BREATHING HABITS AND TEMPERAMENT

"The atom has revealed that it possesses functions so varied and mysterious that science has concluded that it (the atom) is mind, rather than the old mechanical matter."

—PROFESSOR ROBERT MILLIKAN,
Celebrated Atom Scientist.

AN ANCIENT philosopher once said "To breathe properly is to live properly" and on this point authorities of every shade of difference agree.

Health, beauty, posture and mental attitude are intimately affected by breathing habits, so, on the road to perfection of your health, you must acquire corrected modes of breathing. These must be practiced to a point where they become "habits"—automatic processes that go on without conscious thought.

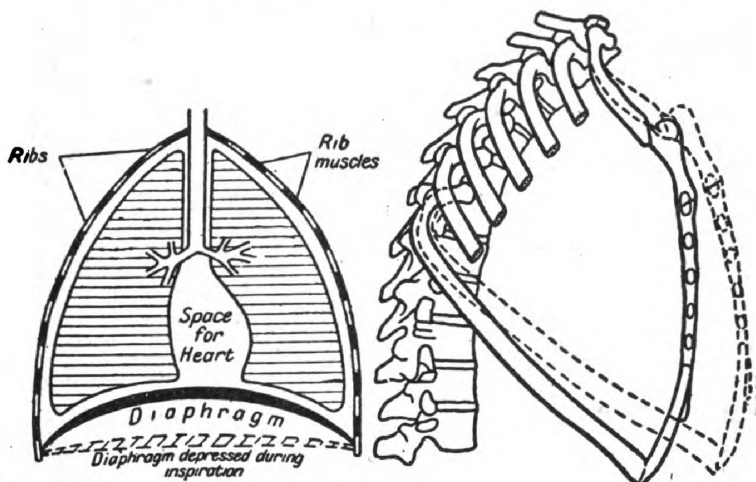
Correct postures of standing, sitting and walking almost automatically induce good breathing habits. The "level pelvis," the flat "small of the back," the "perpendicular sacrum" are, in themselves, creators of good breathing.

Nervousness versus Breathing

Physicians, whose professional work leads to close observation, notice that in nervousness and neurasthenia,

not only are the digestive processes hindered, but the breathing is distinctly *shallow*.

DIAGRAM—ANATOMY OF RIBS AND DIAPHRAGM



"Stretching" helps to elevate ribs and increase intercostal spaces. This leads to *natural* "deep breathing."

This type of depressed breathing is very significant, as it points unmistakably to what is equivalent to a temporary and partial paralysis of the great *pneumogastric* nerve.

This minor paralysis very greatly affects the entire cycle of digestion and breathing. Seriousness of neurasthenia is better understood when we realize that the action of breathing is the very basis of life, for it directly governs the purification of the blood by the life-giving oxygen.

The "secret" of vitalic breathing lies in expanding lower ribs. This cannot be done properly unless the pelvis is held level, "swayback" corrected, abdomen "pulled in," the arch of the back straightened.

Axiom—"Nervousness" has a dietetic side and a "breathing" aspect in addition to its strictly neurological pattern.

Application of this truth has led to many cures of melancholia and exhausting mental depression—having subjects acquire the habit of deliberate full expiration and inhalation.

Whether nervousness leads to shallow breathing or shallow breathing leads to nervousness is an idle speculation, for by acquiring the habit of deep breathing (expiration and inhalation), normal function of vital breathing is re-established and the vicious cycle of bad breathing habits is broken up.

Personality and Breathing

Obviously, most people take in enough oxygen to sustain life, but few take in enough to *live life vigorously*. So unaccustomed are most people to a full supply of oxygen that if the lungs are extended to full capacity, a feeling of light-headedness often follows.

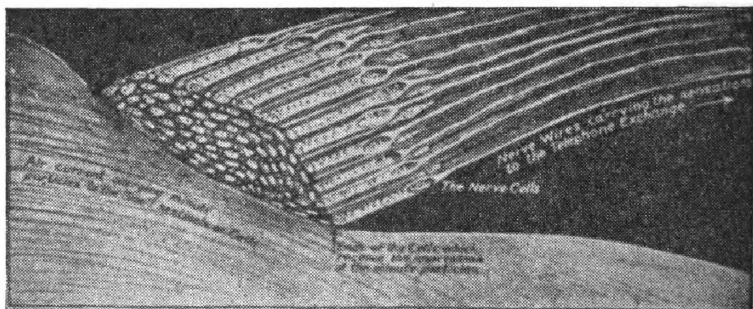


Diagram: A greatly enlarged visualization of the nerve cells of *smell*. When we smell a flower or a pungent chemical, a tiny particle of the material is drawn to these cells, thence as a sensation to the brain. Pleasant odors, fresh moving air, improve the breathing and stimulate the other 4 senses.

Most people are so habituated to using only the top part of the lungs that they generally are surprised to learn that the lungs actually go down on either side of the ribs *to the waistline*.

The texture of the voice, its resonance, the magnetic qualities of human speech, all depend upon *how* these lower and lateral areas of the lungs are used, for without an ample, wide and deep column of air rising under the voice, it simply cannot have attractive color, richness or vitality.

Further than this, the calming, poise-restoring effect of *slow* but full deep breathing (when one is in an unbalanced emotional state) proves a pleasant surprise to the highly-emotional subject.

Courage and Breathing

Much of the happiness of an individual—his success in life—the health of his body—may be partly bound in chains by the habit of *unfounded* fear and worry.

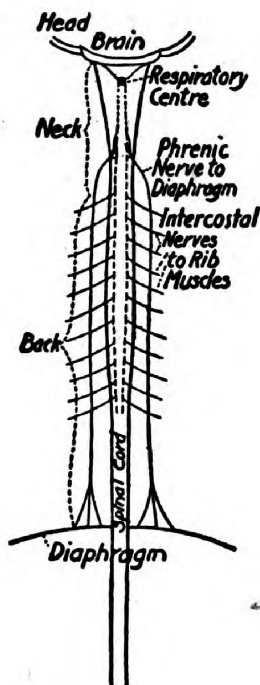
Particularly is this true of such forms of self-torture as fear of sickness, unfounded fear of failure and vague apprehension regarding the future. *Many times the development of proper breathing habits will help to dispel these wrong emotional states.*

The most evident fact about respiration is that the entire phenomenon is under the guidance of the nervous system.

We can breathe fast or slowly at will. Unlike the heart, the breathing muscles are not automatic, although they respond to emotional upsets so directly, the reaction seems automatic.

When we allow ourselves to become apprehensive, the breathing tends to speed up and become shallow. The remedy here is to breathe *slowly*.

Diagram Showing Nervous Control of Respiratory Movements



There is a curious correspondence between fevers and pulse rate and between pulse rate and breathing rate. Roughly, each degree of fever temperature above 98.6 degrees F. speeds the pulse rate by ten beats. Each degree of fever temperature causes an extra respiration per minute.

Emotions—Breathing—Hyperventilation

Human beings, unlike animals, have to be taught to breathe efficiently.

In the case of human beings, numerous factors such as poor posture, highly refined and mineral-robbled food, poorly-designed clothing, constricting garters, belts, braces, girdles and the like, all tend to interfere with *natural* breathing.

Even more important, lack of emotional control and particularly habits of worry and apprehension interfere with *correct* breathing by causing the victim to breathe too rapidly (over-ventilation). Remedy: *BREATHE SLOWLY*.

Law—"Don't overbreathe" is the most important warning that can be set forth for highly emotional men and women. Over-breathing leads to alkalosis, a loss of too much carbon dioxide.

Finding—When human beings breathe too fast, they may become *hyperventilated*.

Hyperventilation, a phenomenon that concentrates too much OXYGEN in the blood, is as old as the human race, but is only now being recognized as a cause of dizziness, fainting spells, cramps and even muscle paralysis and unconsciousness.

Hyperventilation is the cause of many airplane accidents, which have been erroneously ascribed to pilot errors and miscalculations.

Remedy for Over-Breathing

As carbon dioxide is a stimulant of better lung action, it is now administered to facilitate breathing in the new-

born child and is also used with oxygen in asphyxiation.

For muscle cramps and mental depression resulting from too-rapid breathing, the victim may procure a paper bag and breathe into and out of it for a minute or more, using the same air over and over again.

A later page will set forth practical points for increasing breathing range and cultivating habits of deep, slow breathing.

CHAPTER FIFTY-ONE

IMPROVING BREATH CONTROL INCREASING RESPIRATORY CAPACITY

"The preservation of health is a duty. Few seem conscious that there is such a thing as physical morality."

—HERBERT SPENCER.

CONTRARY TO what is the general belief, *full expansion of the chest* comes not only in front but also across the back and down the sides to the hip level. It is important to determine just how much expansion your breathing affects the areas of the lower back and sides.

Technique of Breathing

To do so, place your hands in the small of the back in the position of thumbs meeting at the spine with the middle fingers extended over the pelvis bones.

Now, *exhale* all the air from the lungs and while doing so, press tightly with the hands to assist in the expelling process. Now, **INHALE** and see how far you can spread your hands apart. You will probably find that your thumbs move *very little* apart, although it is in this area that the lungs *should* be expanded.

Very happily, we are more apt to breathe properly while we are asleep, because Nature unconsciously seeks

to establish normal function during the period when conscious mental process can no longer interfere with Nature's technique of proper breathing. This technique can be readily seen by watching a baby breathe while asleep on its back.

The baby's abdomen *rises* when the air is inhaled and *sinks* again when the breath goes out. *This is the secret of diaphragmatic breath control.*

In diaphragmatic breathing, the abdomen goes *OUT* when the breath comes in and when the breath goes out the abdomen comes *IN*.

You can test this plan of breathing by lying down, freeing the mind of care and tension and then starting to breathe *NATURALLY*. If you place a book on the abdomen you will observe that the book *rises* as you breathe in and goes down when you breathe out.

The acquisition of *automatic, slow*, breathing is one of the most vital bionomic habits you can acquire.

Air in Tissues as Well as in Lungs

In this matter of *automatically* correct breathing, human beings on the whole do not seem to function quite as well as certain members of the animal kingdom.

It is interesting to note that there are certain organisms that seem to be able to live without much *food* because apparently they have learned how to depend on air, at least to a certain extent.

Such organisms seem to compensate for the small quantity of *food* that they consume by inflating the *lungs* more fully and holding the breath for a relatively longer period of time.

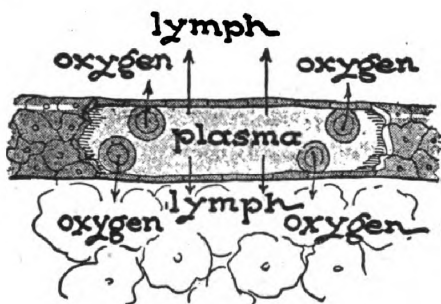
Soaring Without Wings

The African impalla, member of the deer family and famous for its ability to jump the incredible distance of 30 feet or more, is said to be able to breathe through every pore of its skin whilst running and jumping.

The fact that the impalla is one of the fastest quadrupeds on earth and can leap such amazing distances and to such great heights, lends credibility to the idea that perhaps the content of air in the animal's tissues and organs has a bearing on these feats of speed and soaring without wings.

The hibernation of the bear for long periods of time without food is a manifestation of breath control, plus carbon dioxide tension, which jointly comprise the ability on the part of the animal to continue in a state of catalepsy.

Cell Breathing. The cells take oxygen carried by the red blood cells and use it to burn up food as fuel for energy.



These phenomena in animal physiology point out the desirability and the importance of learning as much as possible about the function of breathing and from this, gaining greater skill in the *art* of breathing.

Dead Man's Float

The human body does not sink in the water if it remains quietly relaxed. This is not, as most people think, merely because only the lungs contain air.

Actually, the head and most of the abdominal organs contain gases that, together with the respiratory air, serve to keep the body afloat for a short time if inspiration and expiration are performed slowly and without effort.

Improvement Points in Respiratory Control

The Slanting Beauty Angle and Breathing—All humans are victims of the pull of gravity which pulls all organs downward and acts against blood flow and organ replacement. The slanting beauty angle is an anti-gravity exercise of great value.

Practice—Obtain a board or a wide plank and rest one end on chair or bed and lie with head downward and feet upward. The best angle for long sessions is about 25 degrees. Best benefits come from sessions lasting a half hour or more which lead automatically to a fine type of diaphragmatic true deep breathing. In the absence of board or plank, take three pillows, put them near the foot of the bed and lie down, your hips on three pillows and your feet up on the footboard of your bed. If bed lacks footboard and headboard, pull a chair next to the bed and put your feet up on the high back of chair.

Good Air and Bad Air—Most people believe the old idea that the amount of carbon dioxide and breathing exhalations in the air of a room determines the bad effect of such air. Hygienists no longer consider such factors. The modern view is that the important factors are principally

the temperature of the air and air movement. **MORAL:** *Cool* air is the best air; moving air is even better. Ordinary amounts of carbon dioxide are not poisonous. Carbon dioxide within reasonable limits is a stimulant to better breathing and actually causes the brain breathing center to deepen breathing function.

Double Range "Deep Breathing"—Shallow, rapid breathing is to be avoided at all costs (except as an emergency measure in order to hold the breath for several minutes). Gradual improvement in breathing habits may be speeded up by deliberate, regular, short sessions of double range breathing. The trick is to empty the lungs by breathing out. This moves out the "tidal" air and some of the *residual* air, neither of which are affected much by shallow or by rapid breathing. After emptying the lungs as completely as possible, **INHALE NATURALLY** a complete range of air which will be nearly double the usual lung content of oxygenated air.

Practice a half-dozen double range breaths once or twice daily. Moderation is the best rule in all breathing routines. Moderation gains the benefits and avoids such undesirable results as "over-breathing" and *hyperventilation*.

"Larger" Breathing—The human body does not store up oxygen. Hence, occasional, half-hearted attempts at so-called "deep breathing" accomplish little. "Larger" breathing is what is needed. Larger breathing is true "deep breathing." This is achieved by *enlarging* the chest; by *developing* the breathing muscles; by right posture; by holding the pelvis level; by overcoming "sway-back"; by straightening out the arch of the back and by practicing "belly-pull-in" exercises.

Iron-Copper Foods and Breathing—IRON and COP-

PER are the master blood elements that pick up the OXYGEN breathed in through the lungs and thus keep life glowing in the body. In a matter of minutes, IRON and COPPER transport the *inbreathed* OXYGEN to the most remote cells of the body, generating blood electricity all along the way and setting the electrons of the red blood corpuscles "dancing" in the abandon of vitality and health. To breathe well, use plenty of IRON-COPPER-rich foods, such as liver, dried apricots, molasses, orange juice, raisins, egg yolk, prunes and all *dark-colored* fruits and leafy vegetables.

"Rib-Stretching" and Breathing—A flexible, chest "cage," which leads to true, *natural* "deep breathing" can be developed most rapidly by "stretching." Stretching may be practiced standing with hands clasped above the head, but is even better when performed for a 5-minute session in the reclining, horizontal position. Stretching "lifts" the ribs, activates the diaphragm and, above all, helps to disperse "blood pooling" in the abdominal areas.

Stage Fright and Timidity—Stage fright, timidity and undue nervousness in public are frequently accompanied by shallow breathing and "pooling" of the blood in the abdomen. The trick here is to rapidly quicken the blood flow and stimulate the respiratory center in the brain (medulla oblongata).

Rule—Hold the breath for about 10 seconds and alternately draw the abdomen in and out lightly and quickly. This accomplishes two things, namely, the holding of the breath which overcomes the shallow breathing and the agitation of the diaphragm and the solar plexus nerves, which speed the flow of blood *out* of the abdominal vessels.

CHAPTER FIFTY-TWO

THE BREATH OF LIFE (Cells, Plants, Sunlight, Health)

"Our bodies are our gardens to which our wills
are gardeners."

—SHAKESPEARE.

MANKIND CAN never pay its debt to the plant kingdom and to the sun. In virtually every contact we have with life and environment we encounter the wonders and super-terrestrial faculties of the kingdom of plants (green leaves, roots and soil) and the sun with its 7 color symphony of life and birth.

Perpetuum Mobile of Life

In a curious, complex and utterly Providential manner, human beings and plants live in a tenderly balanced reciprocal relationship.

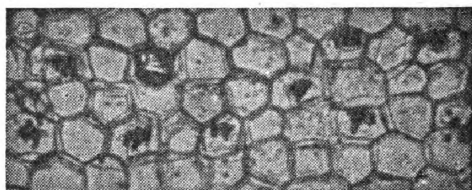
A human being and a group of plants could live in a glass bell hermetically sealed to exclude food and air, but constructed so that only the rays of sunlight could enter.

In this bell, the man would breathe out carbon dioxide (CO_2) which would be taken out of the air by the leaves of the plants within his glass domicile. The plants in turn (by virtue of the green chlorophyll granules operating in

the beams of sunlight) would split the carbon dioxide (CO_2), liberating the oxygen (O_2) and giving it off to the air for the man to breathe.

Thus, the opposite but mutually satisfactory breathing requirements of both man and plants would be entirely satisfied.

The food requirements in this illusory glass home would be satisfied as follows: The plants, after releasing the oxygen (O_2) which they obtained from the carbon dioxide (CO_2) would combine the remaining carbon (C) with water (H_2O) and the magical resultant of this union would be sugar and starch (CH_2O)—thus satisfying the carbohydrate needs of the man in the glass house.



Microscopic photograph of surface of a leaf showing "breathing pores." An acre of grass, while the sun shines, will give off enough oxygen to supply ten people.

As protein too would be needed by this glass-domiciled man, the leguminous plants of his little "conservatory" would develop food protein by grace of the little bacteria in the root nodules. These bacteria would "fix" the nitrogen they would take from the air of the glass bell.

Thus, complete food and respiratory requirements of the man and his plants would be met satisfactorily, the *scale of life* being kept in balance by contributions from both kingdoms.

Further Plant Wonders

In still another way, plants vitally affect mankind. Bacteria, which are tiny plants, so small that millions can exist in a single drop of fluid, are everywhere about us—in water, soil, food and air—and these play a tremendous part in shaping the destiny of man on earth.

These bacteria help man because they act as scavengers, causing things to decay and thus removing the dead bodies of plants and animals from the earth, turning this material back to the ground.

Other plant bacteria help make cheese and butter; they improve the soil for crop growing; plant molds on stale bread create penicillin; and *chief of all*—the vegetable kingdom furnishes to mankind his SUSTENANCE—his means of HEALTH—his way to YOUTHFULNESS—through the CELL FOODS (MINERALS, VITAMINS, ALKALINES and AUXINS) provided so lavishly and in such bewildering array by NATURE.

Cells Are Universes

Tiny though it is, each CELL in your body is an actual *universe*. Just as the pattern of blood vessel networks at the rear of your eyeball distinguishes you from all other people on earth, so your cells are unique and in their health and disease patterns differentiate you from all others.

Just as the greatly magnified concentric rings of a cross section of one of your teeth tell a story of your vitality from the cradle to the grave, so each drop of blood is an epitome of your present sickness and vitality values.

Unity of Health and Disease

When human beings suffer from rheumatism, arthritis, cancer, tuberculosis, each one of those diseases (although generally viewed as entirely a local matter) has to be viewed in some respects as actually affecting every drop of blood. Health qualities are similarly present in each and every drop of blood.

Learn to regard yourself as a *whole* individual, integrated and unified. You are not an assemblage of different elements, systems and parts, some diseased and some healthy. You are whole, entire, functioning in unity.

Sunlight—Source of Life

Each giant star (a burning sun) sheds light and life to its own satellite planets and to the living organisms thereon, if the planets in the distant reaches of the heavens have life, as some scientists believe they may have.

Our own sun—insignificant in magnitude compared to the great stars (suns) that stud the heavens at night—also sheds light and life to humans, animals, plants and lesser organisms on earth.

Without sunlight, the entire drama of life on earth would end. Without sunlight there could be no food on earth, for solely because of the rays of sunlight, chlorophyll, the green coloring matter (blood) in the leaves of trees and plants, takes carbon dioxide (CO_2) from the air, thus forming our basic starches and sugars.

Then securing nitrogen from the air in the marvel drama of the nitrogen cycle, protein food material is formed. Protein is the basal *protoplasmic* life substance within the cells of all living things.

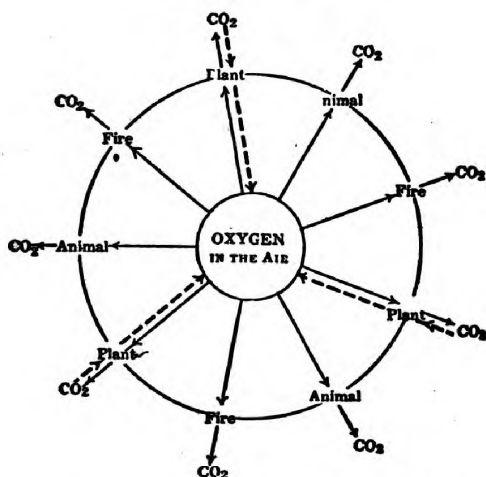
The creation of food substance in this way goes on endlessly and were the sun destroyed by some cosmic accident, all life would end, for as the chlorophyll in the leaves of the plant kingdom acts only through sunlight, the manufacture of food by Nature would end almost at once. Fungi only could survive for a time. A sunless world would be a world of molds and fungi for a short period and then even this low form of life would terminate.

Vibratory Light Waves

One of the greatest scientific achievements of this century has been the discovery of the indispensable health benefits that are locked up in sunlight.

Although sunlight seems to us to be merely brilliant

THE OXYGEN CYCLE



Human beings, animals, fires, volcanoes give off carbon dioxide to the atmosphere.

Green plants take carbon dioxide from atmosphere, split off the oxygen and *return* it to atmosphere.

white light, actually a single beam of sunlight runs the gamut of all colors.

If a ray of light is divided by a prism into its different wave lengths, the prism separates what the human eye recognizes as the seven colors of the scale of light—RED—ORANGE—YELLOW—GREEN—BLUE—INDIGO—VIOLET.

Healing Ultra-Violet

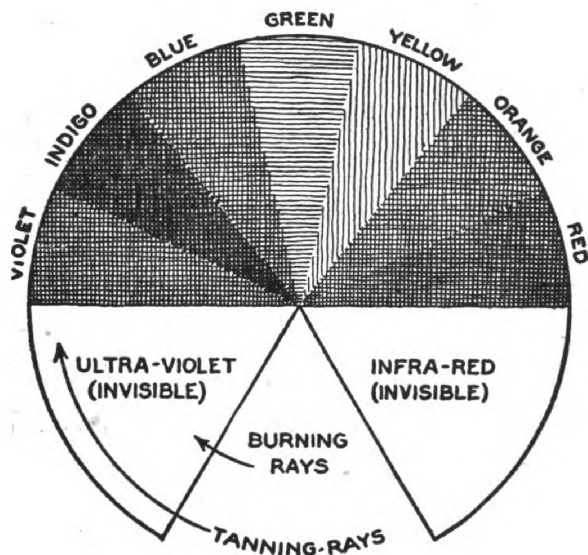
When we speak of *healing* by sunlight, we mean, principally, the healing partly produced by the *violet* rays of the invisible band of sunlight, together with the *ultra-violet* rays of INVISIBLE LIGHT. We are *healed*, so to speak, by rays of light too short for the human eye to see.

Some of the therapeutic properties of sunlight, it is true, are found in the *infra-red* rays. In rheumatism or arthritis, bathing in sunshine has the effect of breaking up the uric-acid crystals into disposable by-products. The uric-acid from the harmful and tissue-stiffening uric-acid crystals is thrown off through the skin and kidneys and some iron, curiously, is released from the crystals for constructive work in the bloodstream.

This property of the infra-red rays (invisible long rays of sunlight) in assisting the assimilation of iron by the system, proves to be valuable in certain cases of anemia. The action of the infra-red rays enables the iron (thus released into the bloodstream) to combine with oxygen in the formation of red blood corpuscles.

Conclusion

It is not mere quibbling to say that the familiar old



SOLAR SPECTRUM. 7-color scale of life and birth. Rays just beyond the violet have the greatest effect in building vitality and health. Rays just beyond the red are very useful in reducing congested, inflamed tissues.

adage "knowledge is power" is a very misleading untruth.

Millions rush here and there learning new things so fast that they simply haven't time to apply what they learned yesterday. Certainly these people have knowledge (plus mental indigestion) but they do not have power.

Knowledge alone of the Bionomy of Power cannot make one healthy—knowledge of the moral law cannot make an individual good—for the power of knowledge is *exclusively determined by its use.*

Many people of brilliant intellect and great knowledge fail in life because they do not use what they know.

Others, knowing far less, perform surprising feats of successful living because they *apply* and use what they *do* know.

Jesus pointed this out in His Parable of the Buried Talents. This implies that knowledge *becomes* power only when it is put to work.

The main elements of improved health through intelligent use of natural forces in food, air and sunlight have been set forth.

The physical forces plus the correct management of our emotions, desires and mental activity comprise an armamentarium of transcending power. Use brings strength, action brings power. Your character is your **DESTINY.**

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