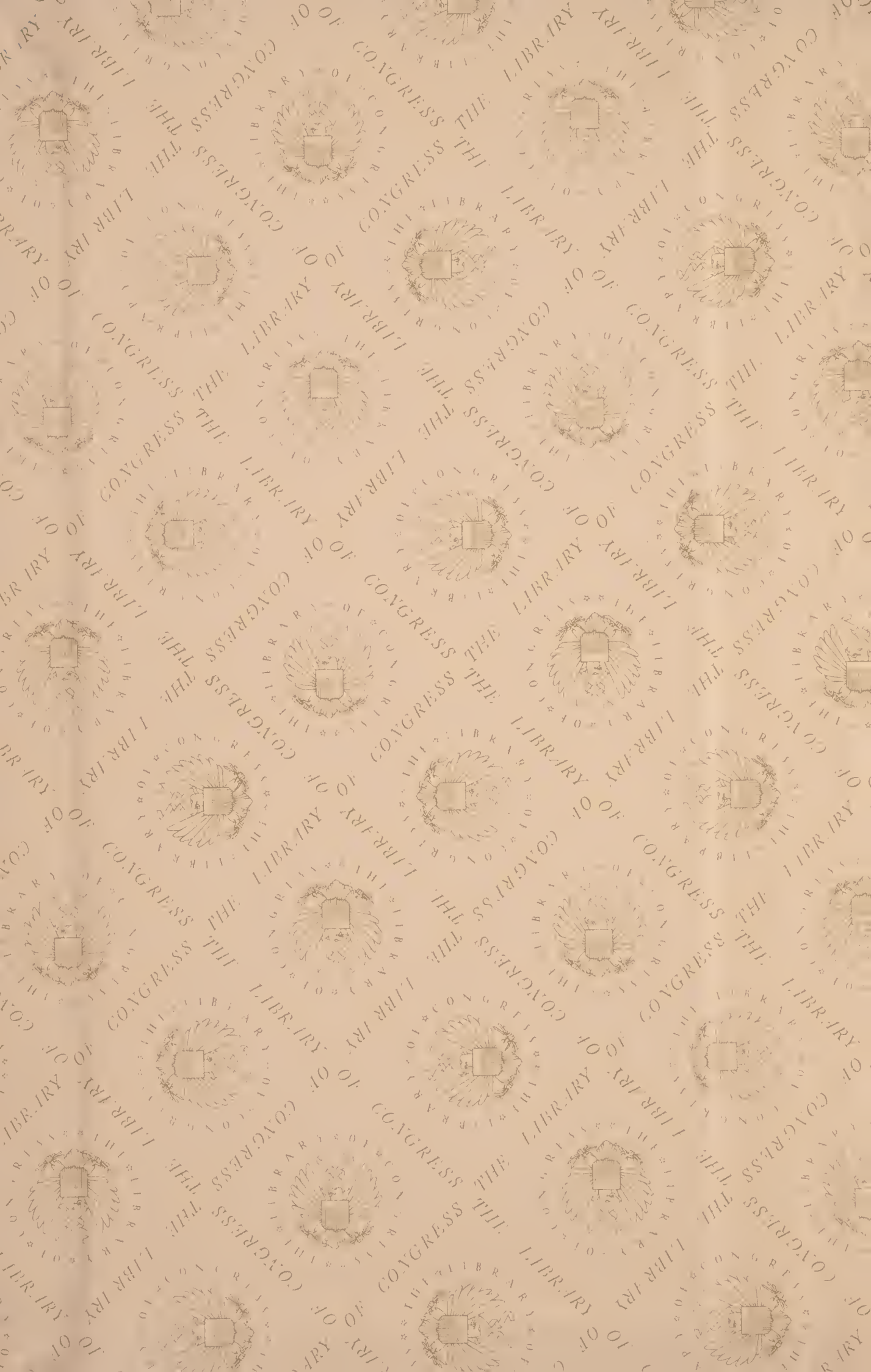


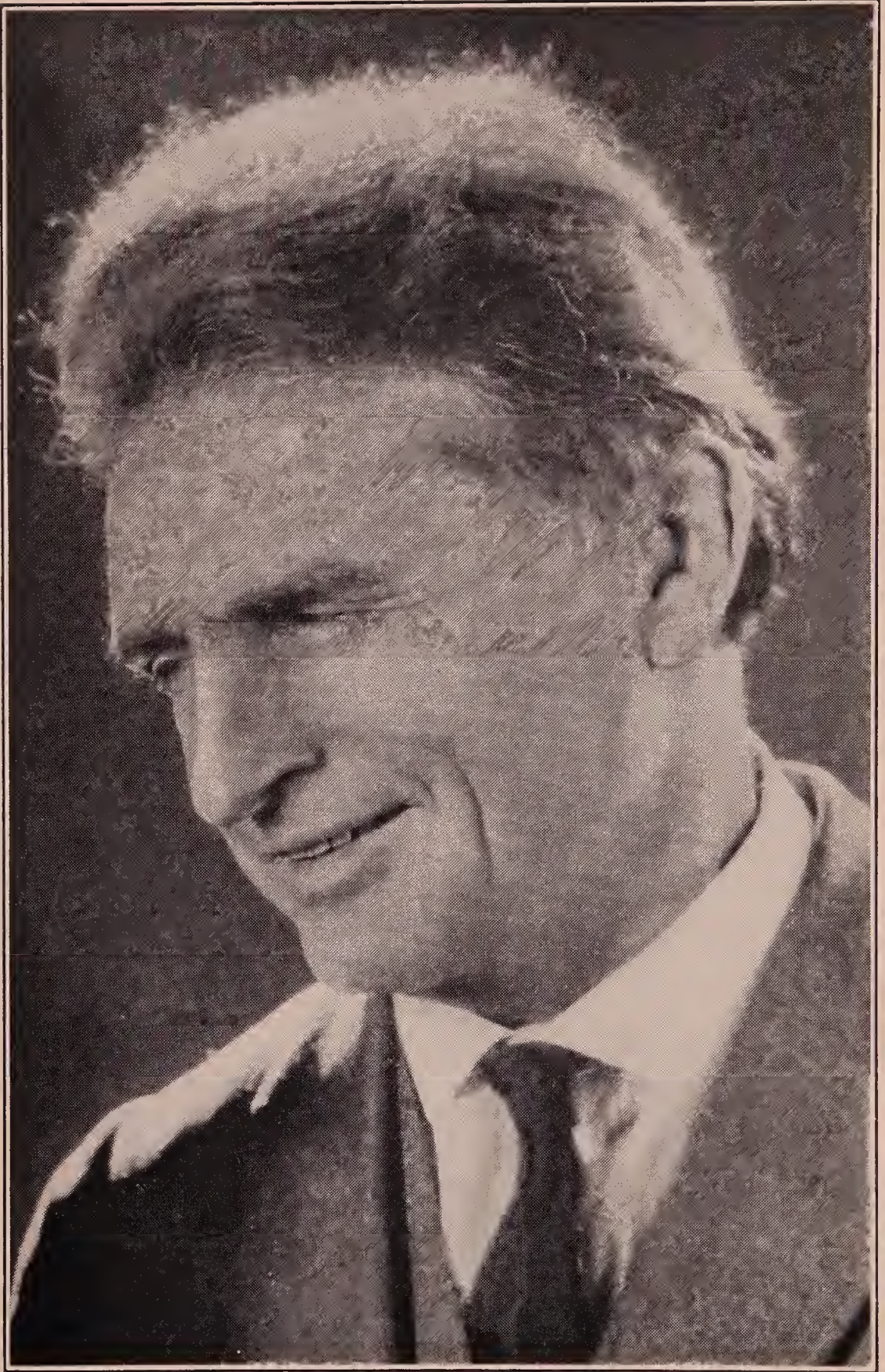
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Portrait of the Author

SKIN TROUBLES

*Their Causes, Nature,
and Treatment*

BY

BERNARR MACFADDEN

AUTHOR OF MACFADDEN'S ENCYCLOPEDIA OF PHYSICAL CULTURE,
STRENGTHENING THE NERVES, STRENGTHENING THE EYES, HAIR
CULTURE, CONSTIPATION, TOOTH TROUBLES, MIRACLE OF MILK,
DIABETES, HEADACHES, STRENGTHENING THE SPINE, FOOT TROU-
BLES, AND OTHER WORKS ON HEALTH AND SEX

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PREFACE

A MARVELOUS organ is the human skin. Its condition and proper functioning are of first importance in preserving and promoting full vigor and health in the entire organism. A healthy skin usually means a healthy body; an unhealthy skin a body in some measure out of order.

In the condition and appearance of the skin and its appendages—the hair and nails—we have a fair barometer or indicator of the real body within, and of how well and efficiently it is carrying on its numerous functions. As health and glowing life are pictured in a clear skin, so, also, are ill health and abnormal functioning pictured in a skin that is blemished or diseased. We instinctively shrink from anyone whose skin is dirty, pimply, or affected with sores of any kind, for we know that such a person is “unclean” without and within.

The faultless skin is the skin of health and beauty, reflecting strength and vitality in every part of the body. The skin is the friendly mirror of the kind of health we possess. And the way we treat or care for the skin, from within and from without, to no little extent determines the state of the general health, and the nature, character and appearance of the skin itself.

In size, the skin is the largest organ of the body. And in its work and service it also is one of the most important. The complete destruction of any considerable portion of the skin results in quick death

PREFACE

of the whole being. Likewise, abuse of the skin inevitably leads to body decline. Lack of proper care is, in reality, abuse of the skin. To meet all the requirements for good health of the normal human body we must strive for the preservation of structural and functional integrity of the skin, that this vital organ may do its part in maintaining and promoting pulsating health and complete efficiency—not only in the skin itself, but in every organ.

We can improve the structure and the function of the skin. Anyone can make an appreciable change in both. The skin is in plain sight of our eyes for us to study and improve if we but give the little thought and attention required to maintain its vigor and integrity. To inform its readers how to do this is the purpose of this book—not by drugs or beauty-parlor magic or plastic surgery, but by common-sense care along physical culture lines. If the reader will follow the simple procedures outlined herein he will improve not only his skin and its activity but every organ and function of his body, developing pulsating vitality and energy that will be a fit accompaniment, in fact the only possible foundation, of the better skin and complexion that will be produced.

Bernarr Macfadden

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SKIN TROUBLES

CHAPTER I

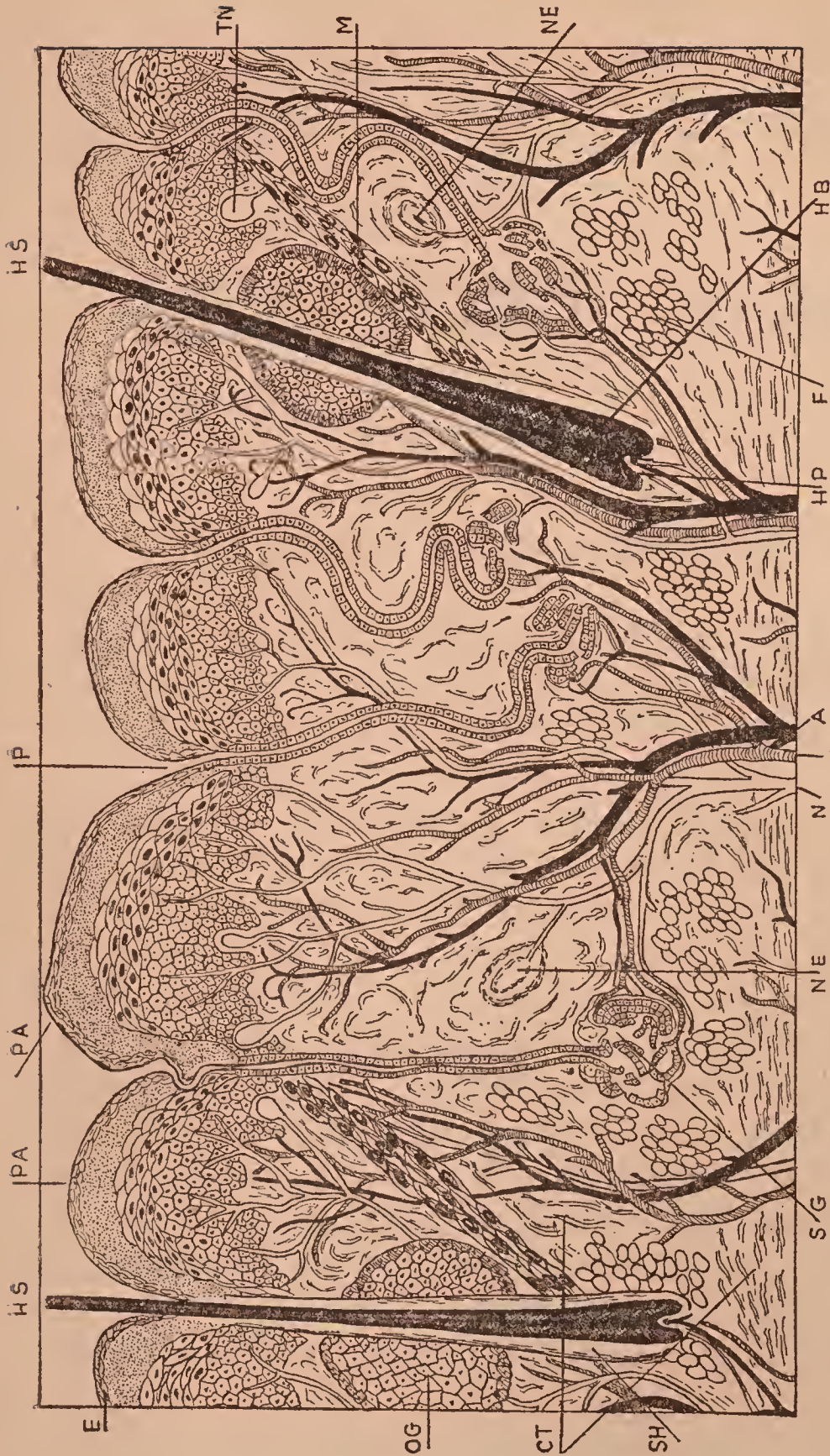
The Skin and Its Functions

THE skin and its appendages, the hair and nails, form the external investment of the body. This organ is marvelously and ingeniously constructed, and serves several very important functions, among which are: a protective covering; an organ of sensibility; an organ of elimination; and an organ for the control of body temperature.

There are about 20 square feet of skin on the body of a man of average size. This skin is modified in various localities to serve perfectly its varied functions. It varies in thickness in different regions of the body, from one-eighth to one one-hundredth of an inch, being thickest on the palms of the hands and soles of the feet and thinnest over the joints of the body and wherever rapid motion is required, as for instance over the eyelids. It is capable of great stretching, and it also will contract within a certain limit.

For descriptive purposes, the skin is divided into

SKIN TROUBLES



Cross Section of the Human Skin. HS, hair shafts; PA, papillae; P, pore; TN, tactile nerve ending; M, hair erector muscle; NE, nerve endings; HB, hair bulb; F, fat; HP, hair papilla; A, artery; V, vein; N, nerve; SG, sweat glands; SH, sheath of hair; CT, connective tissue; OG, oil gland; E, epidermis.

THE SKIN AND ITS FUNCTIONS

three layers, as follows: a superficial or outside layer, called the *epidermis*; a middle layer, called the *dermis* or *corium*; and a *subcutaneous layer*, which connects the skin as a whole with the tissues underneath.

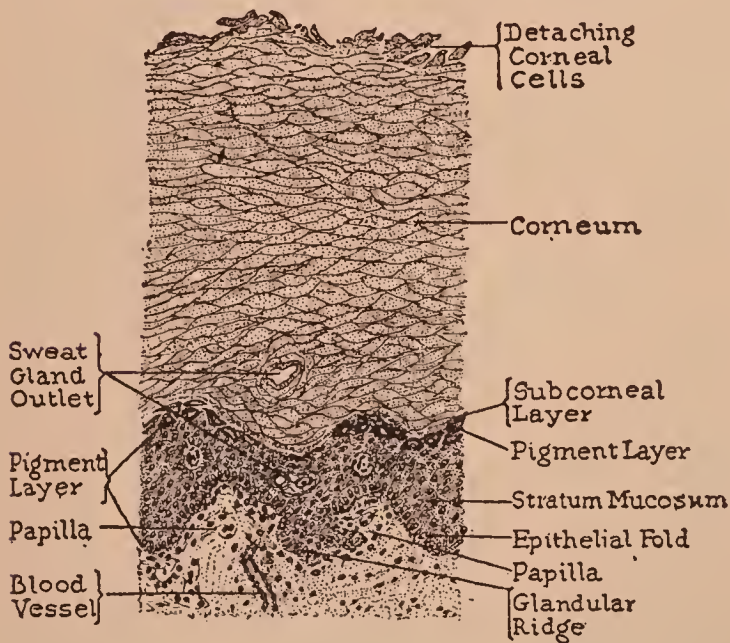
THE EPIDERMIS

This layer, called also the scarf skin, and the cuticle, is the skin we see. It is in constant contact with the outside world and bears the brunt of all the pressure and rubbing to which the surface of the body is subjected. From the purely mechanical viewpoint, it is the protector of the body. We well appreciate this when we blister or friction our skin so that the highly sensitive layers beneath are exposed. Owing to the constant rubbing and friction to which this layer is subjected, there is a steady loss from its surface through destruction and scaling of its cells. This necessitates a steady growth from the bottom upward of the cells forming the epidermis. The cells of this layer all are of one class, called *epithelial*; but there is considerable variation in their shapes. They are cylindrical in form and soft in texture at the inner surface; they grow more spherical and harder as they approach the middle and they become flat, dry and often horny at the surface.

The epidermis is divided into two layers: the inner or *rete mucosum*, and the outer horny or *corneous* layer. The under surface of the inner layer is undulating and dips down between and rises over the prominences of the dermis or true skin,

SKIN TROUBLES

to which it closely adheres. In the cells of this layer are found the pigment-granules which give the skin its varying tints in different individuals and races. This coloring matter is the same for all races—white, yellow, red, brown, and black, also in the blond and brunette—the different shades being determined by the *amount* of pigment present. An albino is one in whom the pigment is totally lacking. Such people have pallid complexions, pink eyes, and white hair, frequently pinkish pupils. Sunlight and the artificial sunlight created by the ultra-violet rays and quartz lights cause the deposit of more pigment in the skin, causing tan and freckles; but this effect is not produced upon the albinos.



Section of skin from the sole of the foot. This shows the epidermis and a part of the corium containing papillae.

The outer or corneous layer of the epidermis varies in thickness from one-eighth of an inch on the palms of the hands and soles of the feet to one nine-hundredth of an inch in the external auditory (ear) canal. Wherever

unusual pressure is put upon the skin, the outer cells multiply rapidly and bring about an increased thickness of this layer. This fact is readily observed when soft and tender hands are used for manual

THE SKIN AND ITS FUNCTIONS

labor. The palms soon become hard and tough and, in some places, hornlike. When constant pressure is placed upon a small area there is built up a little mound of these cells, commonly known as a corn or a callus, the name depending mainly upon whether or not there is pain.

The epidermis is not supplied with nerves, or with blood and lymph vessels. There is no feeling in this layer, and it may be cut or torn without giving rise to any pain. Its cells are supplied with food from the watery or serum portion of the blood, which seeps through to them from the blood vessels in the underlying layer.

THE TRUE SKIN

The second layer of the skin is called the dermis or true skin, also the corium or *cutis vera*. It is subdivided into two layers, known as the *reticular* and the *papillary* layers.

The reticular layer is composed of a closely interwoven network of white fibrous tissue, nonstriated or unstriped (involuntary) muscle fibers, and elastic tissue. Its meshes are filled with deposits of fat and a structureless substance.

The papillary layer is formed chiefly of club-shaped elevations or projections of the structureless substance, constituting the papillæ. In these little mounds or papillæ are found the terminations of the nerves of touch and of thermic or heat (and cold) sense. The papillæ are most abundant in the palms of the hands and on the soles of the feet, and average one one-hundredth of an inch in height.

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They are well supplied with blood and lymph vessels. These little mounds are very thickly arranged in parallel curved lines, forming ridges in the more sensitive regions, while in the less sensitive parts they are more thinly and irregularly distributed. They are most abundant in the ends of the fingers, where the ridges easily are seen. It is these ridges, which never are the same in any two individuals, that are of such service in finger printing, for identification purposes. The ridges on the soles also are used for identification purposes, especially of newborn infants in maternity hospitals.

THE SUBCUTANEOUS LAYER

Beneath the dermis or middle layer of the skin lies the subcutaneous layer. It consists of an open network of fibrous tissue which connects the skin with the tissues underneath. In its meshes are embedded a greater or smaller number of fat cells, more being found in women than in men. Networks of elastic tissue help to make up this layer, also. The presence of fat in this layer helps materially in protecting the underlying tissues, and also gives roundness to the body. There is practically no fat in this layer on the scalp and in the palms and soles; and where great mobility is required, as in the eyelids, the fat is entirely absent.

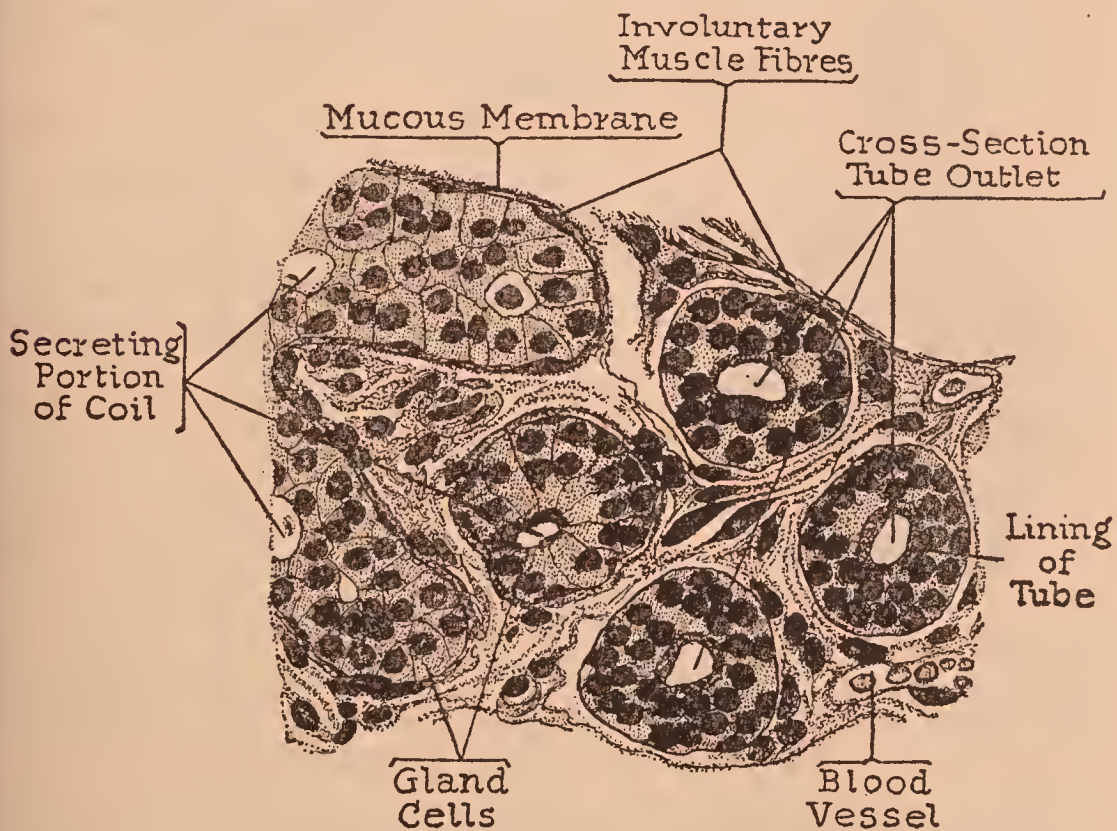
Sacs containing fluid, called *bursæ*, develop in this layer over the joints, where the skin is close to the bones and subject continually to pressure from the joints in movement. This is the layer that carries the large blood and lymph vessels that branch into networks in the dermis or true skin.

THE SKIN AND ITS FUNCTIONS

There are two sets of glands found in the skin, the sweat or sudoriferous glands and the oil or sebaceous glands.

SWEAT OR SUDORIFEROUS GLANDS

These are minute glands which are very abundant in the skin. Their function is to excrete (or secrete) the sweat. They are situated deep in the dermis



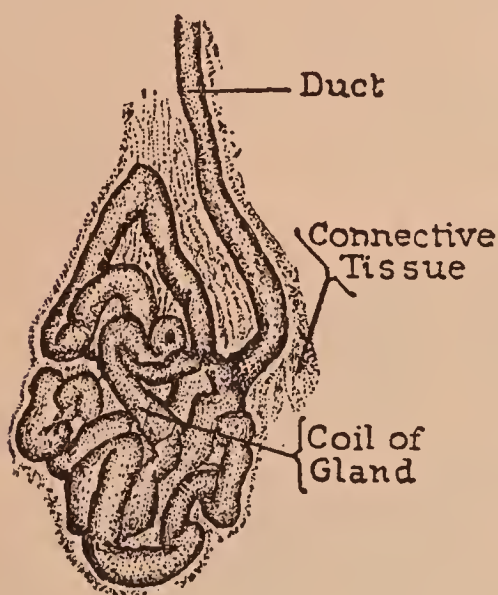
Portion of a sweat (sudoriferous) gland. This is taken from the skin of the back of the foot, and is magnified several hundred times.

and subcutaneous layers, each consisting of a tube coiled into a ball-like body. They open upon the body surface by a duct, which is a continuation of this tube through the two layers of skin. The opening of the tube upon the surface is called a pore.

SKIN TROUBLES

These little glands average about one seventy-fifth of an inch in diameter, and are surrounded by a plexus or network of capillary blood vessels.

The sweat glands are very abundant all over the surface of the body, there being about 400 to the square inch on the back of the neck and over 3000 to the square inch in the palm of the hand. Their function is to extract from the blood the elements found in perspiration, and to excrete them from the body.



A coil at the base of a sweat gland. Enlarged about eighty times.

The product of these glands, known as sweat or perspiration, is a clear, colorless and almost odorless fluid, slightly alkaline in reaction, and having a specific gravity of 1.003 to 1.004. Under certain conditions sweat gives off a strong odor, and in certain diseases is acid in reaction and very irritating to the skin.

The total quantity of perspiration excreted daily is estimated at about one quart or two pounds, though the amount varies with the nature of the food and drink, the amount of exercise, with the external temperature and with the nervous tone and general strength, etc. The excretion of perspiration is continuous; but it takes place so gradually that it passes off by means of evaporation about as rapidly as it is formed, as *insensible* (invisible)

THE SKIN AND ITS FUNCTIONS

perspiration. If one exercises vigorously or is subjected to considerable heat, also in certain abnormal conditions, such as great weakness, perspiration is poured out faster than evaporation takes place, and appears as *sensible* (visible) perspiration.

The composition of sweat is given as follows:

Water	995.673
Urea	0.043
Fatty matters	0.074
Alkaline lactates	0.157
Alkaline sudorates	1.562
Inorganic salts	2.491
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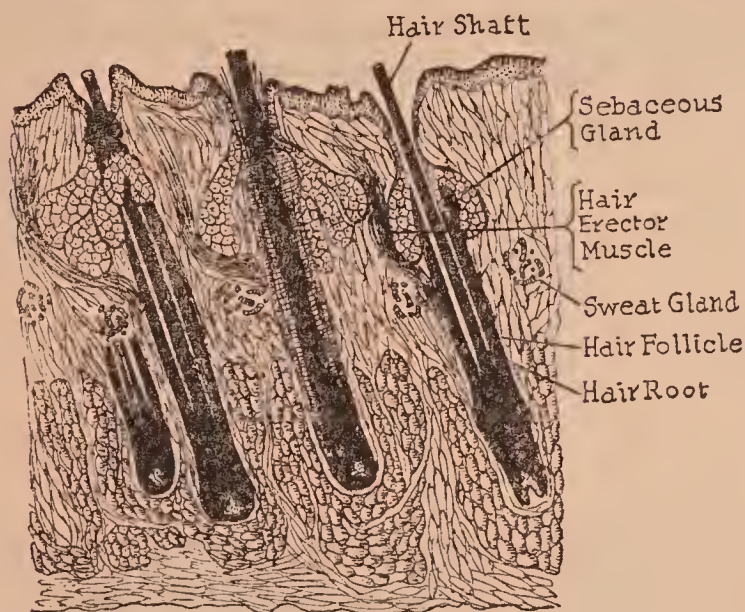
Urea is a constant ingredient of sweat. The chief inorganic matter is sodium chloride, which is the same compound as our ordinary table salt, and this often is especially abundant in the sweat of those who consume much salt.

Sweating, to some extent, is a process of elimination, though under ordinary circumstances the amount of waste matter eliminated in this way is of little consequence. In one thousand parts of sweat less than five parts are waste, and nearly one-half of this waste is salt. The amount of waste and poison excreted in passive sweating—that is, sweating induced by the application of heat to the body, as in a Turkish bath—is considerably less than when sweating is active—due to exercise. In certain diseases the amount of poisons eliminated through this channel is much greater. The proportion of water to the wastes is greater where much water or other fluid is taken into the body.

The direct relation between the skin and kidneys

SKIN TROUBLES

is shown by the way in which profuse sweating diminishes the amount of fluid eliminated from the kidneys. In the summer, although one drinks con-



siderably more water than in winter, the excretion of the kidneys is greatly decreased, due to the fact that most of the water is sent out through the skin. Conversely, in the winter, when but little water is eliminated through the skin, more water is

Vertical section of skin to illustrate the close association of hairs and oil (sebaceous) glands. The sweat glands are shown as they would appear in section, but their tubes do not appear.

eliminated through the kidneys although less water is consumed.

The chief work of elimination performed by the skin is the exhalation of carbonic acid gas or carbon dioxide. Estimates of the amount exhaled range from one two-hundredth to one-fiftieth of that exhaled by the lungs. The skin also serves as an organ of breathing, taking oxygen into the body, as well as giving off carbon dioxide from the body.

The excretion of sweat is regulated by the nervous system. Two sets of nerves are concerned: the *vasomotor* nerves, which regulate the blood supply, and the *secretory* nerves, which stimulate the ac-

THE SKIN AND ITS FUNCTIONS

tivities of the gland cells. Generally speaking, increased blood flow and accelerated glandular action exist together. At times, however, a profuse clammy perspiration occurs with a decrease in the blood supply. The sweat centers, located in the spinal cord, are excited to action by exercise, by a rise of external temperature, mental emotions, by many drugs, and by an increase in the temperature of blood circulating in the medulla and spinal cord.

HOW THE BODY IS COOLED

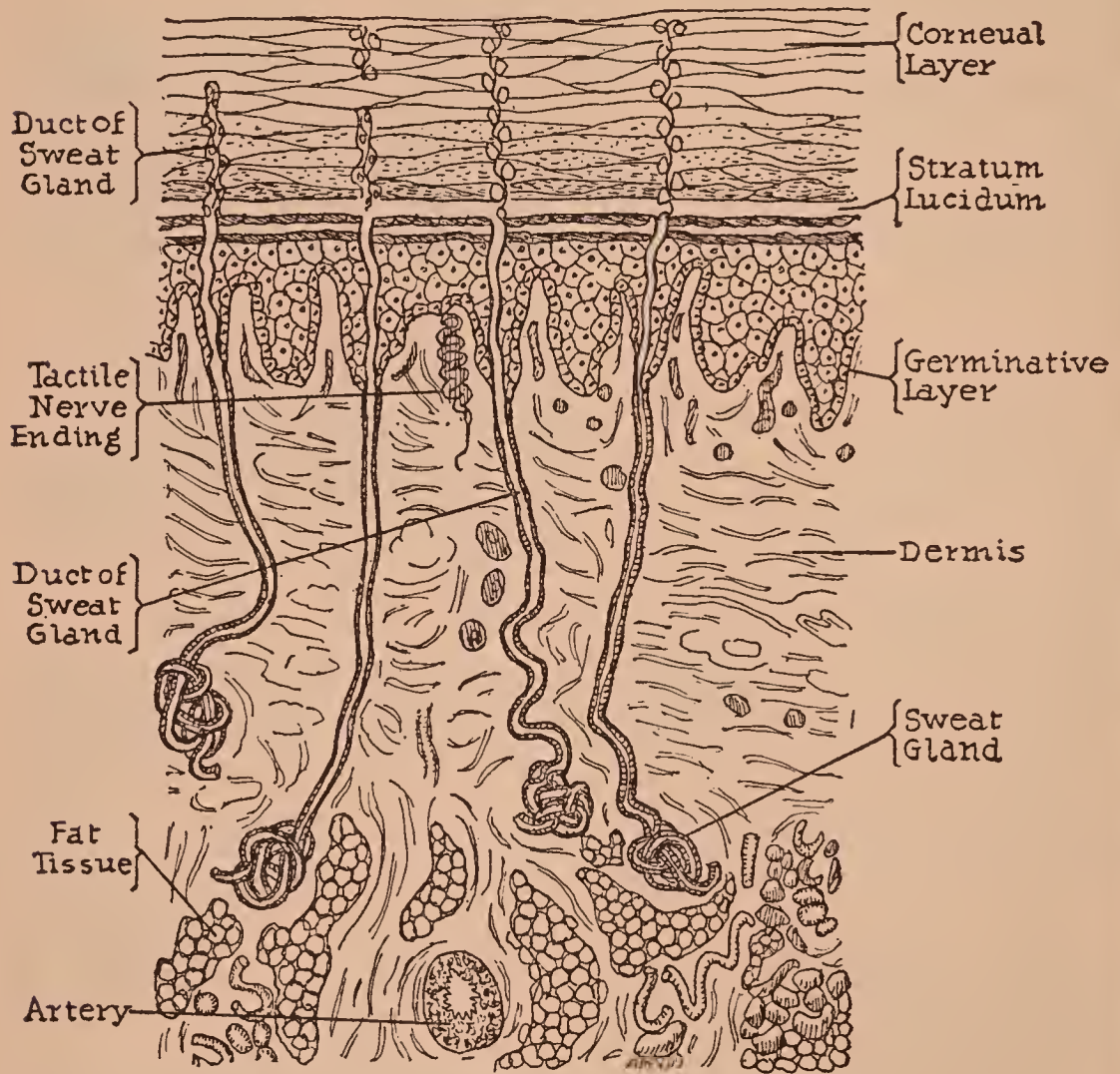
The body is cooled by the evaporation of the perspiration. Any liquid in evaporating takes up heat. Sweat, in evaporating, extracts the heat from the skin. The skin also serves to maintain the normal temperature of the body. By regulating the amount of blood that comes to the skin the escape of heat from the body is controlled. If the body is chilled the blood vessels of the skin contract, thus forcing the blood away from the surface of the body, thereby conserving its heat. When the body is hot the vessels in the skin dilate, thus allowing larger quantities of blood to reach the surface of the body, dissipating more of its heat.

The body not only regulates the radiation of its heat, but also regulates the production of heat, at least to a considerable degree. It often happens in people of low vitality that the body's ability to produce or conserve heat is reduced and the body temperature is below normal. In most stages of acute diseases the temperature is above normal, and the patient is said to have fever.

In fever there usually is a greater production of

SKIN TROUBLES

heat than under normal conditions, but heat production is not nearly so great as that resulting from violent exercise. The reason for fever is not so



A vertical section of the skin chiefly to show the sweat glands, papillae, and outer layers of the skin. The body is cooled through radiation of sweat on the body surface.

much increased production of heat as a lessened radiation of heat. Thus skin radiation becomes suspended, due to some shock to the nervous system. A warm bath usually will reestablish skin radiation and cause a reduction of temperature. The *crisis*,

THE SKIN AND ITS FUNCTIONS

or turn, of fever usually is characterized by a resumption of sweating, which had been suspended, and consequently a reduction of body temperature results as the perspiration evaporates and the fever passes.

Man can endure a higher degree of temperature in a dry than in a moist atmosphere. In a Turkish bath establishment, for instance, a much higher temperature can be tolerated in the dry-air room than in the steam room, and more in the steam room than in a water bath. In the North and East in the United States every summer many people are overcome by the heat; but one seldom hears of such occurrences in the South, where the temperature runs from ten to twenty degrees higher. This is because the humidity is less in the South, and this permits, perhaps, a faster evaporation from the skin. Hence, a more rapid cooling of the body obtains in the South than in the North and East.

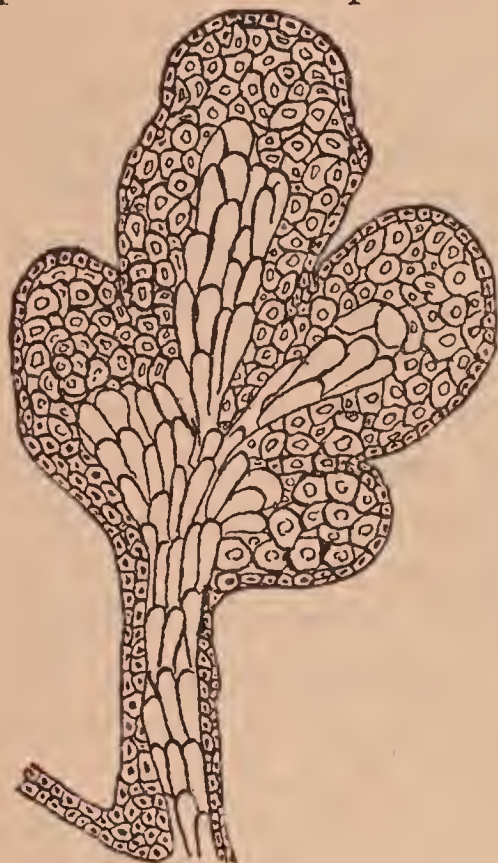
OIL OR SEBACEOUS GLANDS

These are small glands, each resembling a bunch of grapes, embedded in the dermis or true skin. Each gland opens through a small duct upon the surface of the epidermis or into a hair follicle. These are found over all parts of the body surface, but are more abundant in the face and scalp, being especially abundant over the nose and forehead where they often are so active as to give these regions a greasy, glistening appearance.

The *sebum* or oil secreted by these little glands consists chiefly of water, mineral salts and fats, and

SKIN TROUBLES

serves to lubricate and soften the skin and hair. The oil normally is clear and odorless, but in certain conditions of high general toxemia it may have a peculiar and unpleasant odor; it quickly becomes



Section of an oil (sebaceous) gland from the skin.

rancid on the surface of the body, as does the perspiration, thus giving a strong, pungent and highly disagreeable odor.

If the oil in the skin is deficient the skin becomes dry, hard and cracked, and the hair becomes brittle and breaks or splits easily. The oil also prevents absorption of water and of poisons that come in contact with the skin. Excessive bathing, especially with warm or hot water and soap, deprives the skin of most of its oil and produces

the same effect as is produced by a deficient secretion of oil. If the oil glands become choked or swollen with oil and dirt the result is a blackhead of popular recognition.

NERVES OF THE SKIN

The nerves of the skin are of several kinds or, rather, have various functions: 1, those that regulate the activity of gland cells; 2, those that give the sense of touch and pressure; 3, those that control the muscles of the skin; 4, those by which we

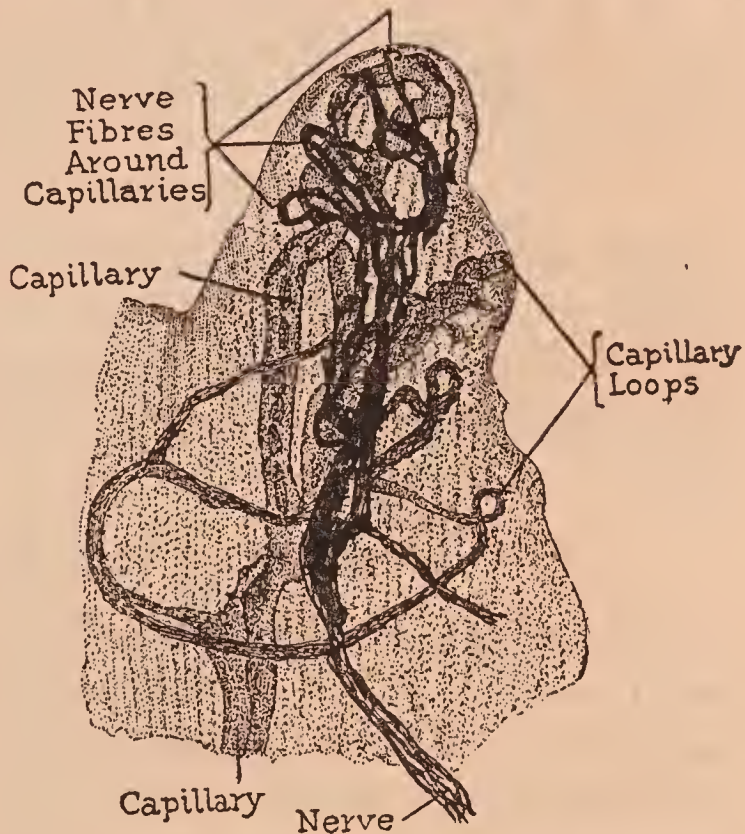
THE SKIN AND ITS FUNCTIONS

feel heat; and 5, those by which we feel cold.

Cold is merely the absence of heat, but there are two kinds of temperature nerves. They all are called *thermic* nerves. By touching the skin with hot and cold needles certain small areas of the skin are found to be sensitive to heat but not to cold, while other areas are sensitive to cold and not to heat.

Most of the nerves of touch end in the papillæ of the dermis as microscopic, egg-shaped bodies. Their sensitiveness varies with their location and also with training. The

nerves in the balls of the fingers are capable of being developed to a marvelously high degree of sensibility, as is noticed particularly in naprapaths, osteopaths and chiropractors and medical diagnosticians who use their fingers in diagnosing certain disorders of the body or of the spine. What we call pain is simply an excess of the sense of feeling, and serves in every instance as a warning that something is wrong.



A vertical section of a papilla of the skin of the finger tip, showing the intricate arrangement of capillaries and nerve filaments.

SKIN TROUBLES

BLOOD VESSELS

Two layers of blood vessels exist in the skin. One of them is found in the subcutaneous tissue, where it forms an intricate plexus, sending branches to the sweat and sebaceous glands and to the hair roots. The other layer lies in the papillary layer of the skin and sends vessels to the papillæ.

LYMPH VESSELS

Both superficial and deep layers of lymph vessels are present in the skin and follow, in a general way, the directions of the blood vessels. Spaces filled with lymph exist at all levels in the dermis or true skin.

MUSCLES OF THE SKIN

Both voluntary and involuntary muscle fibers are found in the skin. Voluntary muscle fibers are found, for instance, in the skin of the face, while the involuntary muscle fibers exist in the scrotum and nipples and in connection with the hair follicles in all parts of the body. The contraction of a hair muscle causes the hair to which it is attached to rise. Its contraction also forces oil out of the sebaceous or oil glands.

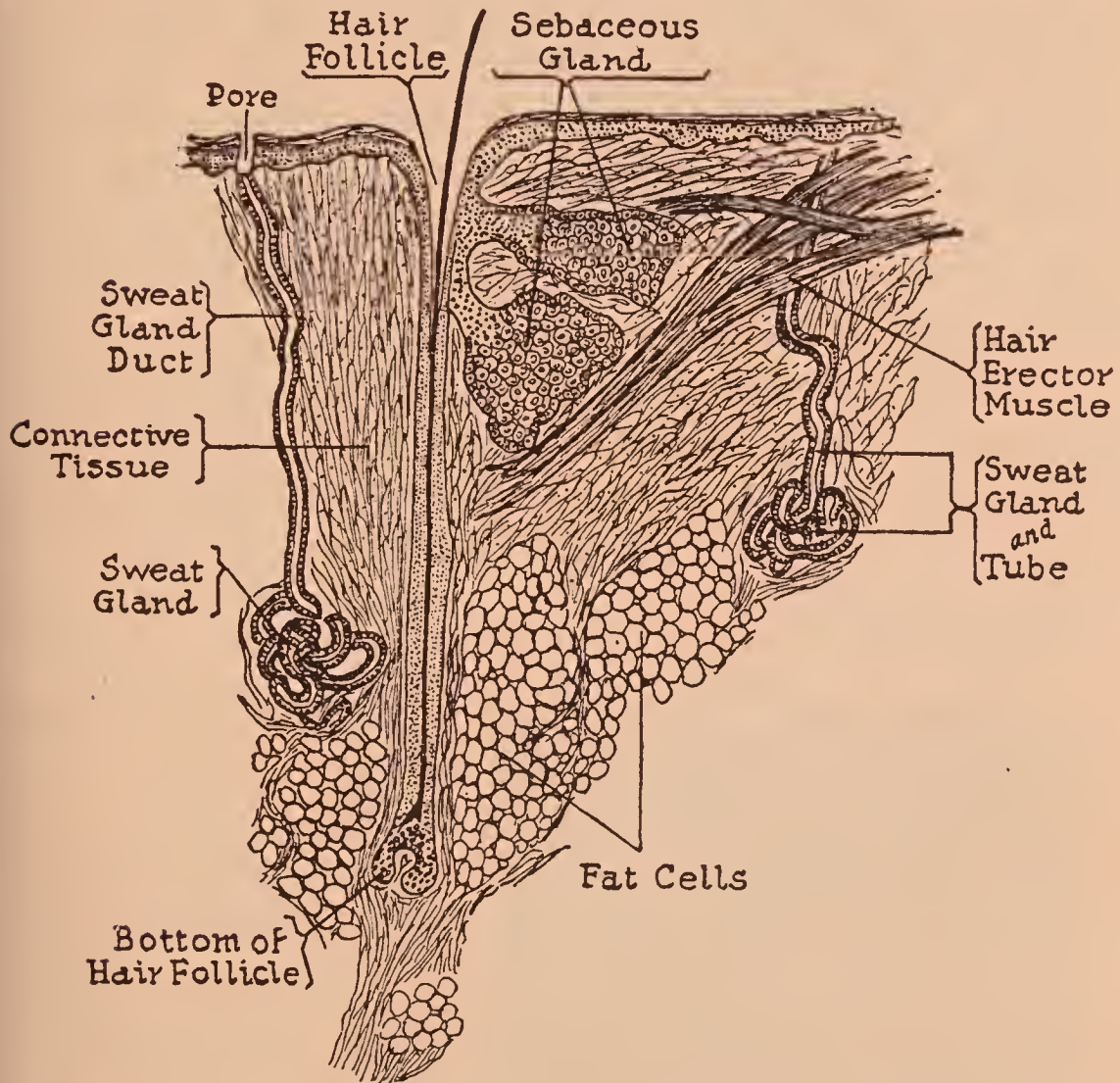
SKIN APPENDAGES

The appendages of the skin are the nails and hair.

Nails. The nails on the fingers and toes are modifications of the epidermic layer of the skin. They are made up of the same epithelial cells, but are more flattened, more closely packed together and

THE SKIN AND ITS FUNCTIONS

more horny in structure. The nails grow out from a number of papillæ situated in a groove or fold of the skin. The nail grows from its underside as



Vertical section of the skin. For clarity the sweat glands are made more complete than they would be in such section, and the hair erector muscle is more clearly outlined than it actually would appear.

well as from the little fold of skin at its root and is, therefore, thicker at its outer end than near the root. It moves forward as it grows, moving its whole length in four months. Hence, we have three new sets of nails each year. The nails serve to protect the ends of the fingers and toes, and, in the

SKIN TROUBLES

case of the fingers, assist in picking up small objects.

Hair. Hair, as are the nails, is but a modified or specialized portion of the epidermal tissue. It is the epidermis grown into fine rods or threads. The dermis and epidermis dip down, often even into the subcutaneous tissue, forming slender, cylindric pockets which are called hair follicles. The lower end of the follicle is dilated, forming a bulb; near its mouth the follicle is constricted, forming a neck.

Each hair grows from a mold-like papilla at the bottom of a hair follicle. The cap of the epidermis formed by such a papilla does not fall off, but remains and is pushed up by the new cells which constantly



are forming beneath it, until it becomes a long slender rod of epidermis—a hair.

Both blood vessels and nerve fibers go to the root or bulb from which the hair grows. The hair will grow unless the papilla is destroyed. As noted before, each hair is supplied with a muscle fiber, which causes the hair to “stand on end”

Vertical section of the skin. Observe how contraction of the hair erector muscle would erect the hair and elevate the papilla, thus producing “goose-flesh.”

when one is cold or frightened.

The hair has several functions. It serves to pro-

THE SKIN AND ITS FUNCTIONS

protect the body from sudden changes of temperature; doubtless, man's body once was covered with hair. Hair serves also as an aid to the sense of touch, and to protect sensitive parts from dust, as, for instance, the eyelashes, and the hair of the nostrils and ears. The color of the hair is supplied by minute glands situated at the root of each hair. When these glands become functionless from any cause graying or whitening of the hair takes place.

CHAPTER II

Causes of Diseases of the Skin

DISEASES of the skin may arise in and be confined solely to the skin (primary), or they may result from diseases occurring in other parts of the body (secondary). They may originate from a variety of causes, but may be grouped as due (1) to toxins in the body; (2) to defective nutrition; (3) to external injuries and infections; and (4) to animal and vegetable parasites.

In this chapter I shall briefly discuss these several causes except those due to parasites, reserving the parasitic skin diseases for a separate chapter.

Skin diseases due to toxins in the body constitute the largest group of diseases of the skin. I am convinced that the important purpose of most skin disorders is that of elimination—to get rid of systemic poisons. By this I mean the body chooses the skin as its route for expelling the poisons (toxins) from the body, with the result that a skin affection follows.

The toxins, which circulate in the fluids of the body, may originate in the body or they may be introduced from without. Poisons are constantly being formed in the body as a result of the activities of life and of various harmful practices. And if these are not fully and regularly eliminated from the body they accumulate and cause trouble—the types of trouble varying from different causes and combinations of causes in different individuals.

CAUSES OF DISEASES OF THE SKIN

For instance, a failure of the kidneys to perform their function normally (this being called, in medical language, renal insufficiency) results in the accumulation of toxins in the body—toxins that should have been excreted regularly in the urine. A sluggish skin may have a similar effect of allowing toxins to accumulate—in Bright's disease and diabetes poisons are held in the body and often give rise to skin diseases. Eczema, in particular, often accompanies diabetes.

When poisons generated in the body or in the alimentary tract get into the blood we call this condition *autotoxemia* or *toxemia*. Toxemia of one character or another seems to be associated with practically all forms of skin diseases, even those due to parasites—being associated as causes, as results, or merely as accompaniments. The substances capable of producing toxemia hardly can be numbered, as they are so numerous and so varied. They may be toxic when introduced into the body, or later they may become toxic, as a result of changes through which they pass in the digestive canal.

Food, if fresh and pure, is not poisonous when taken into the stomach. However, even the best food under certain conditions may undergo putrefaction and fermentation when passing through the digestive tract and become poisonous before it is absorbed or eliminated; or it may become so poisonous from chemical changes as to be directly poisonous to the digestive tract itself, from which condition the skin may become affected. For this reason all diseases of the stomach and intestines (gastroin-

SKIN TROUBLES

testinal diseases) and general nutritive disturbances—gastric and intestinal dyspepsia, gastric irritation, gastrointestinal catarrh, constipation, etc.,—through producing intestinal autointoxication, may become the cause of some diseases of the skin.

In all probability constipation and fermentative intestinal indigestion are the chief causes of most skin diseases. Certain it is that these disorders are present in practically every case of eruptive skin disorders, as well as skin changes in color, texture, etc.

Any factor in one's mode of living, such as physical or mental overwork, sedentary life, physical and mental shock, loss of sleep, sexual excesses, overexposure to heat and cold, and improper diet that derange digestion and other functions of the body, will result in the development of toxemia and thus in many individuals give rise to skin affections. General debility, functional and organic nerve affections, and disordered glandular action also will produce toxemia and thus may cause skin diseases.

Sugars, candies and sirups often cause skin eruptions, through oversaturation of the blood with sugar and by causing general abnormal chemical action throughout the body. The combination of a starch and a sugar, such as oatmeal and sugar, is a prolific cause. "Hot cakes" and sirup is such a harmful combination, also. Gravies, fats and any "rich" foods tend to yield the same effect. Cheese may be a cause, on account of its "richness" and usual inadequate mastication. In some people certain fruits, such as strawberries and peaches, when eaten will cause a rash of the skin. Many food

CAUSES OF DISEASES OF THE SKIN

adjuncts will do the same, especially spices and vinegar. Some foods that are blamed are not themselves the cause; often it is the high seasoning taken with perfectly wholesome foods that gives rise to the eruptions; and often, too, it is right foods combined wrongly or taken in excessive amounts. Oysters and other shellfish frequently cause rashes, especially hives, in some people. The reason why they do so is not understood, but it is referred to as an idiosyncrasy or hypersensitiveness of the individuals so affected, and doubtless is due to some degree and type of altered chemistry of the digestive secretions or contents or of the blood and other body fluids. Fermented drinks, including "hard" cider and fermented milk, frequently act as causes. Because of its tannin, which has an injurious effect upon the digestion, tea may be a contributing cause of skin disorders, also.

Any disease associated with disorders of digestion and nutrition, or any disorder that itself may introduce poisons into the body, may result in disease of the skin. Among those of the first group are rheumatism, Bright's disease, diabetes, uterine disorders, disturbances of menstruation, scrofula, and the uric-acid diathesis (condition of susceptibility to uric-acid disturbances). Among those that directly introduce poisons into the body are abscesses in any part of the body and puerperal septicemia (childbed fever). Some few authorities claim that some ulcerative process in the nose underlies every case of acne, allowing pus germs to enter directly into the lymphatic circulation of the face. Doubtless a nasal infection would aggravate an acne, but

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I cannot consider it as a cause, or at most in only an occasional case.

Among the poisons that are introduced into the body from without, drugs and serums are the most numerous—and the most capable of causing trouble. There are few diseases of the skin that cannot be produced by drugs alone. Any serum will produce skin eruptions, though not in everyone into whom they are injected. Serum rashes, as they are called, may be of different forms and degrees, and apparently may be cured only to recur immediately in the same form or in some other form, or at some later time.

Among the drugs that most frequently are responsible for skin diseases are quinine, copaiba, salicylic acid, morphine, turpentine, chloral, many of the coal-tar products (most of which are used as pain killers, such as antipyrine), iodine, formalin, mercury, bromides, arsphenamine, arsenic, belladonna, digitalis, veronal, alcohol, tea and coffee.

The tendency of skin eruptions to follow the ingestion of drugs is more marked in some individuals than in others. A greatly increased susceptibility, especially to small doses, is referred to as idiosyncrasy or hypersensitiveness. Imperfect elimination of the drug through the bowels and kidneys tends to result in skin eruptions, and some drugs regularly choose the skin for their exit—or, more properly speaking, the body uses the skin for the usual elimination of some of them. Large doses or long-continued administration of the drug causes skin eruptions, even when there is no idiosyncrasy to small doses.

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Many forms of skin eruption may be produced by drugs. For instance, belladonna produces eruptions resembling those of scarlatina (scarlet fever); mercury may produce eruptions resembling those of measles, and it often produces those assigned to syphilis. A number of drugs produce urticarial eruptions (hives), papules (tiny bumps), pustules, and even hemorrhagic (blood-filled) eruptions. Desquamation, or scaling, results in many cases.

These drugs are not always prescribed as medicines. One may absorb them while working, or from some other source. As an illustration, mercury may be absorbed by the body of the workers in factories where mirrors are silvered and thermometers are made, mercury being necessary in the manufacture of these articles. In this manner the skin symptoms of "secondary syphilis" and "tertiary syphilis" may be presented as a result of this mercurial poisoning—the latter stage of syphilis especially being partly due to mercurial medication, and not all to the disease.

Arsenic is used in wall paper. Some individuals are so susceptible to this drug that they develop at least some of the symptoms of arsenical poisoning merely by being in papered rooms, while paper hangers not infrequently develop these symptoms, among which may be skin eruptions.

Quinine is used in many of the popular hair tonics. Through the use of these, individuals who are sufficiently susceptible will develop eruptions, especially of the scalp, though any part of the body may be affected.

Dr. Waugh reports (Journal of the American

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Medical Association, May 17, 1924) the case of a man, aged forty, who had drunk Bromo-Seltzer regularly, for headaches, for a period of two years. He usually took a dose of at least one-half ounce daily, though he often took several doses daily. He developed an extensive bromide eruption a few weeks after he began taking the drug and it remained with him during the whole period.

Analysis of Bromo-Seltzer made by the chemical laboratory of the American Medical Association revealed that a teaspoonful dose contains about seven grains of bromide. About half an ounce of the preparation usually is taken at a dose, and often doses are taken several times daily. In a half-ounce dose the drinker obtains approximately twenty-four grains of bromide, ten grains of acetanilid, and about three grains of caffeine.

Investigation showed that one large retail drug store in Chicago sold about 1500 pounds of that one drug preparation in a year. Most drug stores dispense a great deal of this supposed-to-be harmless product over their soda counters and also sell large quantities for home consumption—and the users wonder why they have eruptions or some other symptoms of bromide poisoning!

Various drugs and chemicals are used in fur manufacture. Many cases of skin disease, especially of the neck and shoulders, result from contact of the skin with the drug-treated furs. Workers in furs also are affected by the drugs used. Skin affections following working with furs or the wearing of furs are attributed to paraphenylenediamine, which is used to produce black color, and quinone, which

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produces brown. Among the workers, the skin between the fingers, the corners of the mouth and of the eyelids, the openings of the nose, and the creases of the neck particularly are affected by the dye substances; and wearers of furs may be affected with some of the same disturbances.

Urticaria and different types of edematous skin eruptions are among the disturbances that have been observed to follow the use of insulin in diabetes. These often compel the discontinuance of the treatment. The trouble resembles serum sickness, resulting in desquamation (scaling), followed by erythroderma (redness of the skin).

Skin affections often follow the use of arsphenamine, an arsenical preparation used in the treatment of syphilis, and occasionally necessitates the use of some other preparation or method of treatment.

Eruptions of the skin often follow nickel poisoning by those engaged in the nickelplating of metals. Some authorities, however, consider the eruptions to be due to the high concentration of free sulphuric acid in the plating bath, and not to the nickel.

Thus it will be seen that there are many ways by which poisons may be taken into the body without one being conscious of the fact. And these poisons may and often do result in disease of the skin at any part of the body and also often cause disease of other organs.

Many times skin eruptions arise in the course of a disease, usually being referred to as "complications" or "sequels" of the disease, when actually they are due to the drugs and serums employed in treatment. For instance, urticarial eruptions fre-

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quently occur in rheumatism. The salicylates are the chief drug reliance in this disease, and these of themselves produce urticarial eruptions.

In determining the cause of eruptive diseases of the skin the possibility that the skin disease may be due to drugs and serums always must be kept in mind. Some drugs leave their effects for years. For instance, skin eruptions due to mercury and the bromides may continue long after the use of these drugs has ceased; and some individuals seem never to be able fully to eliminate mercury from their bodies.

Irritants, such as acids, strong soaps, mustard, Spanish fly or cantharis, croton oil, aniline dyes, carbolic acid, certain salves, iodoform, and other counterirritant and antiseptic preparations and washes often are responsible for disease of the skin.

Mechanical injury—cuts, bruises, tearing, etc., and burns, scalds and the like—cause local skin troubles. Burns caused by the sun's rays, therapeutic lamps, x-rays, and radium, often result in severe injury to the skin, while especially the last two named produce troubles that are eradicated with great difficulty.

Among external agents that may act as causes are exposure to strong winds, to sudden changes of temperature, to dust and chemicals, and soot and other drift of various kinds that are carried by the wind. Because the skin of the face is most exposed to all these irritants this accounts for the predominance of facial lesions over those of other parts of the body.

Contact with flour and dough often causes skin

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troubles. Baker's dermatitis is common among bakers, and some especially sensitive housewives who do their own baking may be similarly affected. It is said that at no time is a baker exempt from the disease, though most attacks begin near middle age, and the more serious cases occur in bakers of an age of sixty years and over. The dough, sugar, salt, cream powders, sirups, acid phosphate of lime, and other ingredients of bakers' products are the irritating factors. Those who lead more or less cleanly lives are less often troubled with baker's dermatitis. Cancer of the skin also is very common among bakers.

Artificial leather, used in making hat bands and for other purposes, may cause skin troubles, those used in hat bands producing affections of the skin of the forehead, and those used on the inside of shoes causing trouble with the skin of the soles of the feet.

Inflammation of the hands and thighs may result from the use of matches made of phosphorus substitutes—not infrequently the thighs being affected by those who scratch matches on the under surface of the raised thigh.

Poison ivy or poison oak, poison sumac, dogwood, and poison primrose are frequent causes of dermatitis. Those affected by poison ivy, especially, seem particularly liable to acute recurring attacks at the slightest exposure, and this may continue for several years.

Septic or putrescent matter from decaying vegetables and meats coming in contact with the skin often cause local infection and give rise to various

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forms of skin eruptions. The infection may spread if strict cleanliness is not observed. Syphilis primarily is a skin infection, caused by coming in contact with septic matter. The secondary stage of this disease is chiefly a skin eruption, while skin affections often continue throughout the tertiary stage.

Skin eruptions accompany or form a large part of many acute systemic diseases, such as typhoid and typhus fevers, meningitis, rheumatism, measles, scarlet fever, smallpox, chicken pox, etc.

It already has been pointed out that skin diseases often are due to digestive disorders or wrong eating habits that allow good food to spoil after it enters the body. It also has been shown that many wholesome foods cause skin troubles in some individuals who have an hypersensitiveness or idiosyncrasy to them.

A defective diet—that is, one lacking in vitamins and mineral salts—often is the direct cause of a skin disease. Pellagra is one skin disease that has been definitely traced to a deficient diet. Any diet that lowers the standard of health will render the skin liable to disease. Likewise, any factor, such as overclothing, or a lack of sunshine and air, that makes the skin sluggish, will render the skin less resistant and hence more likely to become diseased. Lack of cleanliness is a fruitful source of skin disease. Especially those who work in dust of almost any kind will be liable to pimples and other skin troubles if strict cleanliness is not observed.

Among the various causes I have mentioned are wrong habits of eating and lack of proper cleanli-

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ness, outside and inside. These come first because our common skin diseases are those resulting from toxemia; and toxemia is due chiefly, as stated before, to wrong foods, wrong combinations of foods, excessive foods, and to inadequate elimination through the bowels, skin, kidneys, and lungs. We need no other proof that such is the case and that skin diseases are due largely to the toxemia—to disordered or lowered nutrition—than the quick clearance of the skin of all blemishes except long-standing and deep-seated scars, merely through a change in diet alone, and a further hastening of a good complexion by the addition of other natural factors of correct living that will be outlined in the chapters on treatment of skin diseases and hygiene of the skin.

Those who would avoid skin disease should keep the body clean inside and outside, and should keep it properly nourished, give it air and sunshine, and avoid all weakening, poisoning, and irritating influences.

CHAPTER III

Symptoms of Diseases of the Skin

A DISEASE is a group of symptoms belonging together—a “symptom complex.” Every skin disease presents a number of symptoms. It is well, therefore, to know the names of the most important of these and to be able to distinguish between skin diseases and symptoms of skin diseases when you see the names in print. Most of these names are Latin or Greek equivalents for simple English names. The use of the foreign words is more impressive to the average person, and with such names the diseases seem to be of considerable more consequence than when the simple well-known terms are used. For many of the skin diseases, however, there are no “common” names, and without some knowledge of Latin or Greek the names employed are meaningless.

Skin lesions (structural changes) are of two classes: *primary* and *secondary*. The primary lesion is the initial manifestation, while the secondary lesion results from “natural” or accidental modification of the primary lesion. Vesicles, papules, pustules, tubercles, macules, wheals and tumors are primary lesions. Scales, crusts, scars, stains, ulcers, fissures, and excoriations are secondary lesions.

Symptoms also are called *subjective* and *objective*. The subjective symptoms are those known only to the patient. Examples of this class are itching, a sense of heat, burning, smarting, tingling, and

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pain. The objectives are those that can be seen or felt by the physician or others. Except for pruritis, the following are objective symptoms.

Anemia is a term applied to a reduction of the blood in the skin—though more often it is applied to the general condition of the blood. This condition of the skin may be persistent or transient. Transient anemia follows hemorrhage, fainting, shock and nervous states, such as anger, fear, etc. Persistent anemia is associated with disease, either of the skin, or of some of the other organs of the body.

Blebs or bullæ are round and irregularly shaped elevations ranging in size from a pea to an egg, and contain a clear or opaque liquid.

Crusts (*crustæ*) are brownish and yellowish particles of dried exudation.

Erythema means redness of the skin. A sunburn or a sharp slap produces erythema. Blushing is erythema of the face. Many things will produce this symptom. It may be transient or persistent.

Excoriations (*excoriationes*) are abrasions or scrapings of the skin, or denudations of the epidermis. They usually result from injury or scratching.

Fissures (*rhagades*) are chaps, cracks or wounds in the dermis or epidermis, due either to injury, disease, or exposure.

Hyperemia is a congestion of the skin without inflammation. The blood vessels of the skin become overfilled. Hyperemia is divided into active and passive forms, and these are subdivided into external and internal symptomatic hyperemia.

External active hyperemia (excess arterial

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blood) is due to the action of an irritant locally. The hyperemia following the use of a mustard plaster or other "burning" substance is of this kind.

Internal symptomatic active hyperemia is due to disturbance of the nervous system or to some of the internal organs.

External passive hyperemia (deficient venous drainage) may be caused by exposure to heat or cold, pressure, contusions, circulatory obstruction, as from bandages, tight clothing, belts and garters, and by chemicals. It is characterized by blueness of the skin, called livido.

Internal symptomatic passive hyperemia or cyanosis is a blueness of the skin resulting from some systemic disturbance affecting the respiratory or circulatory system and interfering with the venous drainage.

Macules are spots of red or brown or other color on the skin. They are of various shapes and sizes and without elevation or depression.

Papules are raised spots on or in the skin. They are solid, and vary in size from as small as a pinhead to as large as a pea.

Pruritis is itching. It is a subjective symptom—known only to the patient. Burning, tingling, smarting, a sense of heat, and a sense of pain, or of a crawling insect on the skin (formication) also are known only to the patient and are subjective symptoms.

Pustules are raised spots containing pus. They vary in size from a pinhead to a pea or larger.

Scales (squamæ) are dry bits of skin shed from the surface of the epidermis. The process of scal-

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ing and shedding is often called desquamation.

Scars (*cicatrices*) are new formations in tissues in those parts where there has been loss of tissue. They are not composed of all the original skin tissues, but only of the connective tissue. Hence their hardness, whiteness, and inelasticity.

Stains (*pigmentationes*) are discolorations of the skin which remain after the causative lesions disappear.

Tubercles (*tubercula*) are solid, deep-seated elevations of the skin, often the size of a pea or even larger, usually much smaller.

Tumors (*tumora*) are of various sizes and shapes and grow out from the corium or the subcutaneous tissue.

Ulcers (*ulcera*) are open suppurating sores on the skin and in the subcutaneous tissues. They are of various shapes and sizes and depths.

Vesicles (*vesiculæ*) are commonly called water blisters. They are similar to blebs but much smaller, varying in size from a pinhead to a small pea, and contain a clear, semitransparent or opaque liquid.

Wheals (*pomphi*) are irregular pinkish elevations with an accumulation of serum in their tissues. They are transitory in nature, sometimes lasting but a few moments, sometimes for hours.

These definitions and brief descriptions should be kept in mind as the various skin affections are studied, in order that the terms may be better understood.

Other symptoms associated with skin affections are not a part of the skin disease, properly speaking; hence, only skin symptoms have been discussed.

CHAPTER IV

Common Skin Diseases Due to Systemic Disorders

OUR common skin diseases are due mostly to toxins or poisons, auto-generated within the body. Aside from those brought to the skin by the blood there are others that come in contact with the skin from some external source. Among the other nonparasitic skin diseases are those due to toxins only indirectly, perhaps sometimes not at all, such as atrophies and hypertrophies of the skin or of some element or appendage of the skin, and hemorrhage into the skin. For the sake of convenience all these forms have been included in this chapter and arranged alphabetically. By the descriptions of the diseases their toxic or nontoxic nature will be understood.

ACNE (PIMPLES)

Acne is an inflammatory disease of the oil glands of the skin and of the follicles of the fuzz-like hairs attached to the oil glands. Acne is of toxic origin. It is characterized by inflammation of, and pus development in, these glands and follicles, and frequently by their destruction, with resulting scar formation.

Various qualifying terms have been added to the word acne, to describe the most prominent features. However, all these presumably different forms in-

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dicating the same process, the different manifestations depending upon the difference in "soil" upon which they develop—the nature and extent of the toxemia, including inherited encumbrance, the type of individual, his occupation, past and present medication, etc.

I shall confine my descriptions to the true forms of acne. Chief consideration will be given here to the common superficial form—*acne simplex*, and the common deeper seated form—*acne indurata*. Separate attention will be given to *acne rosacea*, which is a compound process.

Acne Simplex (simple acne). This is the usual form of the disease, hence the other common name, *acne vulgaris*. The "vulgaris" means ordinary, or the usual type, and not "vulgar" as this word is usually understood to mean.

This acne affects girls and women more often than boys and men, though many youths have it in aggravated form. It is frequently associated with perversion of the usual glandular activity of puberty and adolescence, often being aggravated before, during or after menstruation. It should be stated here that the cause of acne is *not* past or present masturbation, in either sex, contrary to the belief of many. This belief often causes more worry and self-consciousness than the unsightly skin condition itself. During adolescence the skin and entire body undergo much change in the development to maturity. In the skin the oil glands become more active and hair begins to grow over various regions due to increased activity of the sexual and other glands that yield internal secretions. Pimples are

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likely to develop at this time because of the skin's excessive activity. The most likely age for appearance is between the fourteenth and twenty-second year.

But this is not all that causes acne. The period of general and skin adjustment is one of inordinate appetite; also it is the sweet-tooth age. Amazing amounts of foods of all kinds, especially of candies and sweets, are consumed, bolted and washed down in the frenzied haste and restlessness of youths of adolescent age. These conditions, combined with hasty and deficient external cleansing and the filthy condition of the digestive tract, especially of the lower bowel, are what bring on pimples. The awakened sexual impulses and the stimulating diet and great toxemia all tend to lead to masturbation at this time, hence the usual erroneous conclusion that acne results from masturbation. If acne develops in later years, as at the change of life, it usually existed earlier but for a few years was quiescent or disappeared entirely.

The regions affected are the forehead, cheeks, lower jaw and chin, sometimes the chest and shoulders, upper arms, and even down the back to the thighs. Blackheads usually form the "nucleus" or center for the beginning of the inflammatory change. Around this nucleus a papule develops, which becomes a pustule. However, there may be no blackheads, and in many cases there are blackheads without the development of acne. After a crust forms on a pustule it later falls off, leaving a redness for a few days, or a depression, or a scar. In many cases pustules do not develop, the condition

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remaining in the papule stage, in which case the papules are absorbed after a few days. On the same skin and without regularity may be found all the stages—blackheads, papules, pustules, crusts, pittings and scars. There are no general symptoms of acne, except usually constipation or constipation alternating with diarrhea, and a strong “animal odor,” acid odor, or a disagreeable “strong,” oily odor.

The scars may remain permanently or be gradually smoothed out. Sometimes no scars are left. Scrofulous or undernourished individuals are likely to have remaining scars. A stain often remains for some time, eventually fading out in most cases.

Upon opening or squeezing the acne lesion are found blood, pus and sebaceous substance, and, when present as a start of the papule, the blackhead. Healing usually is rapid after the contents have been evacuated, though other lesions may be going through the various stages elsewhere. Evacuation of the contents usually takes place spontaneously if the pustules are not molested.

The disease is not self-limited; it always runs a more or less chronic course. There is no age at which it will disappear spontaneously, though quite often it becomes less pronounced after the age of 25 or 30, and in some cases the eruptive stage ceases entirely after this age. Change in the mode of living or spontaneous chemical adjustment throughout the body may cause the disease to subside; but it is very unwise to wait for such possible voluntary cure, for instead of correction the trouble may become more deep-seated, more general, more disgust-

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ing, more difficult of correction. The simple (superficial) acne may give way to the deeper type, or the two forms may be associated. This last condition is the usual one, the deeper form developing after the superficial form has existed for variable periods of time, either one or the other becoming predominant.

Acne Indurata. This differs from the simple form mainly in the degree and extent of the symptoms. Blackheads may be present, but they do not form the central point of the eruptions as they so frequently do in the simple form.

The skin undergoes pronounced changes in the indurated acne. The oil glands are involved, but the areas of hardening vary from the size of a pea to as large as a hazelnut, begin deep below the epidermis, and develop in from one to seven days. The inflammation involves the surrounding tissues. The color usually is deep red or purplish. Several adjacent glands may be involved at once, giving the appearance of a boil or large abscess. There may be little or much pus in the cavity. The lesions do not rupture spontaneously. Opening and evacuating the contents do not constitute a cure of the lesion, usually, for it continues to refill until nature has eliminated all the waste matter through this channel.

Scar formation may be pronounced, being more likely and more noticeable when there has been much squeezing or direct pressure, and when the tissue tone is poor. Sometimes fibroid changes cause the scars to resemble small fibroid tumors. Usually there is gradual fading of the scars, which

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eventually will undergo normal scar contraction.

The same regions affected by the superficial form are affected by the indurated form, but the trunk is more often affected than in the simple form. There may be few or many lesions. The disease persists for years. All phases of the lesions may be present at the same time. This form occurs usually after the age of 25.

In both forms there may be a greasy, oily skin, usually yellowish in color, with the hair follicles dilated. There may be associated with either form an oily eczema or dermatitis, greasy scales or fatty crusts forming in patches on the skin. Itching is apt to be present in these cases. Any other form of skin disease may be associated with any form of acne.

Malnutrition Acne (*acne cachecticorum*). This form of acne, also called scrofulous acne (*acne scrofulosorum*), usually occurs in individuals who are scrofulous, or undernourished, or extremely emaciated (marasmic), and occasionally in apparently healthy individuals. It usually develops with, or in individuals who have, tuberculous glands in the neck, or scrofulous eruptions, or both. The trunk and lower extremities usually, but occasionally also the arms and face, are affected. Sometimes the hands are covered with nodules and pustules, and become puffy and purplish. The lesions are soft, flat, large, dark red, purplish or blue, and contain serum and pus, sometimes some blood. Crusts form.

Artificial Acne (*acne artificialis*). Papules and pustules may be produced by the internal use of

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bromides, and iodides, or by the external application of tar. *Bromide acne* is papules, changing to pustules and tubercles, frequently around and pierced by a hair, and appearing usually on the scalp and eyebrows, sometimes on the face. *Iodide acne* is acute hard papules, enlarging and becoming pustules, appearing in locations affected usually by simple acne. There are also symptoms of iodism (iodine poisoning) such as running nose, headache, metallic taste, increased saliva, irritation of the stomach. Any iodine or bromine preparation may cause acne, which usually stops when the drug is discontinued though it may continue for weeks or months. *Tar acne* (*acne picea*) often develops on surfaces where tar has been applied, and results from blocking of oil-gland exits. Papules form after the inflammation of the follicles. Pustules often develop. Chrysarobin, often applied for ringworm, psoriasis or eczema, may produce a similar acne, as also may ointments applied to surfaces that come in contact, as in the groin and armpits.

Atrophic Acne (*acne atrophica*) is acne vulgaris in which the lesions are followed by scars or small pits.

Papular Acne (*acne papulosa*) is acne vulgaris with papular eruptions predominating.

Pustular Acne (*acne pustulosa*) is acne vulgaris with papules developing into pustules.

Overgrowth Acne (*hypertrophic acne*) is an acne where the skin becomes thickened from overgrowth of connective tissue.

Scurvy Acne (*acne scorbutica*) is a papular acne in which hemorrhages occur into the skin.

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ACNE ROSACEA

This disease consists of two processes—an acne superimposed upon a rosacea. The latter is a chronic congestive disturbance of the nose and parts of the face, temporary at the start, later becoming permanent, and characterized by redness, dilation of the minute blood vessels of the skin which may show a network, and occasionally overgrowth of the connective tissue and glands of the skin. The acne lesions that follow upon the rosacea are secondary, and indicate inflammation of the oil glands, as in acne vulgaris.

The chief causes are a marked toxemia, aggravated in some cases by anemia, or menstrual disorders, or exposures to either extreme of temperature, and by intemperance.

The nose and adjacent regions of the cheeks usually are affected, though sometimes it extends over the cheek bones and even to the forehead, but the skin immediately around the eyes escapes.

At first any of the above conditions may produce a temporary redness. Later the redness returns more often, and gradually with less obvious reason, until it becomes permanently established. Upon pressure the redness leaves and returns slowly, indicating sluggish circulation. Occasionally the area has an angry red appearance, the color becoming bluish or purplish upon exposure to cold. In time the networks of minute blood vessels develop, usually first upon the wings of the nostrils, becoming progressively more pronounced and covering a larger area. The nose sometimes becomes enlarged,

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and occasionally it reaches an enormous size.

The skin may be oily or dry. There are itching and burning with the skin dry. In course of time acne in some form develops upon the congested areas—acne rosacea then being established.

The course is slow and chronic. It does not terminate spontaneously.

Women are affected more often than men, usually after the age of 35. It may develop at some menstrual change. Sedentary life and constipation are prominent causes—hence it appears often in dressmakers, seamstresses, milliners, and others who receive too little open air and physical activity. The disturbed digestion and nutrition of sedentary workers, together with the frequent tendency to lunch on sweets and pastries or to munch on these between meals, have much to do with producing the specific toxemia, defective circulation, and skin sluggishness that lead to this disorder.

ACNE VARIOLIFORMIS

This term is applied to a form of acne with lesions that resemble those of smallpox, both in appearance and in tendency to scar the skin; hence the name (variola being the medical name for smallpox). In this form of acne there is a chronic inflammation of the hair follicles, with papules leading to pustules and then to localized death of involved tissues, and finally pitted scars. It affects mainly the forehead, along the hair margin; also the scalp, face and neck, sometimes the shoulders and breastbone. When the papules break down a crust forms on the ulcerated area, leaving a red

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depression when it falls off. This resembles a smallpox pit.

This form develops usually after the age of 35, more often in men than women. It is found chiefly in poorer classes, and because it generally is localized on the forehead it is thought to be an infection from unclean hat bands in such cases. In practically every case there is a fatty, greasy skin, due to overactivity of the skin oil glands from toxemia and inadequate cleanliness.

Regardless of the type of acne, the prognosis may be regarded as favorable. Proper treatment is necessary, persistently carried out. Since the disease is inclined to continue and advance, with more and more and progressively deeper markings of and changes in the skin, it never is advisable to wait for a possible (but not probable) spontaneous correction of the trouble. Even after great improvement or complete cure it is possible for the original causes, if repeated, to reproduce the trouble. Hence, one must live in such a way as to avoid recurrence. And the change of habits that corrected the trouble usually will be the best to adhere to for permanent freedom from the acne in the future.

The type of acne, its duration, degree and extent, the age of the patient, the specific nature of causes and the possibility of their removal, the treatment adopted and the care with which it is carried out—these are among the factors that govern the time necessary for a cure, also the degree of correction, whether this be only partial, or complete. The treatment, both general and special, will be considered in Chapter VI.

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ACRODYNIA

This is an acute epidemic nonfebrile erythema presenting eruptions on the skin, and thickening, pigmentation and scaling of the skin, and accompanied by nervous disorders. It is considered to be related to pellagra, having some symptoms similar to it, and is supposed to be due to the action of toxins upon the nervous system. The symptoms are gastrointestinal irritation, swelling of the face or extremities, erythematous eruptions on the hands up to the wrists and the feet up to the ankles, involving as well the fingers and toes, skin symptoms already mentioned, redness of the eyes, sensory disturbances (such as the sensation of crawling insects on the skin), pain in the fingers and toes, sticking pains in the palms and soles, feeling of weight in the extremities, hypersensitiveness, and sometimes anesthesia. The epidemics usually have followed widespread influenza. Most cases should recover within a short time under proper care.

ALBINISM

This is a congenital absence or deficiency of pigment in the skin, hair, and eyes. The cause is not known, except that it is inherited, though an albino may be born to normally pigmented parents. Partial albinism is found chiefly in negroes, this condition commonly being referred to as *piebald* skin. In complete albinism the skin is normal in texture and thickness, but is white. The hair is white, but not of the whiteness of hair changed by age; it also is fine and silky. The pupils show pinkish or red

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from the blood vessels behind them. The iris or portion of the eye usually colored is a light pinkish or a very delicate blue. The eyes are very sensitive to light. These people used to be contemptuously called "cockroaches," because of the fact that they appear mostly at twilight, when they can see better. No means of overcoming or preventing the condition is known.

ANGIONEUROTIC EDEMA

This disease is also called acute circumscribed edema, which better describes it. Osler's medical textbook says that it is simply urticaria (hives) "writ large," hence a name sometimes given to it, giant urticaria. It is a neurosis, the main characteristic of which is a transient, well-defined edema or swelling of the skin appearing without apparent cause. The cause of the disorder is not known, though it may be said definitely that underlying the condition there is nervous instability or some nervous irritation that results in the circulatory disturbance, and that, quite often at least, certain foods or conditions of the digestive tract may be responsible for the nervous irritation. In other words, it is most likely due to some form of toxemia, or at any rate a toxemia gives rise to each acute appearance of the edema in those individuals of certain forms of instability of the nervous system. The exact condition permitting the edema to take place seems to be a temporary dilation of the skin blood vessels, through which there is an escape of the serum of the blood.

In this condition swellings appear suddenly upon

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the surface of some part of the body, especially the hands and face. There is no discoloration of the skin. Associated with the swelling are usually well-marked digestive disturbances. There may be an attack of hives before the edema, as it seems to be related to hives. The swellings usually last but a short time, disappearing and leaving no trace upon the skin. Attacks may occur every few weeks.

Medical authorities consider the disorder very resistive to treatment. It does not endanger life unless it involves the mucous membrane of the larynx, when it may cause suffocation. While there may be recurrences for many months, especially in the more pronouncedly neurotic or nervously unstable individual, most cases can be cured by measures that reduce toxemia and tend to strengthen and stabilize the nervous system.

ANTHRAX

Anthrax is the most widely spread and the most serious infectious disease of animals transferable to man. It is transferred to man principally from the bodies or parts of the bodies (horns, hide and hairs, etc.) of animals that have had the disease. Those most liable to the infection are butchers, stablemen, farmers, sheepmen, veterinary surgeons, and those who work at wool sorting, sheep shearing, mattress making, and with hides, wools, horns, etc.

At first the affected area becomes irritable, itchy, occasionally painful, red and puffy. Pains shoot about in the region, and red lines develop beneath the skin. A blister develops, ruptures, and becomes crusted over. Soon develops a vesicle with a yellow

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or dark discharge. It bursts, contracts, and oozes a watery serum. A depressed scab then forms, surrounded by a wreath of small blisters, with other blisters near by. After several days pus forms. The scab loosens, leaving a depressed suppurating area. The healing is slow. The hands, face and neck are the usual areas affected. There may be general symptoms similar to those of any other acute fever disease. The fatality is high under usual treatment, but under proper treatment the outcome should be favorable in most cases.

ATROPHY OF THE SKIN

Atrophy means a wasting of a part from lack of proper nutrition. It may result from an insufficient blood supply, from a deficiency of some of the food elements, from the absence of some of the non-food essentials of normal nutrition, or from the presence of some factor that impairs nutrition. Among the non-food factors necessary to normal nutrition are sunshine, fresh air, and the various hormones secreted by the endocrine or ductless glands.

Atrophoderma is the general term for atrophy of the skin. It is a condition in which the bulk of the skin is diminished or some of its component structures are reduced or degenerated. Most of the skin atrophies are listed alphabetically—albinism, baldness, glossy skin, gray hair, hard skin or scleroderma, leprosy, senile skin, and white skin (or acquired leucoderma).

Atrophic lines (atrophoderma striatum) is merely the condition of white lines in the skin, usually as a result of skin stretching by pregnancy,

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obesity, tumors or dropsy. This is the symptomatic variety. Those occurring in pregnancy are called *lineæ albicantes*. There is a form called idiopathic—originating without known cause.

Atrophoderma neuriticum will be considered as Glossy Skin, its common name; in its alphabetical position in this chapter.

BARBER'S ITCH

This is an inflammatory disease of the hair follicles of the bearded region. It sometimes is called *sycosis vulgaris*, and *tinea sycosis*. It begins as a scaly patch of red, upon which pustules soon form, these being usually perforated by hairs. The pustules do not rupture, but dry and form crusts. There are itching, burning and soreness. The eruption comes out in drops. The hair becomes lusterless and brittle and loose. The disease yields slowly to proper care.

BALDNESS

Medically this condition is called *alopecia* (Greek for "the mange of foxes"), and *calvities* (pronounced *cal-vish'e-ēz*, being Latin for bald). It is a partial or complete loss of hair and may be due to many causes. In congenital cases baldness usually is partial. Partial or complete baldness is the rule in the aged, the hair beginning to thin at the brow or crown and progressing from this point. It is considered a normal change due to senility, and is caused by some degree of atrophy of the scalp and the hair follicles. Baldness may be premature, developing between the ages of 20 and 35. The

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cause is not known except that heredity plays the most important part. Hair lost rapidly immediately after many fever diseases usually is fully restored when the health again becomes normal. Loss of hair also often accompanies syphilis, anemia, diabetes, chronic intoxications and other diseases, as well as local scalp diseases, such as seborrhea, psoriasis, folliculitis, and scalp ringworm.

Once bald-headed always bald-headed is the rule, except where the baldness is due to acute disease. Treatment is of little or no avail. Prevention is the only safe plan, though as the condition is very greatly an hereditary one preventive measures must be begun early in life and continued religiously to be appreciably effective. Some cases have been cured by going bareheaded, others by a raw food diet. The general health must be built up. Local treatment consists of massage, hot and cold applications, pulling the hair by running the fingers through it while closed, and sunlight. I refer the reader to my book "Hair Culture" for more detailed treatment.

Localized Baldness (Alopecia Areata). In this condition there are localized areas of baldness without skin lesions. The cause is not known, but some consider it to be due to parasites, others consider it a neurosis. It appears usually in early adult life. It is largely confined to the scalp, but sometimes affects the eyebrows, eyelashes and beard, and less often all parts of the body surface whereon hair grows.

The patches appear suddenly or gradually. The skin gradually changes from normal to pale and atrophied.

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Children usually recover, but young and older adults rarely do. In cases where recovery takes place the duration of the disease is variable, recovery usually requiring several months, sometimes years.

BIRTHMARK (NEVUS)

Birthmarks or nevæ are congenital abnormalities of the skin, of limited area, having an excess of pigment and overgrowth of one or more elements of the skin, especially the blood vessels and connective tissue, but also of the hair, fat, nerves and lymphatics. There are several varieties, but they all do not require consideration.

Mother's Mark (port-wine mark, capillary nevus, angioma simplex). This is the most important nevus. It is a congenital form, composed of an aggregation of capillaries. The skin is bright red or purplish in color, but not elevated or depressed. The marks may be small or large, sometimes covering several inches. The usual location is the face.

Cavernous Nevus. This form also is congenital. It is composed of cavernous tissue. The marks are well defined, elevated above the normal skin, and are dark red in color. They may be as small as a pea or as large as an adult hand. They often are pulsating, from the presence of erectile tissue and blood vessels.

The cause of these abnormalities is not known, but the superstitious folk "know" that they result from some condition having had an undesirable influence upon the mother's mind during pregnancy. Various shapes and colors are imagined to repre-

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sent some object that particularly affected the mother while pregnant. Authorities all agree that there is no such influence that causes these marks.

Except in earliest infancy (see the chapter on treatment), there is no satisfactory treatment other than the electric needle or some other form of cautery, or the knife; and since the cause is unknown no known measures may be taken to prevent the condition.

BLACK EYE

Ecchymosis is the medical term for black eye, though it also is applied to any other purplish or black-and-blue patch in the skin caused by changes in the blood that has passed from the blood vessels into the skin. Black eye usually results from a blow that is sufficient to bruise the tissues and rupture minute blood vessels, though it may result from severe paroxysms of coughing, as in whooping cough in children and chronic bronchitis in adults. It sometimes develops without apparent cause.

A black eye occurring in an adult without apparent cause may indicate degeneration of the arterial walls. With it there may be hemorrhage into the eyeball. Such a spontaneous ecchymosis may save one from a cerebral hemorrhage, or it may precede a brain hemorrhage. There should be physical, mental and emotional quiet in these cases, either to prevent or to minimize any brain hemorrhage.

The usual black eye clears up without treatment within a week or ten days. If either hot or cold compresses are applied immediately and continued for a few hours severe discoloration will be avoided.

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Ice compresses usually are easiest to apply and are really more effective; but neither ice nor water compresses will have much effect if delayed. Warm applications are more apt to aggravate than relieve. Scraped raw potato, bound on by a cloth and changed every 30 to 60 minutes, makes a very satisfactory compress even after discoloration has taken place. The same treatments may be given to ecchymosis in any part of the body. Time is the best remedy, however, for removing these discolorations.

BLACKHEADS (COMEDONES)

Blackheads are plugs of oil or sebum which form in the ducts of the oil glands in the skin. There usually is an overgrowth of the lining membrane of the ducts, and added to the plug may be scales from this membrane.

Blackheads appear usually at puberty or in young adults, sometimes in children and even in babies, as well as later in life. The increased gland activity of adolescence accounts somewhat for the more frequent appearance of blackheads at this period of life. There also usually are digestive and nutritional disorders, such as anemia, constipation, and stomach and intestinal disturbances. (See Acne Simplex.) Hasty and inadequate, often infrequent bathing and local skin cleansing doubtless are contributing causes. Dust and dirt help form or color the blackheads, and exposure to air darkens the plugs. Workers in factories and workshops, firemen, stokers, handlers of coal and ashes may have pores clogged in such a way as to resemble black-

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heads, probably associated with the true, internally caused blackheads.

The blackheads may be either slightly elevated or slightly depressed, and are yellowish, bluish, brown or black in color, and occur chiefly on the nose, cheeks and forehead. Other locations are the temples, ears, neck, back, and chest, and occasionally wherever oil glands are present. They may be single, or with a "head" attached to two or more plugs. They may be few or numerous. Upon pressure a slender body exudes, colored at its outer end, its body yellowish or white, its lower end white and soft. The term "flesh worm" has been applied to this body. If not removed blackheads may remain for a long time, unchanged in character; but frequently they give rise to inflammation around the gland ducts, and may result in acne pustules—acne vulgaris. It is the likelihood of skin inflammation and acne development, aside from the unsightliness and interference with normal gland activity, that makes blackheads of some importance.

Underlying abnormal conditions require correction. All cases can be corrected by proper, persistent treatment. Local treatment should include external cleanliness with pure vegetable soap and a coarse cloth or flesh brush, carefully applied, facial massage, alternate hot and cold applications, especially hot applications for several minutes, followed by gently squeezing out the plugs, then ice or very cold applications. The soft balls of the fingers or thumbs are all the "instruments" that should be used for the squeezing. As this treatment makes the skin red, it should be used only

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when one expects to remain out of public gaze for several hours, and be free from exposure to cold and wind.

BOILS

Furuncle is the medical term for boil. Frequent intermittent outbreaks are a condition called furunculosis. A boil is an inflammation of the skin and underlying connective tissue surrounding a hair follicle or oil gland, leading to the formation of pus and death of the central portion or core, which in time is expelled.

Men, especially youths, are more subject to boils than girls or women. Those who wrestle or exercise on gymnasium mats, also those who wear roll-neck sweaters in their athletic training, are very likely to have boils. Impaired health, and certain diseases, especially diabetes, but also Bright's disease, typhoid fever, and eczema may be complicated by boils. Exposure to natural or artificial heat may cause boils, though when apparently due to stoking and other such exposures more likely it is the insufficient cleanliness that is responsible. Furunculosis especially is due to impaired health and marked toxemia. Most people subject to boils eat too heartily, particularly of starches and sweets and rich foods of all kinds, and usually they are constipated. In other words, they are unclean inside and outside, especially inside!

The boil develops rapidly, full development being reached within three or four days. There is a dull aching pain, becoming rapidly more intense, with severe throbbing and a feeling of tightness, these

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symptoms being worse at night. Within seven to ten days the boil becomes "ripe." Usually the core is expelled spontaneously when the boil cap ruptures. When it is expelled a small cavity of considerable depth remains, this healing quickly and leaving a small scar. Occasionally there are slight fever and other symptoms of a general nature. A "blind boil" is one in which a core is not formed.

Especially in children, boils may develop often enough to cause emaciation, from the loss of sleep, the pain, general toxic condition, and the large quantities of pus discharged.

Boils may appear anywhere on the body except the palms and soles. Styes are small boils on the eyelid. Boils on the face are likely to be accompanied by grave symptoms. The usual locations are the neck and back, also the thighs and armpits.

Every case of boils or furunculosis can be corrected entirely within a comparatively short time. It is a matter of correcting the health. For both general and local treatment, that given for Carbuncle will be effective. (See also the treatment chapter.)

Oriental Boil. This is an infectious ulcer occurring in tropical countries, but it has no relation to the common boil. The beginning is a papule, developing soon into a nodule or large tubercle, which breaks down to form an ulcer. Healing is spontaneous, but may not take place for six months or a year. Very likely lack of suitable sanitation and hygiene, including diet, is responsible, in some measure at least, for the affection. Body cleansing will greatly shorten its duration.

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BURNS

Medically, burns are grouped under the term dermatitis ambustionis, meaning heat dermatitis, the second word meaning to scorch. There are three stages of burns: 1, an erythema, with only very superficial destruction, and with pain as the chief symptom, an example of which is one of our simplest burns; 2, a bullosa, from deeper burns, where blisters form, deeper tissues are affected, pus develops, and scars are formed upon healing; the pain may be, and usually is less pronounced, also the tenderness, and there may be some symptoms of shock; and 3, a sloughing dermatitis, from more severe burns of greater area, which is likely to result fatally. The most serious and fatal results probably are due to interference with skin activity, toxin or ptomaine formation and absorption, and destruction of a great many white blood cells.

Any of these degrees of burns may be produced by dry heat (flame or hot articles), moist heat (water, steam, oil, etc.), sunburn, "live" or charged electric wire, and x-ray apparatus. Mucous membranes may be burned in various ways. The mucous membrane of the eye is burned in numerous ways.

Local treatment of burns may be by any of the following applications: baking soda, boric acid, olive oil, equal parts of egg white and sweet oil, Carron oil (equal parts of linseed oil and lime-water), or ice or very cold compresses. Second and third degree burns should be treated by a surgeon or physician. Sometimes heat is more soothing than cold, in other cases cold will be better; either moist

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or dry applications may be better. Boric acid in sterile vaseline in strength of from 10 to 25 per cent, or boric acid water solution, or baking soda in strong concentration in water or in vaseline will be very helpful. Scientific care is best in severe burns that every precaution may be taken to prevent infection. (See also Sunburn.)

CALLUS (CALLOSITY)

A callus is a hardened, thickened, horny condition of a local area of the skin resulting from overgrowth of the corneous layer of the epidermis, produced by friction or intermittent pressure. They appear on the feet and hands, toes and fingers. The best examples of the results of intermittent pressure and friction are the calluses upon the hands of axmen, oarsmen, hay pitchers, mechanics and others who regularly or for some time use tools requiring a firm grip. Improperly fitting shoes and wrong positions of the feet will cause calluses on the feet. But calluses may appear upon any other part of the body if there is sufficient cause.

Calluses occur as dense, horny, slightly elevated patches, grayish or yellowish in color, and of various sizes. They gradually merge into normal skin. They are likely to be symmetrically distributed upon the soles or palms, or both, also upon the fingers and toes. There rarely is any inflammation, but may be with violent injury. Sometimes they are painful, especially when fissured.

Calluses undergo spontaneous involution when pressure is removed and avoided. Any foot defects should be corrected and shoes should be properly

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fitted to the feet. Frequently the callus may be cut away with a sharp knife, especially after soaking the callus for several minutes in very hot water. One of the best remedies is salicylic acid as a plaster or in flexible collodion, either form to be prepared by your druggist. After applying either for several days the part is bathed for several minutes in very hot water, after which the softened dead tissue can be easily removed with a dull blade. The procedure may need to be repeated several times, but very likely no additional treatment will be necessary—except, of course, removal and avoidance of the cause.

CARBUNCLE

A carbuncle resembles a boil but is much more extensive. It is a limited inflammation involving deeper tissues as well as the skin, having a deep-red knob that is very painful. This breaks down, its contents being evacuated through several openings.

The cause is supposed to be an infection by germs that reach the lower skin tissues through a skin wound or hair follicle. But without a high degree of toxemia this condition could not develop. It occurs in constitutional diseases, particularly in diabetes. One is predisposed to it by any condition or factor that lowers the vitality.

At first a fairly rapidly increasing painful knob appears on the skin, of a deep-red color, flattened on top. Around it the skin is hardened, painful, and dusky red. Within seven to ten days pus forms, the top sloughs, and through the craters are discharged the contents. General symptoms are pro-

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nounced, such as may occur in any pus condition.

Favorite locations are the nape of the neck, back and buttocks. Other locations may be affected, also, especially the back of the forearm and the scalp and face.

The prognosis depends upon the patient's vitality and age, the severity of the general symptoms, the location and extent of the carbuncle, and the degree of tissue destruction. Attempts at forced feeding (frequently advised), great absorption of poisons generated in the decaying tissues, hemorrhage, exhaustion, and secondary abscesses developing nearby may cause fatal termination. The old and debilitated may succumb quite easily.

General treatment will be that for skin diseases in general, with the fast and daily enema as the initial step, and gradual return to a more ample diet, which should be an eliminating one, yet nourishing. The strict milk diet would be excellent after the fast. Cod-liver oil is a splendid addition to the diet. Sea bathing would be of advantage after convalescence is well established. Diabetes, if present, must be treated.

Severity of symptoms somewhat governs local treatment. Either hot or cold applications, as preferred, will reduce the pain and inflammation. Hot moist compresses are excellent, changed frequently enough to be kept hot. It often is advisable, even necessary, that the carbuncle be treated surgically, because of the density of the overlying skin. The depressed scar is apt to be somewhat deforming when following surgical treatment, but this may be a necessary risk to run. Proper treatment instituted

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early should take care of most cases in such time as to make operation unnecessary.

CHAFING

Medically this is called intertrigo. It is a hyperemia caused by the friction of surfaces that come together. It is especially frequent in children and fat people. The combination of friction and perspiration, as under hanging breasts, between the upper part of the thighs, and around the sexual organs, is a very frequent cause. There is a diffuse redness, a sensation of heat, and usually some degree of moisture. A definite dermatitis results when the cause is continued. Treatment consists of careful cleansing and drying, removal of pressure when possible, and application of a simple dusting powder.

CHAPPED SKIN

Chapping of the skin is the bane of winter for many people as sunburnt skin is the summer's bane for others. It very frequently is observed, especially in chapped hands, cheeks and lips. It occurs usually in those having delicate skin, and may be or may not be associated with eczema. The causes usually are exposure to cold air and wind, especially without careful drying of the skin after bathing, and the overuse of hot water and soaps. Sometimes the broken skin becomes very rough and painful, some of the cracks or fissures being quite deep. Bleeding often occurs. Further washing of the hands tends to aggravate the trouble when the hands are affected.

To prevent chapping, take few hot baths, and

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always follow each with some form of cool or cold bath after rinsing off *all* soap. Dry *thoroughly*. Use natural foods, with a minimum of salt. Use an abundance of fruits and green vegetables, but a comparatively small amount of citrous fruits. Milk and all dairy products are of service in keeping the skin soft, and may be taken in considerable amounts with benefit. The milk diet is excellent.

The use of such a diet and insuring good bowel elimination without tendency to diarrhea are important; also applications of olive oil, sweet cream, cold cream or camphor ice will be temporarily soothing. Exercise and sun and air baths will be of great value. Usually what will prevent will cure if followed for a sufficient length of time.

CHILBLAIN (PERNIO)

Some class chilblain and frostbite as one condition; but there is a difference. (See Frostbite). Chilblain is the chronic condition, frostbite the acute condition resulting from the same causes. Chilblain is a skin inflammation and swelling due to exposure to damp cold, found in various grades from a mere shortly lasting redness to a deep destruction of tissues. There are, in the usual case, redness, swelling, itching and intense burning, the parts being shiny and cold to the touch. Vesicles and deep ulceration may occur. The fingers and toes may develop a sausage-like appearance. When exposed to artificial heat there are intense stinging and burning or itching. The extremities, including the ears and nose, usually are the parts affected. The chief cause of the trouble is sudden change from a low

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temperature to a high temperature. Those with poor circulation or anemia are most likely to be affected. Especially predisposing to chilblain are a lymphatic constitution, with more or less "water-logged" tissues, malaria, and hemophilia (bleeder's disease).

In treating exposed parts to prevent chilblain, restore circulation gradually by immersion first in snow or ice water or very cold water, applying gentle friction upward (for frosted fingers and toes); gradually raise the temperature of the water to slightly warm; dry thoroughly but gently; then a soothing application may be made of camphorated alcohol or boric acid. Blisters should be opened by a prick and drained, and they and any ulceration resulting should be covered with vaseline and boric acid or fresh Carron oil.

To increase the circulation and reduce susceptibility to chilblains, there should be regular walking and exercise; cold or quite cool bathing daily, with *thorough* drying, a nourishing but not too heavy diet; plenty of wholesome fats, including cod-liver oil; and warm hose, shoes and gloves, all of ample size—and these must be supplied after chilblain has developed. Salt-water bathing is excellent, especially if sweating accompanies chilblains. Pledgets of cotton, dry or soaked in boric acid solution, may be placed between fingers and toes when these members are affected. (See also Chapter VI.)

COMPLEXION FAULTS

Here I purpose to consider those discolorations without eruptions that frequently cause many

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people, especially women, greater concern than the more serious underlying condition.

Blueness, or Cyanosis. This seems to be normal with some people, especially bluish lips. But ordinarily it is an abnormality, due to deficient air (oxygen) reaching the blood, with an excess of carbon dioxide in the blood. Sometimes there is interference with normal capillary circulation, or a chemical alteration of the blood. The skin may be from a leaden-white or gray-blue to a deep purple. Combined with jaundice there is produced a greenish cast; with anemia, ashen-gray hues.

In these cases it is well to consult a physician for examination, as there may be obstruction of air passages, or reduced lung area, or some condition preventing full respiratory movements; or some disease of the heart or of the blood vessels; or intestinal conditions that cause a toxemia. The underlying condition must receive attention.

Florid Complexion. "Full-blooded" people are inclined to floridity, which becomes more pronounced at or after middle life, and during physical, mental or emotional stress. Causes of temporary floridity, if continued, will produce chronic florid complexion. The causes are tight girdles, collars or other constrictions, exposure to heat, sun or wind or a combination of harsh weathering conditions, very hot, rich and spiced foods, excessive food, especially meats, hot or heating beverages, and alcoholics. To avoid or remedy the trouble, avoid or remove the causes. Moderate eating of proper, truly wholesome foods, adequate bowel activity, fairly copious water drinking, avoidance of

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constrictions, regular exercise, tonic cool or cold baths—these and any other factor for maintaining or restoring general health will be necessary.

Sallowness. We usually associate sallowness with anemia; and anemia is the usual cause, especially in brunettes. But toxemia, especially with constipation, is a frequent cause. Any digestive disturbance, also confinement indoors out of sunlight and fresh air may cause it. Especially in blond girls greensickness will cause sallowness; in brunettes the color is greenish gray instead of the usual sallowness. During convalescence from many diseases there is very apt to be an earthy complexion. One should adopt all the health-giving factors suggested in the final three chapters; by doing so at least *some* suggestion of color will appear in the skin, though it may be next to impossible for some of the "thick-skinned" individuals to bring real color into their cheeks.

Yellow Skin. There is a yellowish tinge to the skin in greensickness (chlorosis), not uncommon in girls under the age of 20. There is alteration in the blood, the condition being a form of anemia, due to improper food, poor hygiene, constipation, overwork, menstrual irregularities, and mental anxiety. Correction of these causes, especially providing suitable food, more air and sunlight, and more rest and relaxation will correct the anemia, after which the skin will return to its normal color. In pernicious anemia there is a lemon-yellow color of the skin. This will disappear if the anemia is overcome or improved. Any type or degree of anemia in brunettes is likely to produce a yellowish hue of the

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skin. Hemorrhages have the same effect. The skin is restored to normal when the blood becomes normal. In functional liver diseases the palms may be yellow, returning to normal when the liver activity is corrected. (See also Jaundice, under Pigmentations.)

COLD SORE

See Fever Blister.

CORN (CLAVUS)

A corn is an hypertrophy, and is merely a small callus or thickening of the outer skin, generally resulting from the friction of poorly fitting shoes, developing usually on the toes over bony prominences, occasionally upon the soles, fingers and palms. *Hard corns* usually develop over the joints of toes; and *soft corns* usually develop between the toes, where they become softened by the moisture of perspiration and insufficient drying after bathing. Intermittent pressure and friction cause both forms. They are small, clearly defined, horny elevations about the size of a pea, often very painful.

The condition can be fully corrected only when properly fitting shoes are supplied. These must be long and wide enough and made right at the heel. When proper shoes are provided the corns may disappear in a short time without further attention. Felt rings over the corns give temporary relief. The corns may be wholly or largely removed with a large knife after soaking in hot water (with or without baking soda) for 20 to 30 minutes, in which case the parts should be thoroughly dried

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and felt rings applied and changed daily until the sensitiveness has subsided.

Soft corns often disappear after proper shoes have been worn for some time. Direct treatment consists in soaking the part in hot water for ten minutes, then gently scraping off the soft upper skin layers, followed by careful, thorough drying, and the toes kept apart by soft rolls or tufts of cotton after dusting borated talcum between them. Lint soaked in boric acid solution placed over a hard or soft corn and covered with oiled silk and kept on overnight is soothing, and it softens the corn for removal. Occasionally inflammation develops. This requires rest, with applications of warm moist boric acid dressings. If pus has formed it should be allowed to escape or should be gently removed with sterile cotton or gauze, then thorough cleanliness observed. Especially in toxic, poorly nourished and elderly individuals trimming a corn too close may result in a serious complication.

CYSTS IN THE SKIN

The usual skin cysts are those in the hair follicles and oil glands or their ducts due to retention of the oil, found mostly in the scalp, neck and forehead. Dermoid cysts are found occasionally—congenital cysts filled with oil or other fluid and sometimes having in them hair or other skin elements or appendages. The larval stage of hog tapeworm may form a skin cyst. Small millet-seed sized white cysts of the sweat glands are not uncommon. Usually cysts should be opened and their sacs removed or destroyed.

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DERMATITIS

Dermatitis (cutitis) is inflammation of the skin caused by some irritant.

Atrophic Dermatitis. This is a diffuse or localized atrophy of the skin, involving the hair and nails, affecting mainly the extremities and face. It is thought that any dermatitis may cause it, especially when there is a structural defect of the skin. External irritants seem to give rise to the affection in some cases, but the exact cause is not known. If the individual received proper care from the start it is unlikely that atrophy would develop or that the dermatitis would be of any consequence.

Epidemic Dermatitis (epidemic eczema). This is an acute inflammatory skin disease, beginning with hardened, bright-red papules grouped around hair follicles. Vesicles may form on the papules, rupture and have moist surfaces, and leave thickened patches upon drying. After from three to seven days the lesions run together, sometimes covering the entire body, the skin becoming very red, dry and with thick scales, sometimes crusts. Pints of scales may be given off in a day's time. There is intense itching. After from three to eight weeks a gradual return to normal begins, though the skin may remain pigmented for months, covered with a smooth, shiny and inelastic skin. In some cases the nails and the hair of the body (not of the head) may be shed. The vital organs may be affected. Fatalities occur in about 10 per cent of the total cases. The cause is not known, though it probably depends upon toxemia and abnormal metabolism.

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Scaling Dermatitis of Infancy (dermatitis ex-coriativa infantum). This dermatitis of very young babies resembles the adult form just described. It begins about the fifth week of infancy, develops quickly, has excessive scaling, and leaves the skin red and usually dry. The mucous membranes may be raw and crusted. Usually nutrition is very deficient. The cause is unknown. About half of the cases die, perhaps most of them from malnutrition. If the first two or three weeks of the disease can be survived there is good chance for recovery. The body should be kept warm, preferably wrapped in cotton, with some bland sterile oil employed in the dressings. Breast milk should be given if possible, but the mother's diet must be of the best.

Many-formed Dermatitis (dermatitis multiformis, dermatitis herpetiformis). This is a chronic inflammation of the skin manifesting in groups and combinations of reddened, papular, vesicular, pustular and bullous eruptions, and burning and itching, the last-named symptom often being very intense. The eruptions appear suddenly or gradually. In severe cases fever, chilliness, general uneasiness, and other symptoms of acute diseases are present. There is a marked tendency for one form of eruption to pass into another form.

The chief forms are: *Erythematous*, with crops of diffuse red patches associated with much itching and burning. The color usually is raspberry-red, mottled with yellowish, brownish tints. *Bullous form*, having crops of large irregular bullæ, usually without surrounding inflammation. The bullæ tend to group. Patches of vesicles and erythema often

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appear. Itching and burning are intense. *Papular form*, with groups of papules in crops, with erythema, vesicles and scratch marks. This is the rarest form. *Pustular form*, having clusters of pustules, resembling the next form but with pustules instead of vesicles. *Vesicular form*, the most common form, having groups of irregular-shaped vesicles, occurring in crops. There may be erythema, pustules and scratch marks. Itching is intense. It develops usually between the ages of 30 and 60 and may last for years. Physical, mental or nervous shock, toxemia, childbed fever, kidney disease, disordered menstruation, pregnancy, and enervation all are considered as causative factors. *Mixed form* (multiform type) is a commingling of various combinations of lesions, in crops, with intense itching. The pustular, bullous and mixed forms often are associated with marked general symptoms. The prognosis of any form is favorable, but healing is slow.

Drug Eruptions (dermatitis medicamentosa). This term is applied to those eruptions caused by drugs taken by mouth, or rectum, or by subcutaneous injection. Some people are especially susceptible to certain drugs, some to several drugs, especially those of a certain class. A single overdose, in many people, may cause an eruption, or suddenly after small doses have been taken for some time a rash may appear. Breast-nursed babies may develop rashes from drugs the mother is taking. Antipyrin often produces a generalized papular eruption; arsenic, an erythema, or papular, vesicular or pustular eruptions; atropin or belladonna, a rash resembling

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scarlet fever, on the face, neck and chest and accompanied by dry throat, fast pulse, and sometimes large pupils; borax, an eruption resembling psoriasis; chloral, a hivelike eruption or an erythema; copaiba, macular, papular, or hivelike eruption; cubebs, small papules on an erythema; potassium bromide, an acneform eruption, with papules and pustules; potassium iodide, commonly a widespread acneform eruption bright red in color and sometimes an erythema, or a papular, pustular, hivelike or purpuric eruption; quinine, usually an erythema, sometimes an acneform eruption; salicylates, an erythematous or urticarial eruption; serums very often produce rashes, varying in extent and nature, often accompanied with marked constitutional disturbance. As a rule the eruption quickly disappears upon removal of the drug, though a serum rash may last for a long time. Bromide and iodide rashes often linger for months. (See also Vaccination Dermatitis.)

Dermatitis from External Poisons (dermatitis venenata). This includes those dermatoses due to direct or indirect contact with poisons of an animal, vegetable or mineral nature. Among these poisons are poison ivy, poison oak, poison dogwood, poison sumac and poison elder, the nettle, oleander, rue, and smartweed. All forms of lesions may be produced. The itching and burning produced by poison ivy and some other poisonous plants are well nigh intolerable. The symptoms of ivy poisoning are similar to an acute eczema, the parts becoming red and swollen, small papules and vesicles soon appearing. It develops usually on the hands and face, per-

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happens within a few hours, often not for several days after exposure to the plant. The eruption usually subsides within a few days, though the skin may remain pigmented and sensitive for many weeks.

Usually skin inflammation will be prevented if the exposed parts are washed thoroughly with hot water and soap immediately after exposure. A general hot bath should be taken, also, and the clothing thoroughly aired and brushed, and sunned if possible. In treating this dermatitis (from any poisonous plant), first evacuate the blisters, using care not to spread the contents over other parts. Boric acid compresses are relieving in many cases; but compresses of a strong solution of Epsom salts usually are better for both the itching and the inflammation. Borated talcum or powdered cornstarch is very soothing after the inflammation has subsided.

X-ray Dermatitis. This is due to exposure to rays from the X-ray diagnosing or treating apparatus, and it requires or should have professional care. Its development indicates carelessness or lack of sufficient knowledge of the apparatus by the operator. Some very severe burns are produced by the Roentgen (X-ray) rays, and they may be extremely stubborn and resistive to treatment.

DRY SKIN

See Keratosis, Fishskin Disease (Ichthyosis), and Lips, Chapped.

· ECTHYMA

Ecthyma (from Greek, meaning pustule) is an inflammatory skin affection characterized by sepa-

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rated, flat, deep-seated pustules having broad inflamed bases. It is regarded as a secondary skin change occurring in various more or less similar skin disorders. Poorly nourished and debilitated individuals get this affection more often than others. The pustules are pea-sized to as large as a dime, sometimes long and narrow, as when appearing after a linear skin lesion or wound, and are yellowish in color. The pustules usually dry, forming crusts of a reddish brown color. Pigmentation and raw surfaces, later scarring, usually follow the disappearance of the pustules. The legs usually are affected, sometimes the trunk and neck. The affection rapidly responds to proper care—soap and water, proper foods, good hygiene.

Gangrenous Ecthyma (gangrenous dermatitis of infancy). This is a gangrene of the skin, in children, more or less extensive, and especially following some pustular eruption, such as chicken pox, though also occurring spontaneously.

ECZEMA

This very common inflammatory dermatosis constitutes about 30 per cent of all skin diseases, and is found in all ages and conditions of life, but chiefly in the young and aged. Common names are tetter, salt rheum, and "wildfire." The chief characteristics are: primarily, redness of the skin, vesicles, papules or pustules; and secondarily, scales and crusts. Usually there is a tendency to a moist or weeping surface. Itching and burning are very annoying. It appears in acute and chronic forms, and is due to internal and external causes. Internal

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causes include gastrointestinal putrefaction and fermentation, indigestion, constipation, nervous affections, enervation, rheumatism, diabetes, Bright's disease, uric-acid diathesis, scrofula, and disorders of the reproductive organs. External causes include acids, strong soaps, some dyes, iodine, formalin and bichloride of mercury, sun or artificial heat, cold, damp cold, friction, pressure, scratching, and animal parasites. There are numerous forms.

Erythematous Eczema. This variety, found most often on the face, trunk, arms and genital organs, consists of irregular swollen red patches, with rough and hardened skin, slight scaling, and itching and burning. It frequently recurs. This eczema may continue in this form or develop into red or scaly eczema.

Papular Eczema. This form, occurring chiefly upon the extremities, consists of patches of pinhead-sized pointed papules accompanied by extreme itching. Frequently vesicles are associated with it, or vesicles may surmount the papules, break down, and leave the skin exposed and raw. The eruption often recurs.

Vesicular Eczema. In this form, essentially an acute form, appear poorly outlined red patches covered with small vesicles which rupture and permit the escape of a sticky serum, on a raw surface. Yellow gummy crusts usually develop, under which the weeping may continue. Rupture of the vesicles relieves the itch, but soon come smarting and burning. This eczema appears usually on the extremities in adults, and on the face in infants.

Pustular Eczema. This eczema frequently is

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associated with, or is a later stage of vesicular eczema. It appears most frequently on the face and scalp of scrofulous and ill-nourished children, and in elderly people. For centuries this form on the face and scalp of infants has been known as "milk crust" or "milk crust eruption," or "milk scurf." It consists of many papules, quickly changing to vesicles and then pustules, which break, with thick greenish yellow crusts forming. When the hairy regions are affected the resulting odor is extremely nauseating. Itching is slight.

Red Eczema (*eczema rubrum*). This is a secondary form, usually of vesicular or pustular eczema, appearing usually on the face in infants, on the extremities of adults. Its characteristics are an intensely red, raw-appearing, continuously weeping and oozing surface, with hardening of the skin elements, frequently combined with crusted areas. When the weeping is particularly prominent it is called *eczema madidans*. Sometimes it develops where there is considerable heat and moisture—the armpits, folds of the breasts, and buttocks. This is one of the most distressing forms of eczema, as it is chronic and has quite constant and intense burning pain and itching.

Scaly Eczema (*eczema squamosus*). This eczema often follows some other form, or it may appear in point of time between two other forms. It is marked by dull redness, hardening and considerable scaling. The scales are small and brush off easily. The usual locations are the scalp, face and back of the neck; but it appears also to some extent upon the extremities and trunk. When near a joint

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the thickened skin is likely to become fissured or cracked, when it is called fissured eczema.

Fissured Eczema (*eczema fissum*). Chapping is one degree of this eczema. The fingers are favorite sites, though it is frequently found on the palms and soles, and on the back of the ears, also at the corners of the mouth and at the bowel outlet. Usually there is considerable pain, and some slight or considerable bleeding. It is very persistent, but usually disappears in summer, probably to reappear with the return of cool weather.

Hard Eczema (*eczema sclerosum*). This begins as an ordinary eczema, becomes chronic and produces thickening of the skin and underlying tissues. It is confined practically entirely to the palms and soles, though sometimes affects the ankles and lower legs. The skin appears callused, and closing of the palm and fingers may be impossible.

Warty Eczema (*eczema verrucosum*) is somewhat similar to the above, though the lesions are warty or horny. The usual site is the lower legs, which may look like legs affected with elephantiasis. Excretions gather between the protuberances and yield a nauseous odor. Other locations for this eczema are those where heat and moisture are present and where cleanliness is likely to be incomplete—especially the armpits, under hanging breasts, and about the genitals.

Under medical treatment that is strictly local (and perhaps suppressive) eczema in one form or another often lasts throughout life. Under natural treatment, by which the cause is removed, the most stubborn cases are cured within a few weeks to a few

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months. The treatment given in Chapter VI should be carefully studied and closely adhered to.

ELEPHANTIASIS

This hypertrophy also is called elephant leg, Barbadoes leg, pachydermia, etc. It is a chronic hypertrophy of the skin and connective tissues due to obstruction of the lymphatics. It is confined almost wholly to the tropics, though is found to some extent in all parts of the world, occurring in those who live under unhygienic conditions and consume poor food. The obstruction of the lymph vessels is attributed to a parasitic worm (the *filiaria Bancrofti*, or *filiaria sanguinis hominis*), but it also is said that many causes occur without the aid of the parasite. The disease is chronic, developing mainly in males, and rarely before adult life.

Elephantiasis usually begins as an inflammation resembling erysipelas, with local redness, swelling and pain, and some fever. The affected area becomes permanently enlarged. Attacks occur every few months, each leaving the part a little larger. Ultimately the part is very large, the skin much thickened, pigmented and fissured, and the lymph channels are obstructed. A limb may become so large and heavy as to render walking difficult or impossible; or the scrotum or some other part may be so enlarged as to interfere with or prevent walking. The legs, feet, scrotum, penis and clitoris are the most frequent seats.

The disease is chronic, and no treatment avails if the growth is far advanced. It may be arrested if taken in early stages. I have no knowledge of a

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case ever having been treated by natural methods; but I would expect it to yield to their influences if continued for a sufficient length of time. There should be rest, especially in acute attacks, and hot and cold applications, elevation of the affected member, massage, and elastic bandaging, and change of climate is to be urged.

EPITHELIOMA (SKIN CANCER)

The varieties of epithelial cancer or carcinoma are as follows:

Superficial Epithelioma (rodent ulcer). This usually begins as firm, reddish yellow well-defined, waxlike papules or warty outgrowths. The surface becomes denuded and raw after several months or years, upon which areas crusts form. Degeneration gradually results in ulcer formation. The ulcers are irregular in outline, with clear-cut hard, pearly edges, irregular and glazed base, and exuding a small amount of faintly yellow viscid fluid. Spreading is slow, healing sometimes taking place, though usually the growth becomes deeper, involving even the bones. The usual location is the face, where it eventually may destroy the nose, or eyes, or a considerable portion of the bones of the head.

Deep-seated Epithelioma. This form may be independent, or develop from the superficial form. If independent, it starts as a deep-seated reddish and shiny nodule or tubercle. The eventual ulcer is deep, irregular in outline, with a ragged base that is red and that bleeds easily, and that is surrounded with hard, everted, purplish edges. There are sharp sticking pains. The lymphatic glands are enlarged,

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and the general health becomes seriously impaired. Death may result from exhaustion or hemorrhage. This form develops usually after middle life, though it may develop in old age or youth.

Papillary Epithelioma. This tumor begins as a rough, warty projection, or it may develop from one of the previous forms. The surface becomes ulcerated, and covered with many large blood-filled papillæ which easily bleed. The projection may remain for years before ulceration begins. A very foul odor usually exudes from the ulcerated surface. The lymphatic glands become enlarged, and the general health seriously affected.

The cause of epitheliomata has not been medically determined; but my contention always has been that practically every cancer is made possible only by a high toxicity of all fluids and tissues of the body. Doubtless irritation helps much in *localizing* a tumor, such as smoking in epithelioma of the tongue or lip, or a jagged tooth in epithelioma of the cheek or tongue; but the irritation cannot be the real cause of the tumor and its changes. The treatment in Chapter VI will prevent, perhaps cure, many epitheliomata.

ERYSIPELAS

This disease, commonly called St. Anthony's fire, is a peculiar inflammatory disorder of the skin and subcutaneous tissues. It is considered to be contagious and specific—due to a specific microörganism.

Erysipelas often starts in or about wounds, then spreads. Women seem especially liable after child-

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birth. Frequently nowadays it develops without injury or at least without obvious wounds. One attack seems to favor other attacks. Lowered vitality predisposes to it.

The onset usually is announced by a chill, general uneasiness, headaches, rapid pulse, slight fever, loss of appetite, nausea and vomiting. The fever often rises rapidly—to 104 or 105 degrees within a day. The urine is scanty, dark, slightly albuminous. The eruption is characteristic: a clean-cut, raised, firm, hot and tender red spot appears, with burning and itching. The eruption spreads, the parts having a crimson or violescent hue. The edge is clearly defined, often as a ridge, but if it is spreading projections may be felt beneath the skin beyond the ridge. Blisters or blebs form, burst and become covered with yellow scabs. The surrounding parts are edematous, the features being greatly altered. Usually the eruption lasts from four to five days in one locality and may terminate with a rather sudden drop of temperature. The skin then peels. Through extension the disease often lasts for weeks. Relapses are very common.

Eighty-five per cent of the cases appear on the face, beginning on the bridge of the nose and within a few hours spreading over the nose and the two cheeks, forming the classical "butterfly" pattern. The inflammation may spread to the ears, forehead and scalp, also the neck but rarely in front, and usually only down to the collar line at the sides and behind. When the hairy scalp is involved the pain is severe.

Complications frequently develop under usual

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treatment, among them being pus formation, pneumonia, inflammation of the eyes and of the joints, and blood poisoning. A transient inflammation of the kidneys is quite common. Other complications also develop.

Migrating erysipelas (*erysipelas ambulans*) is a form where the inflammation subsides in one part and appears in another, continuing indefinitely. With it frequently develop symptoms of typhoid—muttering delirium, twitching, and fissured tongue.

Most cases of erysipelas recover rapidly under natural methods of treatment, with little if any tendency to recur. Gangrene develops rarely, even under very unsatisfactory treatment. Death occurs only in extreme or neglected or improperly treated cases.

ERYSIPELOID

This inflammatory dermatosis resembles erysipelas, but lacks the constitutional disturbances and symptoms. It affects the hands of those who handle meats or those who allow cut or wounded hands to come in contact with decomposing animal matter—butchers, fish handlers, and medical students and others in dissecting rooms. The trouble is merely a local infection that quickly is overcome by proper treatment.

ERYTHEMA

The word erythema taken alone simply means redness. Medically it is applied to certain skin diseases in which there are hyperemia, redness which disappears on pressure, and passive inflammation.

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Erythema is but a symptom and must be qualified by some other word to be descriptive of a true and recognizable skin disease. There are various forms.

Simple Hyperemic Erythema (*erythema simplex*). In this form are nonelevated bright red or dull red patches of various sizes and shapes in the skin. The redness always disappears readily upon pressure, there being merely a congestion, not inflammation. Itching and a mild burning usually are present. There is no hardening of the skin structures.

There are various causes, and these causes are added to the term to denote the cause and nature of the skin condition. Thus there are: *erythema caloricum*, when due to exposures of either temperature (further divided into *erythema ab igne* when due to heat, and *erythema pernio*—chilblains when due to cold); *erythema solare* or sunburn; *erythema traumaticum*, resulting from skin injuries; and *erythema venenatum*, due to poisons from various plants. Its most common forms, due to general toxemia, antitoxins and various drugs, are the so-called “stomach rashes.”

When their causes are removed these erythemas are quickly overcome. The treatment is general rather than local. If the cause be friction of opposing surfaces or of clothing, remove the pressure when possible; and boric acid or borated talcum will be soothing and permissible.

Other simple hyperemic erythemas are those occurring as symptoms of other diseases—symptomatic erythemas: *erythema diphthereticum*, occurring during diphtheria, also a “serum rash” resulting from

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diphtheria antitoxin; *erythema cholericum*, which may appear during an attack of cholera; and erythemas of chronic Bright's disease, and of uremia. These require no special consideration, for they require no treatment.

Scarlatiniform Erythema. This is a mildly acute, noncontagious eruption resembling scarlet fever but running a different course. Medically it is called *erythema scarlatinoides*. Gradually or suddenly it appears on the chest, spreading over the body. Usually there are uneasiness, discomfort, chill, and a slight fever. Burning and itching are frequent. The eruption pales and gradually disappears within a few days, with little scaling, except in some severe cases when casts of the hand, even hair and nails, will be shed.

This is not infectious or transmissible. It often develops during some other diseases. Digestive disorders appear to be the chief causes; and external application of some drugs (mercury and iodoform), and internal medication (of quinine, the salicylates, mercury, opium and some others) produce eruptions that cannot be distinguished from it.

Correction of the cause clears these eruptions quickly. When the cause really is corrected recurrences are unlikely, though they are frequent under medical treatment.

Erythema Multiforme. This is an inflammatory dermatosis characterized by lesions of different kinds. It occurs most frequently in women or girls in youth or adolescence, and chiefly in the spring or autumn. Digestive disturbances are the chief causes; various drugs and serums also cause it. It

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appears to be closely related to the next form, and to angioneurotic edema, and hives.

Usually associated with the trouble are fever, headache, general uneasiness, and rheumatoid pains. The eruptions are macules, papules, vesicles or blebs, one type usually predominating in each case. The eruptions gradually fade after several days, from bright red to purplish or bluish. They appear in crops. Itching and burning are slight if at all. Any location may be involved; but usually the backs of the hands and feet.

Its various forms, named according to the leading eruption, are: *Papular erythema*, with separate or merged reddish or violet-hued maculopapules or papules—the most common form; *erythema circinatum* or *erythema annulare*, circular patches that spread at the borders while clearing in their centers; *erythema iris*, rings or crescents of various colors; *erythema gyratum*, erythema circinatum with lesions overlapping; *vesicular erythema* when vesicles are the chief lesions; *erythema perstans*, practically permanent ring-shaped patches, recurrences being so often as to constitute virtual permanence.

The disease quickly responds to correction of its cause. General treatment is all that is required. There need be no recurrences if properly treated.

Erythema Nodosum (erythema or dermatitis contusiformis). An acute inflammatory dermatosis, characterized by crops of rosy-red or purplish swellings of various sizes. The appearances resemble those in the fading of a bruise. It occurs chiefly in children and early adult life, and twice as frequently

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in males as females. It appears to be closely related to the previous form.

The eruption of bright-red nodes is sudden, these becoming dark and then fading, giving the appearance of late stages of "black and blue" bruises or contusions. The eruptions resemble boils at first, but there is no suppuration. They are very painful to the touch. Usually the extremities are chiefly affected. With the affection are fever, headache, rheumatoid joint pains, and general uneasiness. Cleansing the body internally and building up the constitution rapidly rids one of this disease.

Indurated Erythema. Erythema induratum is an inflammatory skin disorder occurring in scrofulous individuals. It is rare, found chiefly in girls and young women. It appears most frequently in winter, chiefly in those who suffer with cold hands and feet. There are circumscribed semi-hard lumps in the skin, which end either in absorption or foul suppuration. The calves of the legs usually are involved, but also the thighs and arms at times. Pain and tenderness, usually absent, may be marked. The subjects usually present signs of tuberculosis. The disease heals slowly ordinarily, recurrences being frequent. However, while healing is slow under natural treatment, rebuilding of the constitution will bring about a cure from which there need be no recurrences.

FARCY

This trouble is an infection acquired from the horse, and is known since earliest history. It usu-

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ally is called cutaneous glanders. The lesions make their appearance after three or four days following infection. The usual location is the inner surface of the thighs, the lesions first appearing as nodules of various sizes, and being beneath the skin. They degenerate and produce a very offensive ulcer on the skin. A heavy pus ("farcy oil") fills the nodules before they rupture. The surrounding lymphatic vessels resemble cords to the touch, and the lymph vessels supplied by these vessels are enlarged and hardened. The swellings along the lymphatic vessels are called "farcy buds" or "farcy buttons." A lymphatic vessel chronically thickened is called a "farcy pipe." General symptoms resembling typhoid usually develop. The disease usually is acute and fatal within two weeks, though there is a chronic form in which one-half of the cases recover. No satisfactory medical treatment is known. Radical blood-purifying measures instituted at the onset should lessen the gravity of the prognosis.

FATTY TUMOR

A fatty tumor, or lipoma, is a nonmalignant tumor composed of fat cells bound together by delicate fibrous or connective tissue. There may be one or more tumors. The size may vary from that of a pea to a grapefruit or larger. The tumor has a doughy feel. If the skin is attached to the tumor there is a dimpling of the skin. There are no local or general symptoms. The usual locations are the back and shoulders, but tumors also appear on the neck, buttocks, and inner arm and thigh surfaces. Surgery is the only treatment, but if the tumors do

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not interfere with one's well-being or physical activity they should be left undisturbed.

FEIGNED ERUPTIONS

This is the common term applied to eruptions that are frequently seen in beggars, criminals, hysterical people, especially women, and others. The medical term is dermatitis artefacta. The eruptions are artificially produced, for the purpose of eliciting sympathy, unworthy aid or attention. They may be erythematous, bullous, ulcerous or gangrenous, and may be produced by friction, caustics, acids, coals or other hot articles, etc. They differ from disease eruptions in their deviation from regular types of dermatoses, by their distinctness, and in being confined to parts easily reached by the hands.

FEVER BLISTERS

Herpes febrilis is one form of herpes simplex, which is discussed elsewhere in this chapter. It is an acute condition, noncontagious, having groups of small vesicles appearing on inflamed bases. The frequency with which the trouble occurs with fevers, on the one hand, and with common colds on the other hand, has given rise to the common terms "fever blister" and "cold sore."

The usual cause is gastric fermentation. Combinations of sugars and starches, of sugars and acids, and of starches and acids are the most frequent dietetic causes. Gross dietetic errors and other habits that may produce diseases, especially fever diseases, usually produce fever blisters as a healing-crisis effort of the body. Digestive disturbances are

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especially prone to cause herpes of the lips, especially in children. Various nervous disorders may cause a similar condition.

The most usual locations are the lips and nostrils. Slight tingling, itching and burning are first noticed, then an increasing redness, to be followed by a cluster of small vesicles. After a day or two the watery contents become purulent, after which there is a gradual drying up with the development of crusts. Redness remains for a few days after the crusts fall off. Usually no scars are left.

Treatment should be preventive. No treatment will completely abort the blisters, once they start to appear. The old stand-by, camphor liniment, usually fails absolutely. Clearing the stomach by the fast and copious water drinking, and warm enemas, usually will shorten the course. Avoid irritation of the vesicles. The later diet is to be simple and should be continued indefinitely.

FIBROMA

A fibroma is a growth of connective tissue and is situated in the true skin and subcutaneous tissues. These new growths may be soft or firm, and from a split pea to an egg in size. They are painless, and commonly occur in numbers over the body. They often become pendulous, in which case there may be ulceration. The skin appears stretched, but may be hypertrophied or atrophied. Transient fibroma occasionally develops during pregnancy. Aside from a hereditary predisposition the cause is unknown. They are best prevented, as no cure is known; but one cannot work specifically toward prevention,

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since it is not known what sins of omission or of commission are responsible for the condition.

FISHSKIN DISEASE

This disease, medically called ichthyosis, also xeroderma, is one of the skin hypertrophies, being a chronic congenital disease of the skin characterized by a roughness, dryness and scalliness, with hypertrophy of the papillæ. The skin appears more or less like that of scaly fishes. It usually is detected in early childhood. Ichthyosis hystrix is the term applied when the ichthyosis is extreme, with marked hypertrophy of the papillæ. The usual locations or those most affected are the extensor surfaces of the extremities. The disease is considered incurable, but treatment may be given for relief. Frequent hot baths will be valuable, being similar in effect to a hot climate, which relieves the trouble; but usually the cold bath should follow the hot bath for preserving skin tone. A hot water bath with soft soap and a good flesh brush will help get rid of the scales, but should be followed by cold alone, lubricant alone, or cold bath and then a lubricant, which latter should be rubbed well into the skin. Cod-liver oil is an excellent inunction. Pure glycerine also is excellent, and may be lightly rubbed on after the bath or added to the bath water (six to eight ounces to each bath). One or two cupfuls of baking soda may be added to the bath instead. Start at three baths a week and gradually reduce to one a week as the skin condition improves. The diet should be natural, and free from salt and other spices and condiments. Cod-liver oil should

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be added to the diet. Nude sun baths followed by brief cold baths should be of considerable benefit in most cases. (See also Chapter VI.)

FRECKLES

The medical term for freckles is lentigo. It is a condition of pigmentation in small spots of irregular shape affecting blondes more often than brunettes, and is usually excited by exposure to the sun's rays; hence appearing mainly upon exposed surfaces. The spots usually appear in the summer, and fade partially or completely after summer has passed. They vary in color from fawn-colored to light yellow to brown. They do not constitute a disease, being merely what their possessors consider a disfigurement. Their exact cause is not known, though there is some inherited predisposition. What it is that permits one skin to tan and that allows another to become spotted with freckles is not known. Prevention is the only fully effective treatment of freckles, but such is not satisfactory because it necessitates depriving oneself of the sunlight and fresh air in sufficient amounts for best health. However, avoidance of the direct rays of the sun by wearing broad-brimmed hats and gloves and carrying sun umbrellas will help. These should be red or orange in color. Wearing a red veil will keep freckles from the face. Various preparations are used to remove freckles by scaling the skin and removing the pigment cells. But the freckles will return, for the preparations are not curative. Their effect upon the skin is injurious, and for this reason they should be avoided. The average case of

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freckles is so slight that it well might be given no consideration.

FROSTBITE

This is a local condition of the skin and deeper structures resulting from prolonged exposure to cold. The three degrees of frostbite are mere redness or erythema, blistering, and gangrene. Chilblain is a first-degree frostbite. This is taken up in its proper alphabetical place in this book. The fingers, being small and far from the circulatory centers, are frostbitten more often than any other parts, except the ears and nose. Second-degree frostbites show much swelling and lividity, with blister formation and ulceration. Even the surrounding tissues usually are considerably inflamed.

Third-degree frostbites produce pallor of the parts, which lose their sense of feeling, though sometimes there is agonizing pain in the parts above. The affected part becomes cold, swollen and puffy, then discolored and shriveled, with the formation of the typical line of separation between gangrenous and nongangrenous tissue produced by a protective inflammatory wall.

Poor circulation, with poor tone of the blood vessels, predisposes to frostbite. Addiction to alcohol is likely to make one susceptible to these local freezings.

Cold always has been considered the best remedy for frostbite, rubbing the part either with ice water or snow in a cold room the temperature of which is very gradually raised. Sudden application of warmth causes severe inflammation. Wrapping in

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flannel is advisable after warmth returns to the part, but there must be no external application of heat. Blisters usually should be evacuated. Elevation of the part is relieving when there is marked inflammation. Exercise of the adjacent joints may be of service, conducted with the extremity elevated or held high when there is no evidence of death of tissues. Second- and third-degree freezing are to be cared for by a physician or surgeon when possible. (See Chilblains.)

GANGRENE

Gangrene means mortification or death in mass of a visible part of the body. The causes include everything which deprives a part of its blood supply or that directly kills its cells. *Idiopathic gangrene* arises from internal causes, such as old age, arterial disease, diabetes, Raynaud's disease, and chronic ergot poisoning. *Traumatic gangrene* arises from injury sufficient to kill the cells or tissues directly, or so to interfere with local blood supply as to have the same result (burns, frostbite, blows, caustics, and continued pressure). *Infective gangrene* is supposed to be due to bacterial infection (boils and carbuncles being minor instances; hospital gangrene formerly was the most serious form).

Diabetic Gangrene. This is an ailment of localized patches of gangrene in advanced sugar diabetes, starting with a blister whose later crust is thrown off with the dead skin beneath, leaving a raw ulcer. It occurs most frequently in the middle of the extremities, as on the calf. The senile or pre-senile arteriosclerosis renders the tissues liable

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to infection; it is due to this condition rather than to the diabetes itself.

Symmetric Gangrene (Raynaud's disease). This is due to a local arterial anemia producing oxygen starvation of the part and resulting in gangrene. It occurs at circulation extremities, especially in the fingers and toes. The parts become pale and cold at first, generally preceded by pains and abnormal sensations. Soon the skin becomes livid, then blue, swelling takes place, and gangrene develops; the gangrenous tissues are sloughed off, leaving a wound. From the livid stage recovery may take place, but relapses are common in such cases. Symmetric parts of the body usually are affected. The disease is more common in neurotic individuals, especially women before the age of 30 and in children of any age.

The treatment of gangrene should be in the hands of a physician. Gangrene often is deforming, probably demanding surgical mutilation. The best treatment is prevention, by keeping the circulation normal. In old age especially, enfeebled circulation makes gangrene very liable from very slight injuries. If there are signs of gangrene this condition may be avoided, or the area involved kept restricted, by keeping the affected extremity in a hot-air bath, preferably made by arranging a few electric light bulbs inside a suitable canopy or other support. Wrapping the part in cotton wool after dusting the sore with boric acid, and then placing hot water bottles at each side of the limb, is a simple means of keeping heat to the part and improving circulation.

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GLANDS OF THE SKIN

The glands of the skin are subject to various alterations from normal functioning which often cause considerable annoyance and discomfort. They usually are symptomatic—accompanying some other disease. The cure in such cases depends upon cure of the primary trouble. See Oil Ducts, Affections of; and Sweat Glands, Affections of.

GLOSSY SKIN

This is a rare disease, called atrophoderma neuriticum, and is due to nutritional changes in the skin resulting from injury to the nerves of the part affected, which usually is the fingers. One or more fingers (or toes) become smooth and glossy, any hair on them is lost, and they appear “blotched as if by chilblains.” The normal skin lines are obliterated. There are local burning pain and neuralgia. The nails also may undergo nutritional changes. Treatment is improvement of nutrition, circulation and nerve tone, general and local.

GOOSE FLESH

Goose skin (horripilation, *cutis anserina*) is merely a papillary condition of the skin resulting from a contraction of the muscles of the hair follicles producing small elevations in the skin. At the same time the hairs in the affected part “stand on end.” Cold or emotions, especially fear, may be the cause. Neurasthenics and hysterics perhaps are more subject than others to goose flesh, but anyone will have it at certain times, especially as a result of chilling. Usually the reflex is manifested in a

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limited area of the skin, though it may creep over one area while leaving another. There is no particular significance to the condition, and it requires no special consideration.

GRAY HAIR

The medical term for whitening of the hair is canities (can-ish'e-ēz). Canities is one of the atrophies, commonly considered normal in advanced life (canities senilis). Canities prematura is grayness occurring in early adult life or in adolescence. The congenital form is found in albinos. Canities may occur in spots or patches, or it may involve all the hair of the head or body, and the discoloration may be partial or complete. It is due to loss of pigment in the hair, and usually takes place slowly, though sometimes, as a result of fright, fear or shock or of organic nervous disease, it may occur within even a few hours or overnight. Internal disturbances that cause baldness may cause grayness also. After development it usually remains. Occasionally the hair returns to its original color or to some other dark color. No cure is known; but supplying the body with every factor necessary for health and normal physiological functioning, including natural foods, sunlight and fresh air, will help postpone development of gray hairs. Hair dyes are so inclined to produce disturbing symptoms, perhaps serious dermatoses, that it never is advisable to employ stains to restore the hair color.

HAIR TROUBLES

While the hair is one of the appendages of the skin, there is too much to be said about its care and

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preservation and about the removal or prevention of the troubles to which it is susceptible to permit a discussion of such subjects in a book devoted mainly to the skin proper. Dry and oily hair, brittle hair, splitting of the hair, and falling hair, as well as other disturbances cannot be taken up in detail here. Accordingly I refer my readers to my book "Hair Culture" for advice on the hair and its care. However, see Baldness, in this chapter.

HARD SKIN (SCLERODERMA)

Hardness or harshness of the skin may be in any degree from barely noticeable to fishskin disease, already considered, or scleroderma, immediately following. There is no medical term for a slight degree of roughness and scaliness. A real scleroderma is rare, but many people have harsh scaling skins, due to deficiency of oil. It is mainly the oil, the elastic connective tissue fibers, and the cementing substance that holds these fibers together that give the skin its texture, elasticity and softness, with the oil being the most important regarding softness. The usual causes of skin harshness are lack of sufficient and proper skin care. The average person is highly toxic, also is guilty of smothering the skin, taking too few or too hot and relaxing baths, using strong and irritating soaps, and hiding the skin perpetually from the sunlight and air. These conditions suppress or reduce skin activity, or else overstimulate it for a while but eventually result in lessened activity, by skin exhaustion or lowered tone. See the chapter on general care of the skin for correction of this disorder.

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Scleroderma. This is a rigid, pigmented atrophic skin condition occurring in patches or fairly generally over the body, the cause of which is unknown. It may develop quite suddenly, or during many months or years. It may be preceded or accompanied by abnormal sensations in the skin. In time the skin becomes tense, hard and fixed to the structures beneath it so that it cannot be pinched up, (hidebound) with a "feel" like wood or leather or frozen skin. Yellowish or brownish discolorations usually occur. The skin is very smooth and dry, sometimes shiny. It may render joints more or less immobile. A few cases recover spontaneously after a long time, but most cases persist, sometimes making the patient helpless. Treatment should be general, with massage, friction, ointments and sunlight.

Sclerema of the Newborn (scleroderma neonatorum) is a rare disease that occurs shortly after birth, sometimes as late as the sixth month. It spreads rapidly from the lower limbs over the trunk, arms and face, the infant having the appearance of being frozen. It occurs chiefly in premature infants, but also in feeble full-term babies and those whose circulation in the skin capillaries is faulty. Often it follows an "infectious diarrhea," and is observed in summer more than in other seasons. Very likely the loss of vast amounts of body fluid, through the bowels and at first through the skin, is partly or largely responsible for its development. Weight is rapidly lost, and death may take place within eight to ten days, though spontaneous recovery takes place in some cases.

The baby must be kept warm, as in an incubator

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or by means of hot water bottles, with plenty of warmed fresh air and aiding the circulation by light friction stroking toward the heart, with warm oils used on the hands. The child usually must be fed through a flexible tube through the nose or by nourishing enemas for the first few weeks.

Limited or Circumscribed Scleroderma, called generally morphea, also Addison's keloid, is one of the skin atrophies. It is characterized by limited rounded, ivory-like patches of various sizes, surrounded by hyperemic or pigmented borders. The patches are firm, but not hard. They sometimes undergo spontaneous reduction, at other times they undergo atrophy, leaving the skin thinned and shriveled and bound to the tissues beneath. Subjective symptoms are slight or absent. Joint motion may be interfered with when the atrophy is near or about joints. Treatment is as for scleroderma.

White-Spot Disease. This condition is characterized by few or many pea-sized or larger chalk-white patches on the chest, neck and back. Sometimes the patches are atrophied. It is thought that this disease is merely morphea alba or morphea atrophica.

HERPES

By this term is meant "an eruption of deep-seated vesicles" on a red base. There are two distinct forms: herpes simplex and herpes zoster.

Herpes Simplex. This form includes herpes facialis (see fever blisters, the usual form) and herpes pro genitalis (of the genitals, also called herpes genitalis and herpes preputialis). The ap-

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pearance of the lesions of herpes simplex, wherever it may appear, is the same as that of fever blisters. Boric acid solution is beneficial in any herpes. Thorough cleanliness is necessary, particularly of herpes of the genitals.

Herpes Zoster (shingles, zoster, zona, cingulum). This is an acute inflammatory disease characterized by groups of vesicles, on inflamed bases, along the lines of nerve distribution in the skin, and associated with neuralgic pains. It constitutes from one to one and one-half per cent of all skin diseases. The causes are injury, exposure to cold, protracted dampness, and neuritis of the superficial nerves—plus toxemia and debility.

The vesicles appear in clusters, upon any part of the body though usually over the intercostal nerves (between the ribs) of one side only. Stinging pains of a neuralgic nature precede or accompany the eruption of vesicles. The disease is self-limited, but the vesicles dry up after one or two weeks, instead of rupturing. Crusts form, drop off, leaving no trace unless scratching had irritated the vesicles. A neuralgia of abnormal sensations may linger for months, sometimes for years, when the health is not restored.

The important treatment requirements are rest in bed; reduction of toxemia by fasts or diet and enemas; reducing the irritation of the spinal nerves by hot compresses, electric light radiations, electric heating pad, massage, naprapathic, osteopathic or other suitable spinal treatments; and relieving the pain. Taking care of the first three requirements usually will take care of the fourth. If not, the

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affected areas may be gently mopped with full strength (95%) alcohol if obtainable; or Carron oil, limewater, or ten grains of menthol to the ounce of alcohol or water may be used every three hours or so with good results. The vesicles should be protected from rupturing—covered with two or three thicknesses of gauze or a thin layer of absorbent cotton after dusting them with boric acid or borated talcum or equal parts of starch and borated talcum. Sometimes collodion (“new skin”) may be painted over the vesicles both to prevent their rupture and to lessen pain.

HIVES

In Great Britain the term hives is applied to croup, laryngitis, and chicken pox. But in America the term is confined to urticaria, or nettle rash, which is a transitory disorder of the skin characterized by short-lasting elevations that itch intensely.

Many cases are the result of digestive disorders, either a mechanical irritation in the digestive tract or a toxemia. Many others are caused by drugs—coal-tar products, quinine, chloral, copaiba, cubebs, turpentine, morphine, and salicylic acid. Certain foods often cause hives in susceptible individuals—strawberries, mushrooms, oatmeal, nuts, lobsters, crabs, mussels, cheese, sausage and other products of pork. The bites of bedbugs, mosquitoes and caterpillars may produce the disease. Irritations of the uterus or associate structures often are causative factors, as is emotional excitement.

Usually the eruptions appear suddenly, as firm,

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well-defined, whitish or pinkish elevations called wheals, each wheal surrounded by a red area. They may appear locally or generally. Itching is intense. It is relieved by scratching, which results in new wheals. Individual hives usually last but a few hours, but each attack of urticaria usually lasts a few days, new eruptions appearing as others subside. Occasionally a state of chronic hives develops.

Treatment consists of removing or avoiding the cause, if determined. As the cause usually is irritation within the alimentary tract, it frequently is important to institute the fast at once, but providing plenty of water, especially hot. Very early in acute cases vomiting will prove somewhat abortive. Any safe means of producing vomiting may be used, but the best is drinking from two to four glasses of warm water, with or without salt, then tickling the throat. Hives is one condition where a saline laxative (Epsom salts or Rochelle salts) is perfectly permissible, since the bowels should be cleared entirely and since eating should not be resumed until after the digestive tract has had time to recover its tone following the laxative—a fast of at least 36 to 72 hours being advisable. In many cases fairly hot enemas, repeated immediately, will make laxatives unnecessary, but two or three enemas should be taken the first day and perhaps the second day. Limewater or hot water with washing soda (sal soda) dabbed over the affected part upon retiring usually will lessen the itching. Sometimes a warm bath agrees better. One-half to one ounce of hydrochloric acid to each gallon of water in a bathtub makes a very soothing bath.

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Pigmenting Hives (*urticaria pigmentosa*). This is a rare form of hives found in young children usually during the first six months of life. It consists of eruptions of wheals like nodules, buff-colored, itchy and persistent. When they gradually disappear they leave behind yellowish or brownish pigmented atrophic spots. This is a chronic disease, running a course of months or years, though very likely internal medication and improper feeding and general care have something to do with its duration.

HORNY SKIN

Cornu Cutaneum (cutaneous horn) is the name given to horny formations on the skin due to hypertrophy of the epidermis. The face, scalp and penis are the usual locations, and the formations usually develop in old age. The projections are conical and tapering, and are more likely to be curved or twisted than straight, generally under one-half inch in length though horns a foot long have developed. There is pain only upon injury. Surgical removal followed by cauterization is the usual treatment. Suitable treatment is to trim the growth as close to the skin as possible. With a matchstick or toothpick, apply 40 per cent formaldehyde, being careful not to touch normal skin. Apply every three to six hours for two or three days then soak the part in hot water, when a part of the growth may be removed. Repeating the process a few times ordinarily will remove the growth completely and it will be unlikely to recur.

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HYPERTROPHIES OF THE SKIN

An hypertrophy is an abnormal increase in the size of a part or an organ due to increase in *size* of the cells. When the increase is due to increase in *number* of cells this is called hyperplasia. Usually both appear together. Physiological hypertrophy is normal—as in the pregnant uterus, a muscle, or the heart enlarged by exercise. Pathological hypertrophy is due to disease, either local or elsewhere in the body, such as by toxins or congestion. Corns and calluses are hypertrophies due to intermittent pressure. There are a number of skin hypertrophies. These are considered in this chapter alphabetically under the popular names by which they are known. Those discussed in this volume are: Blackheads, Calluses, Corns, Elephantiasis, Enlarged Nail (Onychauxis), Fishskin Disease, Freckles, Horny Skin, Keratosis, Liver Spots, Miliun, Moles, Moth Patches, Warts, and Wens.

HYSTERICAL DERMATOSES

Some hysterical people are so hyperirritable so far as nerves and muscles of circulation are concerned that very slight skin irritation causes such contractions of blood vessels as to cause asphyxiation and destruction of tissue. The skin frequently reacts excessively to external irritants. Hysteria combined with a nutritional or vasomotor disturbance doubtless causes many skin disorders, though of course many supposed-to-be real skin diseases have been artificially produced. Hysterical dermatoses develop quickly, and many of them clear up

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quickly when the mental or nervous cause is corrected. Among possible hysterical dermatoses are acne, hives, dermatographia, erythema, psoriasis, and black-and-blue spots. See Feigned Eruptions.

ITCH

The term itch has different meanings. Usually it is used to designate the indescribable subjective symptom that creates the impulse to scratch the part (called *pruritis*). Itch also means Scabies—the “seven-year itch,” which is considered in the following chapter. Again, itch is applied loosely to any skin condition that has no definite lesion but that has as a prominent symptom intense itching or *pruritis*.

Itching is a symptom, not a disease. There usually is a more or less definite sensation, but tickling, crawling, prickling and tingling all may be called itching. An itch without apparent lesions is called essential or *idiopathic pruritis*. Itching in a disease usually is paroxysmal and worse at night. The skin may be injured from scratching itching areas.

Itching may be local or general. Local itching is named after the locations, as: *pruritus ani*, itching of the anus; *pruritus vulvæ*, of the vulva; *pruritus scroti*, of the scrotum. In the aged, as a result of degenerative skin changes, it is called *pruritus senilis*. Winter itch occurs in cold weather and is called *pruritus hiemalis*; as it occurs frequently in lumbermen it also is called Lumberman's itch. It is due to dryness and brittleness of the skin. *Bath pruritus* or bath itch results (mainly in young adults) from contact with either cold or hot water, more

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often hot water, especially when used too often. *Baker's itch* is less common now since most bakers use mechanical dough mixers. *Washerwoman's itch* is an eczema-like eruption on hands and arms when more or less constantly immersed in soapsuds. (See Eczematoid Ringworm, next chapter.)

Generalized itch is met with in Bright's disease, diabetes, affections of the liver, jaundice, digestive disorders, nervous affections, gout, uterine and ovarian diseases, pregnancy in women in poor health, old age, and after the use of certain drugs, and is called *symptomatic pruritus*. *Pruritus vulvæ* usually is produced by acid secretions of the vagina, but also frequently accompanies diabetes. *Pruritus ani* may be caused by seat worms (pinworms), gout, constipation, piles, fissures, and by constitutional disorders. In gout is frequently observed pruritus of the hands and feet, with profuse sweating of these parts.

Nervous Itch. This itch is more likely to come on during quiet—as in theaters, churches, parlors, offices, at sewing, etc. It often is impossible for some people to remain long at any pleasure or duty that necessitates quiet. Any part of the body may be affected, scalp, face, extremities, back, chest; sometimes it is general. Among the causes are loss of sleep, mental, emotional or physical stress, sexual excesses; lack of sufficient exercise; masturbation especially in youths and men, for this extracts a very essential combination of nerve-feeding elements, causes some degree of anemia, and disturbs other glands of internal secretion. A diet too “heavy” is a frequent cause; constipation is another.

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Usually there is a pronounced toxemia, especially intestinal. The prevention and cure of "nervous itch" lies in avoiding or removing the causes mentioned—elimination, more rest in every way, more normal physical exercise, proper tonic baths, etc.

Summer Itch (*pruritus æstivalis*) is an itch occurring in hot weather. Most often it is associated with prickly heat, then being called *prurigo æstivalis*.

Barber's Itch—See Sycosis.

IMPETIGO

See Scrum Pox.

JAUNDICE

See Pigmentations.

KELOID

A keloid (*cheloid*, *kelis*, Alibert's keloid) is a new growth of connective tissue of the corium, usually resulting from injury, sometimes occurring spontaneously. The colored race is particularly susceptible. Certain families seem to be especially predisposed. It begins as a pea-sized nodule, slowly enlarging and extending clawlike processes (its resemblance to a crab gave it the name keloid). It may reach the size of a hand. It is firm and elastic, sharply defined, slightly elevated, firmly implanted in the skin and shining and pinkish or reddish in tone. Favorable locations are the back and chest. The growth usually returns after removal, perhaps developing larger and faster than before.

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Spontaneous keloid, developing upon a normal skin, is of obscure origin but probably is due to irritation plus toxemia. *False keloid* (cicatricial or scar keloid) arises at the site of cuts, burns, wounds, bites, smallpox and acne lesions, usually arising directly from the scars. Spontaneous shrinkage and return of skin to normal often occurs in any keloid case, but frequently it lasts throughout life, returning when removed surgically. Ultra-violet ray treatment, with constitutional measures, will prevent the growth or its increase, and frequently will reduce the growth.

KERATOSIS

Keratosis means any disease of the epidermal layer of the skin, but specifically the term is applied to diseases having localized overgrowths of the horny layer.

Follicular Keratosis. This rare disease is a hypertrophic affection of the oil glands at the hair roots. Small dark papules become embedded in the follicles, and frequently are crowned with horny projections which, upon removal, leave pits. They usually appear on the scalp, face, chest, loins and inguinal region, chiefly of men. The disease is chronic and progressive. The general health is not disturbed, though subjective symptoms may be disturbing. Improvement has been observed by use of x-rays, cautery or electricity. We should expect it to make favorable progress under properly directed natural treatment.

Contagious Follicular Keratosis. This is considered to be the contagious form of the above. It

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is generally a disease of childhood, but also appears in adults. Several members of a family may be affected simultaneously. It begins as small black points that spread from the elbows and knees practically over the entire body. Papules develop around the black points and often become inflamed. It should respond quickly to natural treatment.

Keratosis of the Hair Follicles (keratosis pilaris, lichen pilaris). This is the development of small papules due to hypertrophy of the outer skin at the mouth of hair follicles, usually resulting from infrequent or inadequate bathing. Dirty-gray pin-head elevations, each pierced by a hair, develop, usually upon the extensor surfaces of the arms and legs. They have the appearance of goose flesh, in mild cases. The skin feels like a nutmeg grater to the touch. Itching is slight if at all. The disease develops in some degree in most people. It does not affect the general health. Adequate bathing with a good grade of soap, and the use of a good flesh brush and friction upon drying, usually are all the "treatment" required.

LEPROSY

This is a chronic disease having tubercular lesions, ulcerations, skin atrophy, abnormal skin sensations, and variations in pigmentation. It is considered contagious, transmission being by direct contact only. There may be the various fever symptoms, with pains in the bones, long before the actual disease makes its appearance. There are two forms, both of which may exist at the same time.

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Tubercular Leprosy. This begins as yellow, red or brown patches upon the face, extremities or genitals, these becoming hyperesthetic and developing tubercles. The nodules cause great disfigurement. They may break down and leave ulcers. The various features may become inflamed and distorted, the face often being lionlike. Most lepers die of some other affection before the leprosy has run its complete course.

Anesthetic Leprosy. Frequently this form is preceded by itching, neuralgic pains and excessive sensibility. Then occur irregular blebs or blisters, which rupture; or bluish red or bluish spots develop. Gradually loss of sensation in these spots takes place, which anesthesia may spread over normal areas. The skin atrophies, bones are destroyed (without pain), and paralysis often follows. The disease lasts for many years.

Leprosy is said to be due to the *bacillus lepræ*, but it undoubtedly results from toxemia. Many cases recover spontaneously. It may leave the body entirely after many years, but the body is horribly mutilated. Among the diseases from which the patient may die are pneumonia, tuberculosis, exhaustive diarrhea, cerebral degeneration, and kidney disease.

The treatment consists of the most complete cleanliness the patient's strength will permit. From one to three baths daily, at from 113 to 122 degrees, for a month or longer are excellent. Warm sea bathing is helpful, then open-sea bathing after the scales have been removed. "Forced feeding" is inadvisable, though the diet should be nutritious

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and highly eliminative, with occasional fasts. Internal cleanliness is essential, as these cases are filthy inside. Tonics are supposed to be desirable, but none are necessary in the vital economy in health and they cannot be specific or essential in the cure of this disease. (See also Chapter VI.)

LEUCODERMA

See White Skin.

LIPS, CHAPPED AND CRACKED

Cracking of the lips is frequently a source of considerable annoyance, not to say pain and embarrassment to many people. In many cases it lasts throughout all the cool months of the year. The crack may be in the middle, on one side, or at the corner of the lips, and may be quite deep. There may be no scar, but sometimes a well-marked scar develops. Usually the entire skin is dry. Sometimes diarrhea helps to cause it, in other cases constipation. Fats often are insufficiently supplied, digested or assimilated. The entire diet may be inadequate, or very unbalanced. Exposures to cold, especially cold winds, is a frequent cause, especially when alternated with exposure to superheated and dry room atmosphere.

To correct the trouble, see that the diet is well balanced; mastication thorough; bowel action normal; avoid very hot or cold baths; use warm or cool water for facial baths, avoiding friction; and use nightly, and several times during the day if convenient, an application of cold cream, olive oil, sweet

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cream, unsalted butter, or camphorated ice. Try to avoid stretching the lip in order that healing may take place without interference. In some cases strips of court plaster may aid in holding the lip immobile for healing.

LICHEN

Lichen is a term (meaning tetter-like eruption) applied to any papular skin eruption, but now usually denoting the form known as lichen planus.

Lichen Planus. This is an inflammatory dermatosis, not very common, characterized by development on the extremities of small, flat, angular, shining, bluish red papules, scattered or bunched, later becoming covered with fine white scales. There is slight to moderate itching, but no health impairment. New lesions appear as old lesions vanish. It develops usually in middle-aged males who are undernourished, or neurasthenic, also from digestive disturbances and nervous shock. Treatment is general, as in Chapter VI.

Scrofulous Lichen (lichen scrofulosus). This is a chronic dermatosis appearing in some scrofulous individuals, especially children, and characterized by small conical scaly papules, usually forming in clusters. The color fades from pale-red or salmon-colored to normal skin color, with slight pigmentation remaining. They are usually on the trunk, sometimes spreading to the neck, thighs and arms. There are no subjective symptoms. Aside from general care for improving the health, there should be sun baths, and the skin should be oiled with olive

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oil or sweet oil, and cod-liver oil should be administered internally.

LIVER SPOTS

Liver spots or moth patches, called medically chloasma, are a source of much concern and worry to many people, especially women. These spots are yellowish, brownish or blackish pigmented patches of various sizes and shapes. They occur chiefly upon the face. Formerly all "moth patches" or pigmentations in patches were ascribed to liver disorders, hence the term "liver spots." They have nothing to do with such disorders. Pigmentation resulting from liver diseases usually is somewhat general, not in sharply outlined spots.

Chloasma of External Origin (idiopathic chloasma) includes pigmentations from local irritations, such as blisters, friction, mustard plasters, the sun's rays, pressure, etc.

Chloasma of Internal Origin (symptomatic chloasma) is the more typical form and the one that concerns the most people. It is due to Addison's disease (of the suprarenal glands), tuberculosis, cancer, malaria, and pregnancy, the last condition producing *chloasma uterinum*—yellowish or brownish patches usually about the eyelids and forehead; they also are associated with diseases of the ovaries and uterus. *Argyria* is a permanent bluish gray or slate-colored discoloration due to prolonged use of silver. Arsenic produces a diffuse brownish discoloration. Apart from the discoloration the skin in these various conditions is normal.

The possibility of cure depends upon ability to

SKIN TROUBLES

remove the cause. Except for hydrogen peroxide as a local bleach, which is of service sometimes, local applications are valueless.

LUPUS

See Tuberculosis of the Skin.

MILIUM

Milium (grutum) is a functional disorder of the oil glands, having small, round, yellowish or pearl-white, noninflamed elevations in the skin. It is due to the retention and hardening of the oil secretion in the oil gland ducts, the outlets of which have become closed. It often develops under scars. The elevations are about the size of millet seed, hence the name. They feel gritty to touch, hence the name grutum (grit).

The elevations appear chiefly on the face. Their contents cannot be squeezed out until an opening is made, which is different from a blackhead, though blackheads and acne are frequently associated with them. In infants cleanliness is all that is required, for a cure and for prevention. In adults cleanliness will usually prevent them, but the lesions may require puncturing and squeezing out of the contents.

MOLE (NEVUS PIGMENTOSA)

A mole is a pigmented-raised spot in the skin, often covered with hair. The medical term for it is nevus (meaning birthmark), though this term means more than moles. Moles usually are con-

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genital. They vary from the size of a pinhead to as large as a hand, even larger. They are usually found on the face, neck and trunk. There may be one or many. The color ranges from yellow to black. *Nevus spilus* is a smooth mole; *nevus pilosus*, is a mole covered with hair; *nevus verrucosus*, when wartlike; *nevus lipomatosus*, when composed largely of fat and connective tissue; *nevus maternus*, a congenital birthmark.

These small growths (moles) and discolorations (birthmarks) are not removable by any natural means except in early infancy (see Chapter VI). They rarely cause trouble. Unless prominent or in some location where they will be subject to frequent injury they should be left undisturbed. They can be removed by electric needle or knife if desired.

MOTH PATCHES

See Liver Spots.

MOTTLED SKIN

Dapple-skin or marbleization (*cutis marmorata*, *livido reticularis*) is a condition of spotting with patches of varying size, shape and shade made possible by the network arrangement of the small blood vessels in the corium, and due to contraction of these vessels. In many people it is normal, especially when chilled. It sometimes appears only after prolonged exposure to cold. In early stages of Raynaud's disease it is quite common, and often in very pronounced form. It accompanies some nervous disorders. Usually, however, it is transient, due

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solely to chilling. It is a constant condition during the first few months in many infants. Any part or all parts of the body may be mottled. The colors vary from light and purplish blue to deep pink, there being a difference of several shades of color between the meshwork of vessels and the skin in the meshes. The condition needs no direct attention, but if due to some abnormal general condition this should be corrected. When due to sluggish circulation cool or cold tonic baths and not too vigorous friction, along with a suitable diet and habits in general, may overcome the condition.

THE NAILS

In our brief study of the anatomy of the skin we found that the nails are appendages of—outgrowths from—the skin. Though quite hard, they are subject to affections of the nail-bed and matrix to which they are closely adherent, and they respond to the nature of nutrition derived from these parts. There are not many affections of the nails that require special attention.

Atrophy of the Nails (*atrophia unguis*). In the congenital form the nail may be absent, defective or distorted from birth. The acquired form is more common. The nails become thin, narrowed, furrowed, crumbly and distorted, and lose their transparency. This atrophy develops in syphilis, injuries to the nerves or spinal cord, prolonged fever diseases, psoriasis, eczema, and ringworm. Hereditary shedding of the nails at more or less definite intervals is called *onychoptosis*. The shed nails may be normal or deformed.

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Contusion of the Nail is a very painful affection for several minutes or even a few hours, owing to the limited space for the escaping blood. If the matrix is considerably damaged the nail most likely will be shed; otherwise only the bruised portion is apt to be lost; and if the bruise and resulting "blood blister" are small there may be no loss, the discoloration remaining until the nail grows out beyond this point. A blood blister cannot be prevented from forming after a causative injury, nor can the blood be removed without mutilation of the nail. Piercing the nail will relieve pain and let the collected blood escape, but the hole will remain until the nail grows out again.

Hypertrophy of the Nails (*onychauxis*, *hyperonychia*). This is an enlargement of the nail, either in length, breadth or thickness, or any combination of these. The nail of the great toe is especially liable to hypertrophy, also marked darkening. The condition may be primary, or secondary as in fish-skin disease. Through overgrowth on the sides it may cause inflammation in these surrounding tissues, called *paronychia* (see Whitlow, below). The matrix may become inflamed (*onychia*), from the hypertrophy or from other cause.

White-spotted Nails (*leuconychia*, or *leucopathia unguium*). White areas on the nails are very familiar, and sometimes occasion mental distress. The spots rarely are general. They seem to be due in some manner to slight injury, and often appear shortly after manicuring, where instruments slightly injure the nail-bed, and, especially, the matrix. It is supposed that the normal process of change to a

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horny substance has been interfered with. Illness and defective nutrition seem to have some causative effect, also. The best "treatment" is using care to avoid causative injuries, as the spots cannot be removed once they have formed.

Whitlow or Felon (panaris). These terms apply to inflammation of the bone or bone covering, but as correctly apply to inflammation of the structures about the nail (paronychia), which usually is associated with inflammation of the nail matrix (onychia). Syphilis is supposed to be the cause of onychia, but injury is a frequent cause. It is common in washwomen and scrubwomen. It occurs also in diabetes (a form of diabetic gangrene), and from toxic agents (arsenic, for instance), and nutritional disturbance (as in such neuroses as Raynaud's disease, leprosy, glossy skin, and others). In whitlow are acute inflammation, redness, swelling, and agonizing throbbing pain. Pus is formed and burrows around and under the nail. The nail may become thickened and discolored, and in time sheds. The new nail may be normal, but often it is deformed.

Chronic Onychia and Paronychia is the result of a low-grade inflammation, developing often in those who are obliged to keep the hands more or less constantly in water. One or several fingers may be involved. There are only slight redness and swelling, little pain, and no pus. Unless successfully treated the nails become very deformed.

Splitting of the Nails (onychorrhaxis) usually is due to defective general and local nutrition, or to too constant use of the hands in water.

Favus, ringworm, warts, eczema, and psoriasis

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of the nails are not uncommon, but they do not require special treatment on account of location.

Hangnail (agnail is the proper term) is a flap of flesh at the base or side of a nail, due merely to failure to keep the nail fold pushed back from the nail body. This thinned and widened strip of flesh, which adheres to and is carried forward by the nail, becomes separated from the nail, splits in strips or becomes frayed. These strips are the "hangnails." Cutting the nail folds with scissors has the same effect, because the normal selvage of the nail fold has been removed and the edge, then without its normal "binding," easily becomes frayed. The proper treatment is one of prevention—regularly pushing the flesh back from the nail when it is softened from bathing, by wash cloth, nail brush, towel, fingers, or orange-wood stick. The hangnail may be lightly trimmed, then care taken to prevent further adherence of the flesh to the nail; but the part must be kept clean, and care taken to avoid cutting into the blood-filled flesh.

In treating nail disorders, the conditions to which they are secondary must receive chief consideration, though local treatment will help, also proper nail care will prevent many disorders. In onychia and paronychia, local baths as hot as can be borne usually will quickly arrest the process or hasten a cure. Any method of keeping heat to the part will be satisfactory. Pus may need to be evacuated, after which peroxide of hydrogen applied to the cavity will be advisable. Packing cotton between the nail and nail walls will give much relief, but the embedded portion of the nail may first require cutting away.

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In atrophy of the nail, painting with flexible colloidion will protect it and give some relief. Hypertrophied nails may need to be filed or sawed down. Whenever possible, however, the underlying cause or causes must be treated before any permanent correction will be secured.

NEUROSES OF THE SKIN

Skin neuroses is a term applied to affections of the nerves of the skin, without any apparent or discoverable change in their structure. These affections almost always are secondary to some other disease (symptomatic), to be cured by curing the primary disease.

Anesthesia is a total loss of sensation and feeling in the skin, usually limited in area, and due to functional and organic diseases of the nervous system. Diminished sensation is called *hypesthesia*.

Hemianesthesia is loss of feeling in the skin on one side of the body, due to brain and cord lesions and hysteria. *Paranesthesia* is an anesthesia of corresponding parts on each side, resulting from hysteria, organic cord disease, or neuritis. *Analgesia* is loss of sensibility to pain, yet pain may appear spontaneously. *Thermoanesthesia* is a loss of temperature sense, or loss of inability to distinguish between heat and cold.

Hyperesthesia is increased sensibility in the skin, occurring in various functional and organic diseases of the nervous system. *Paresthesia* is applied to various abnormal and usually disagreeable subjective sensations (burning, creeping, itching, numbness, prickling, tingling, etc.). It occurs in diseases

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or injuries of the nervous system and in skin disease and toxemia. In locomotor ataxia the girdle sensation (zonesthesia), or feeling as if a band or cord were constricting the abdomen, often is felt. In this disease also occur *lightning pains*—sharp shooting pains usually in the extremities.

Dermatalgia or neuralgia of the skin is paroxysms of pain, usually severe, traveling along nerve routes. It occurs mainly in women, and is usually confined to small areas, particularly the hairy regions. It is due to various causes, such as fatigue, exposure, sexual weakness, disease or excesses, anemia, and toxemia. *Causalgia* is the severe burning pain often present in glossy skin.

Pruritus is a functional affection, yet it usually is not classed with the neuroses. It is considered in its alphabetical location in this chapter.

OIL DUCTS, AFFECTIONS OF

Seborrhea is the term applied to an increase, decrease, or alteration in the secretion of the oil ducts of the skin. There are two forms:

Seborrhea Oleosa, or excessive oiliness of the skin, which usually occurs upon the face, particularly the forehead, cheeks and nose. The duct mouths become enlarged, often the superficial blood vessels also. The face appears dirty and begrimed, from settling dust.

Seborrhea Sicca, or dandruff, is marked by a decrease or absence of the oily secretion. The skin is dry, with yellowish or grayish scales. The scalp is the most frequent seat, though the beard and eyebrows and nonhairy surfaces may be affected.

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When on the scalp it usually is associated with falling of the hair, though many people have considerable dandruff and yet have heavy hair. Some authorities, in fact, claim that dandruff insures better hair, but I certainly cannot hold this view.

Asteatosis is a symptomatic affection of the oil glands. There is diminution or total absence of the oil, and a dry, harsh, and frequently scaling skin. The condition frequently accompanies psoriasis, scleroderma, prurigo, ichthyosis, and leprosy.

PELLAGRA

Because of the skin symptoms pellagra is classed with the skin diseases, though it rightly does not belong with them. It is an endemic chronic constitutional disease of the systems of nerves, digestion and skin, of toxic origin, having digestive disorders, rough erythematous skin, and symptoms of the nervous system. The disease is common in Italy, Spain and the Far East, and at present in the Southern States. It may be considered a disease of summer, the depression of the hot months probably being a contributing cause. A denatured diet is considered to be the chief cause, coupled with the depression of a hot climate. Other causative influences are malnutrition, overwork, old age, alcoholism, and frequent reproduction in women or reproduction in the vitally deficient.

Digestive symptoms usually appear first. The eruption is a variously shaded erythema chiefly on the exposed parts, appearing symmetrically. The skin is rough and swollen, with burning, itching and pain, and scaling reveals a pus condition below the

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skin surface. The skin symptoms pass through stages of congestion, inflammation, thickening and pigmentation, and atrophic thinning. Nervous symptoms include paralysis, spinal tenderness, and mental depression, these often resulting in melancholia, hallucinations, and stupor, even mania.

Recovery is rare in well-developed cases. Severe cases never would develop if properly cared for from the start. Treatment consists of an avoidance of an excess of starchy and sugar foods, and a liberal amount of fresh vegetables, fruits and milk, butter, cheese, whole grain cereals, entire baked potatoes, eggs, rest and sunshine (perhaps some meat).

PEMPHIGUS

This is a noncontagious inflammatory skin affection characterized by successive crops of variously sized bullæ, occurring in acute or chronic form. Predisposing causes are enervation and debility from overwork and nervous strain. There are several varieties.

Acute Pemphigus occurs in those who handle dead animals or their products, usually developing after local injury. Blebs appear, accompanied by chills, high fever and delirium. Under usual medical treatment about three-fourths of the cases are fatal.

Pemphigus Foliaceous is a rare and serious form, having crops of flabby blebs which soon rupture and form crusts. These are thrown off, leaving a reddened weeping inner skin. New crops develop rapidly, and the whole body surface, also the mucous

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membranes, may be involved at the same time. The disease may last for years, death resulting from exhaustion.

Pemphigus Vegetans. This is a rare form in America. Wartlike growths develop upon the location of ruptured bullæ, unite and form masses resembling fungus. Favorite locations are the neck, armpits, mouth, flexures of arms and legs, and the genital and anal regions. There are severe constitutional symptoms. It usually ends fatally after several months or years.

Pemphigus Vulgaris. This is the usual type, a chronic form, having successive crops of tense blebs with clear fluid that quickly becomes cloudy and purulent. The surrounding skin is normal. The blebs usually do not rupture, their contents being absorbed within five or six days. A small pellicle remains, which falls off and leaves a pigmented spot. Itching and burning appear in severe cases. No part of the body is exempt. The disease may last for years, though proper natural treatment will shorten the duration.

There are other forms of pemphigus occasionally met with: *Congenital pemphigus* (pemphigus congenitalis), occurring near the end of the first year of life, possibly at birth, and usually developing as a result of rubbing, scratching or pressure; *contagious pemphigus* (pemphigus contagiosus), a local bullous form, apparently transmitted by contact; *pemphigus of pregnancy* (pemphigus gravidarum), a bullous form occurring in pregnancy or after childbirth; *pemphigus of newborn* (pemphigus neonatorum), a bullous form occasionally seen at or im-

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mediately after birth; also a pemphigus of hysteria, one of leprosy, and one of syphilis.

Mild cases of pemphigus recover rapidly under natural treatment. Severe cases require time, and of course some will have reached a stage where no possible treatment can save life. The appearance of flabby or hemorrhagic (blood-filled) blebs, frequent outbreaks, constitutional depression, and the involvement of extensive areas of the skin are unfavorable indications. Radical treatment is necessary in this disease—a diet eliminative at first, and later truly nourishing. General elimination and rest of body and mind are of vital importance. The blebs should be evacuated, after which a soothing ointment or dusting powder is permissible and advisable. Bran or starch baths are of value. For serious cases warm baths are recommended, both day and night, and for months if necessary.

PIGMENTATIONS

In many normal and abnormal conditions varying degrees and shades of pigmentation of the skin are observed. Many of the skin affections already mentioned or still to be considered are associated with pigmentation. The few of the conditions grouped here are marked more by the deposits in the skin than by other local or general manifestations.

Argyria. The chief indications of chronic silver poisoning is the bluish gray or slate-gray discoloration of the skin and deep tissues, most pronounced in the exposed parts, produced by a deposit of metallic silver. The condition is less common than

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formerly when silver was administered in nervous diseases. The gums first show the discoloration, and are inflamed and swollen. Local discoloration (argyrosis) may be due to working with silver, producing a blackening of the hands, or to long-continued local applications of some silver salt, as in the eye or throat. The discoloration is permanent.

Jaundice (icterus). This is a yellowish pigmentation of the skin, general tissues and excretions with bile pigments. Obstructive jaundice is due to disease of or pressure upon the bile passages. Toxic jaundice is due to some form of disease, toxic development, drugs or snake venom. In any case the eyes usually first show the discoloration, which may or may not involve the skin and mucous membranes. General symptoms of depression are present, and itching may be pronounced. Hives may develop. Occasionally the skin becomes black and blue from deposits of blood. The discoloration is less marked in toxic jaundice than in obstructive jaundice, but the general symptoms are more severe.

Catarrhal Jaundice is common in young adults, following catarrh of the digestive tract, or during infectious fevers and organic liver disease. There are loss of appetite, foul breath, pain in the stomach region, vomiting, sometimes diarrhea.

Jaundice of the Newborn may be normal, or indicative of no definite abnormal condition. The jaundice is slight, passing off spontaneously within a few days. There also is a fatal jaundice of the newborn, with pronounced discoloration, due to developmental defects of the bile duct or infection through the navel, sometimes to syphilis of the liver.

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Usually a diet and general treatment that allow the bowel to become cleared, the liver to become less congested, and the bile ducts to become open will take care of jaundice. No treatment can be applied for the skin discoloration alone.

Pigmentation of Pregnancy. Generally in pregnancy a dark line extends from the pubic region to the navel, sometimes to the tip of the breastbone. The areolæ about the nipples becomes darker, usually larger. Especially in brunettes the face often becomes generally darkened or the seat of dark patches, especially moth patches or "liver spots." The face usually clears up during lactation. Some spots become permanent. No treatment is required.

Xeroderma Pigmentosum (atrophoderma pigmentosum). This is a skin atrophy, usually appearing in the first or second year after birth and slowly progressing to death. At first are freckle-like spots on the face and hands, these later atrophying and becoming depressed. This is followed by dilation of minute skin blood vessels and diffuse atrophy. After a few years wartlike growths develop on the pigmented areas and develop into tumors. The cause is not known, but it is thought to be due to some nerve impairment, probably some congenital predisposition. In these cases the skin is very sensitive to the actinic sun rays, which affect the skin very much as do x-ray burns.

POMPHOLYX

This affection, called also dysidrosis, is a rare acute inflammatory skin disorder occurring usually

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in those who perspire excessively, and is evidenced by the formation of many deep-seated vesicles symmetrically distributed between the fingers and on the palms. Occasionally the feet are affected also. The vesicles gradually increase in size until they become blebs, which do not rupture, their contents being gradually absorbed, after which there is extensive scaling, which reveals a red skin beneath. There usually develops a feeling of heat, itching, tingling or burning, pain and sensitiveness, and there may be some nervous depression. The surrounding skin becomes sodden, painful and scaly. Repeated attacks, differing in intensity, are frequent. The trouble heals slowly within a few weeks. By proper care its course is shortened still more. Bland ointments may be used.

PRICKLY HEAT

This well-known condition is known by a variety of names: miliaria rubra, eczema solare, heat rash, lichen tropicus, and strophulus. It is a vesicular eruptive affection of the skin due to copious sweating, with small papules and vesicles appearing at the openings of the ducts of sweat glands, attended by itching and burning. The vesicles form about the pores and usually are separated but closely grouped, small scales forming when these dry. There is a tingling or prickling, later itching. Covered parts usually are affected.

The cause is excessive sweating, from exercise in summer, or exposure to natural (sun) or artificial heat. Apparently the sweat itself, possibly the oil also, irritates the skin. Excessive or deficient or

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dark clothing may help cause it. The papular form is more common in those of fair skin, or overweight, or of nervous disposition, also in children; the vesicular variety occurs more often in undernourished and anemic individuals, including infants and children.

Avoidance of excessive heat and the resulting profuse sweating, and an observance of strict cleanliness, are the chief preventive measures. Clothing should be light in weight and texture, and loosely worn. The diet should be light, easily digested. Constipation should be avoided or corrected. Bran baths are preferable to soap baths. Drying should be thorough, after which a soothing powder may be used—boric acid or equal parts of boric acid and powdered cornstarch. The part may be soothed quickly by sponging with ammonia water (one teaspoon of ammonia to the quart of water), though limewater often is preferable for sponging children. Sweet oil or lanolin or other oil may be gently rubbed into the skin at creases and folds.

PRURIGO

This is a chronic inflammatory dermatosis marked by multiple pale-red papules and pronounced itching. It develops in infancy or early childhood, especially when undernourished, and may last for years or throughout life. It occurs chiefly on the face, extensor surfaces of the extremities, and the trunk. The skin may be well marked by scratch marks and blood crusts. The skin often becomes dry, harsh and thickened. Severe cases are called *prurigo ferox* (cruel) or *prurigo agria* (wild). Mild cases

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are called *prurigo mitis*. *Prurigo æstivalis* (summer prurigo) is a form that returns each summer and remains very severe until cool weather brings relief. *Prurigo infantalis* develops in some very young children during the eruption of their first teeth.

The disease in any form can be cured by persistent care and right living, using care to avoid intestinal toxemia. It often leaves spontaneously at puberty, and any form except summer prurigo occasionally undergoes spontaneous improvement during summer.

PSORIASIS

This is a chronic inflammatory skin disease having dry grayish or white scales upon a shining red base and first appearing in adolescence or early adult life. It commences as small reddish papules crowned by minute silvery scales. The papules increase gradually to the size of a dime or dollar, though patches may unite and thus involve extensive areas covered with overlapping scales. The papules are dry, sharply defined, slightly elevated, and hardened. Any or all parts of the body may be affected, but the eruption usually is upon the extensor surfaces. In any case some patches of normal skin usually are found between lesions. The generalized form does not develop until in later years. Itching may be slight or absent. The general health remains good, though often there are disturbances of muscles and joints. The scaliness reduces as the eruption subsides and eventually the redness fades and the skin returns to its normal color and condition, except occasionally pigmentation remains. The course is

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chronic, usually improving in summer and being pronounced in winter.

There seems to be some hereditary influence, as psoriasis may appear in several members of a family. The exact cause is not known, but doubtless some form of toxemia is responsible for its development or continuance. Often there is kidney deficiency, gout and rheumatism, with an underlying fermentation and putrefaction in the digestive tract. The intestinal toxemia necessitates attempts of the body to take care of the needed extra elimination through the skin. This causes a local inflammation of the cells of the skin. Overeating, wrong eating, wrong foods, wrong combinations of foods, etc., underlie the whole trouble. Males are somewhat more frequently affected than females, and the usual age for the start of the disease is between 10 and 20. The disease is curable by proper care, but frequently requires months of rigid natural treatment. (See Chapter VI.)

PURPURA

Purpura means purple, and the affection derives its name from the appearance in the skin of variously sized and shaped hemorrhagic macules in the skin, which are of reddish purple hues. They do not disappear under pressure. Purpura is a symptom, not a disease. It accompanies many infectious diseases. The cause is not known, though doubtless there is a toxic foundation. The trouble occurs most often in debilitated persons. In all forms the blood is absorbed, the changing colors being due to changes in the coloring matter of the blood in the

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skin. There is no inflammation in the skin. There are different forms.

Purpura Simplex. The eruption consists of crops of purplish hemorrhagic spots appearing on the extremities, especially the thighs, and lasting from a few days to a few months. Usually subjective symptoms and general disturbances are absent.

Purpura Rheumatica. This less common form begins with or closely follows general fever symptoms with severe rheumatic pains in the joints, which may be swollen. The eruptions are similar to those of purpura simplex and may be more or less general over the body, but usually most marked upon the lower limbs. Internal hemorrhages may prove fatal. It may last but a few weeks, but by repeated relapses may last for several months.

Purpura Hemorrhagica (Land Scurvy). This severe form begins with fever and symptoms of general depression, with sudden eruptions into the mucous membranes as well as into the skin. Arthritis and nephritis sometimes develop, anemia, also. Some cases prove fatal, but recovery is usual within from two to six or eight weeks. Relapses are common. *Purpura fulminans* (lightning-like) is a severe, rapidly fatal form, developing usually in children.

Malignant Purpura is another name for cerebrospinal fever, which often is fatal or may leave the victim with defective mind and nervous system.

Purpura Nervosa (Henoch's purpura). This is a disease of childhood considered to be infectious, marked by outbreaks of purpura, erythema, hives, digestive disturbances, and frequently arthritis.

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The duration is from two or three weeks to two or three months.

Purpura Iodica is an eruption of minute hemorrhagic eruptions due to the internal use of any of the preparations of iodine. Some other drugs also produce purpuric eruptions.

Purpura Nautica or *Purpura Scorbutica* is scurvy, the first name being given because scurvy formerly developed frequently among sailors, who could not get fresh fruits or vegetables for long periods of time between ports. As scurvy is not a skin affection (though it does have hemorrhages into the skin) it will not be considered further.

Purpura Senilis is small and large hemorrhages occurring in the skin in old and debilitated individuals, appearing usually on the lower extremities.

Purpuric eruptions often are produced by snake bite, toxins absorbed from the intestinal tract, absorption of urine and bile, and perhaps of other end products of metabolism. It also sometimes develops in cases where unusual strain is put upon the blood vessels, as in heart disease, convulsions, in whooping cough, after the removal of splints from limbs, and where there is insufficient support of the vessels, as in some newborn infants. It occurs also (usually in adults) in exhausting diseases, and in some nervous diseases.

The condition tends to spontaneous recovery in a short time. The trouble giving rise to the symptom should receive attention primarily. Drugs cannot favorably affect the eruptions, at least without harmfully affecting the general health. Patients suffering with *purpura rheumatica* and *purpura*

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hemorrhagica should be put to bed and fasted, after which fast a fruit diet, milk diet, or fruit and green vegetable diet should be given. After this (and in other cases) the health-giving advice in Chapter VI should be followed, as the general health requires restoring in all of these cases.

SCROFULODERMA

See Scrofuloderma, under Tuberculosis of the Skin.

SCRUM POX (IMPETIGO)

This is an inflammatory dermatosis characterized by an eruption of pustules which rupture within a short time or become crusted. These pustules occur mainly around the mouth and nostrils. Various qualifying terms are added, according to the manifestations.

The Contagious Form (*impetigo contagiosa*). This acute inflammatory form usually is referred to (medically) simply as *impetigo*, it being the usual form. It is considered to be contagious, since epidemics are common in those under the age of ten in institutions. It is the most common skin disease of school children, especially of the poorer classes. But it is not uncommon in adults, especially in the beards of men where it gives rise to what sometimes is called "foul shave," but it should not be confused with barber's itch. It often is spread by the close contact and friction of football. It and scalp lice often are associated in children, sometimes the skin affection probably being started by the scratching occasioned by the lice. The proper "soil" of an im-

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poverished and toxic blood stream and poorly nourished and functioning skin doubtless are largely responsible for the disease.

The eruptions are flat yellowish superficial vesicles or blebs, usually on the face, neck and hands. The vesicles rapidly become indented pustules, surrounded by a red area. Wafer-like crusts form, their edges detach, the crust curls up and falls off, leaving red spots that soon fade to normal. There may be slight fever, also itching. The disease may be spread over the body by the contents of the vesicles or pustules.

Recovery is spontaneous after a course of one or two weeks. Treatment consists of dietetic modifications which insure elimination and prevention of further toxic development, at the same time providing ample nutrition, though for a short time it may be well to ignore need for sufficient nourishment for retaining or increasing the weight. The lesions should be soaked with a boric acid solution in boiled water, or with oil soaks, and then removed carefully, the parts being bathed often with boric acid solution.

The Herpetic Form (*impetigo herpetiformis*). This is a rare acute form having crops of clustered small pustules developing usually on the lower front of the trunk, the groins, and inner and posterior surfaces of the thighs. Chills and fever accompany each outbreak of pustules. Various severe general symptoms often develop. The disease is supposed to be due to septic infection, occurring most often in pregnant women, also often following childbirth, though it is not confined to women, as it develops

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in men and children. Few cases recover under usual medical treatment. It is reported that every case that has recovered was treated by the continuous warm bath—a half hour or more at a time in a tub nearly filled with water at a temperature of from 95 to 100 degrees, the head being covered with a cold wet cloth during the bath. For protection of the skin, a thin coating of vaseline, lanolin or mutton suet often is used, but for such a short bath I do not consider this necessary. An absolute fast, with copious hot water drinking and at least two moderately hot enemata each day of as much water as the patient can conveniently inject, should reduce the danger materially.

SCURVY

See *Purpura Nautica*.

SENILE SKIN CHANGES

Numerous changes occur in the skin due to advanced years; and this is to be expected. The subcutaneous fat is absorbed or it atrophies, and the skin itself, its elastic fibers and its glands atrophy, the connective tissue loses its elasticity and becomes loose. The skin may be smooth and rough in patches, with wrinkled and flabby areas. The skin is pale where exposed, or possibly pigmented, and has lost its warmth. General perspiration is reduced, the sweat glands being atrophied, though in the armpits, groins and between the toes there often is foul-smelling perspiration which, because of the lessened acuteness of smell in the aged, is unrecog-

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nized, and often becomes a source of great annoyance to others. Probably due to change in the nerve endings, pruritis often develops, especially around the anus and genitals. The hair turns gray and often falls out; what remains usually is harsh. Hair grows on the upper lip and chin of some women in late years. In men especially the growth of the hair of the eyebrows and eyelids, in the nose and ears, and on the backs of the hands and toes may be excessive or much longer than usual, in old age.

These skin changes, with the exception of the reduction of skin elimination, usually cause no harm and require no special treatment. Proper living in youth and middle life will make many of these changes less pronounced, or will postpone them, though gray hair and baldness are due largely to hereditary influences and cannot be controlled to a great extent. Very often the milk diet or other suitable diet will greatly improve the skin. Massage and oil rubs will help in some degree to reduce harshness and wrinkles. Unsightly hairs may be extracted by tweezers. The skin pigmentation cannot be altered without danger to the skin or general health. Foul-smelling regions require simple cleansing often, probably with a mild solution of boric acid, and the wearing of less heating garments.

SHINGLES

See Herpes Zoster.

SUNBURN

This is a very common skin affection in the summer months and few people if any have escaped

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some degree of it. It is caused by undue exposure to the rays of the sun, especially without preparatory graded exposures that produce a protective pigmentation called a tan. It is particularly likely to affect those of fair complexion, and those on water and mountains, where the strength of the rays is increased by reflection. Sunburns may be of different degrees. A moderate sunburn is a normal, healthy reaction of the skin and will do no harm. Beyond this degree there may be a severe inflammation of the skin, with swelling and large blister formations, accompanied by high fever. In all degrees there is later shedding of the skin, sometimes in huge sheets. The skin effects are produced by both the heat and ultra-violet rays of the sun, while the systemic disturbances mainly are due to the altered skin action and skin inflammation and the resulting toxins produced.

Sunburn is treated as are like degrees of burns from other sources. The irritation may be soothed by cold cream, sweet cream, sweet (unsalted) butter, lanolin, and by unguentine, dilute vinegar or acetic acid, or a solution of baking soda. Gradual exposures will prevent sunburn, whether the exposure be in occupation or swimming or other sport or in the treatment of disease by sun baths. Wearing colored veils is advisable for inexperienced sea voyagers and amateur mountaineers. See also Burns.

SWEAT GLANDS, AFFECTIONS OF

The sweat glands are subject to several derangements of their functions:

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Anidrosis is a deficiency of sweat. It often is symptomatic of fevers, diabetes, and other general disease, in some skin diseases, and from defective nerve action.

Hyperidrosis is excessive sweating. It may be physiological, as when the body is very hot or during violent muscular exertion. It is common in tuberculosis and other diseases marked by debility. When due to disturbed nerve supply it usually is local. Local sweating may be mild or marked. The hands may sweat sufficiently to unfit one for manual work; and the feet may be made so tender and soft as to make walking very painful.

Bromidrosis is offensive sweat. The locations most offending are the armpits and feet. In certain diseases there are characteristic odors. Frequently the condition is associated with hyperidrosis.

Chromidrosis is a condition wherein the sweat is colored. It may be due to some substance taken into the body or to the action of microorganisms in the sweat itself. Green, blue, red and yellow are the usual colors. The face and trunk usually are the seats.

Hematidrosis, or bloody sweat, is due to hemorrhage into the sweat pores, and occurs usually in young hysterical women, upon the hands, feet, face, ears, and umbilicus.

Hydrocystoma is the development upon the face and neck of discrete firm vesicles, due to the obstruction of the sweat-gland ducts. The ducts become dilated. It is a summer condition, disappearing in winter months. It is met with most often in washerwomen.

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Miliaria, or prickly heat, is discussed elsewhere in this chapter.

Sudamen is a skin eruption of minute vesicles due to retention of sweat in the outer layers of the epidermis and resulting from obstruction of the sweat-gland ducts. It is common in those who sweat profusely, and in fever diseases wherein sweating occurs. The vesicles are not inflamed, and soon disappear by spontaneous involution.

Uridrosis is the sweating of urinary contents, usually resulting from suppression of the urine, as in Bright's disease, cholera, certain nervous diseases, etc.

Except for cleanliness and improving general health these conditions need no special treatment, and unless the underlying cause is combated no treatment will be effective.

SYPHILITIC LESIONS (SYPHILIDES)

There are many skin lesions of syphilis. They may be deep or superficial. During the course of the disease there may appear at various periods a variety of lesions: macules, papules, blebs, vesicles, pustules, scales, mucous patches, ulcers, fissures, mucous tubercles, gummy tubercles, crusts and scars. Lesions usually assume different forms. Characteristics of the lesions of syphilis are: variety of forms; "ham-color," changing to copper color and then gray, then white shining scars; tendency to run together; thin white, loosely attached scales; thick, dark, closely attached crusts; ulcers with deep edges, and easy to bleed; and depressed scars.

My contention is that most of these lesions are

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due to the underlying multiplicity of toxins in the body, plus the numerous foreign and poisonous drugs used for the suppression of syphilis. The entire body must be treated, not the local skin affections, except that local cleanliness and simple care of lesions are necessary.

TUBERCULOSIS OF THE SKIN

In medical literature are included under this general heading various dermatoses thought to be due to the germ found in tuberculosis—the tubercle bacillus. Among these dermatoses are those considered below, also milium, considered earlier.

True Tuberculosis (*tuberculosis cutis*). This is a rare disease, thought to be due to direct contact with tuberculous ulceration. The soft tubercles in the skin slowly soften and become deep ulcers covered with serum, pus and blood. The bottom of the ulcers is red. A gray crust forms on the unre-
moved discharge. The usual locations are the lips, external lips of the female sexual organs, and the anus.

Warty Tuberculosis of the Skin. This also is a rare disease. It occurs in those who come in contact with dead bodies, either animal or human. The disease usually is on the hands, especially on the knuckles, beginning as a nodule at the site of an abrasion. Around the nodule form minute pustules, surrounding a circle of little warts which contain pus. The disease is chronic. Cleanliness, with constitutional treatment, should correct it.

Orificial Tuberculosis. This is very rare. It occurs near orifices—on the mucous membrane about

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the nose, mouth, anus, and vulva. Shallow scattered painless ulcers form, with soft edges often covered with crusts. It is one of the final manifestations of a far advanced internal tuberculosis, which rapidly progresses to a fatal end.

Scrofuloderma. This is a scrofulous or tuberculous disease of the skin, secondary to tuberculosis beneath the skin, usually of the lymph glands. Most often the face and neck are the seats of the infection. The skin becomes purplish, tense and thin, and later perforated with holes over glands that become swollen with tumors. Cheesy pus exudes through the perforations. The disease progresses slowly, often forming fistulous tracts, and resulting in knotty scars. Constitutional treatment is required. (See Chapter VI.)

Lupus. By this term usually is meant *lupus vulgaris*, though it has been applied to various forms of skin affections. It often is called tuberculosis of the skin. It is thought to be transferred by kissing, hence the frequency with which the face is involved. Lupus usually develops before the age of 20, often before the age of 10, though it is not congenital. Special preference is for the nose, cheeks and ears, particularly the nose. At times the trunk and extremities, also the mucous membranes and cartilages, are the seats of the trouble. Itching is absent, pain slight if at all.

The first lesions are numerous deep-seated reddish yellow or brownish papules which slowly develop into tubercles. They are embedded in the skin but are perceptibly softer than the skin. They have been called "apple jelly nodules" because of their

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consistency. They may be absorbed or may break down and form ulcers which are chronic. The ulcers slowly spread, and may invade all the soft tissues beneath, though the bone is never affected. One part of the ulcer spreads while in other parts is formed scar tissue which itself often becomes the location of new tubercles.

Poverty, filth and undernutrition, with resulting impoverishment of health, are the most important causative factors. The fact that children frequently scratch and pick the face with filthy hands partly explains the affinity of the disease for children and the face.

The outcome depends upon the patient's vitality and general condition and upon how well natural treatment can be and is followed. General treatment is necessary.

Erythematous Lupus (*lupus erythematosus*, superficial lupus). This is a hardening of the skin showing well-defined red patches more or less covered with adherent yellowish gray scales. It develops chiefly in adult women, and frequently follows acne or seborrhea. One form appears on the ears and hands after chilblains (*lupus pernio*). The face, chiefly about the nose, is attacked, the lesions being small red, somewhat scaly papules. These gradually unite and form a red patch with elevated edges and depressed centers. The disease spreads slowly, without ulcer formation. Subjective symptoms are rare.

Well-adapted natural methods of treatment bring favorable though slow response in this disease. As with *lupus vulgaris*, every natural method

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is to be employed, and cod-liver oil is an excellent addition to the diet in either form.

URTICARIA

See Hives.

VACCINATION DERMATITIS

Various skin lesions and diseases are likely to follow vaccination, especially vaccination against smallpox. They are the result solely of the body's general reaction to the pus and virus and its effort to purify the blood, body fluids and tissues. Among these skin diseases are erythema, erythema multiforme, hives, lichen, and miliaria; also impetigo contagiosa (medically considered as resulting from infection of the vaccinated area), syphilis, erysipelas, and various others. They may develop shortly after or not until a few weeks after vaccination. Some result in destruction of much tissue, such as localized gangrene and large, perhaps multiple boils, and may necessitate amputation of the vaccinated member. The best "treatment" for these skin affections is to avoid vaccination. Rigid eliminative measures (fasting, copious water drinking, large hot enemas, etc.) will prevent them after vaccination in most cases, or usually lessen their severity and duration very appreciably.

WARTS

A wart (called verruca, which is Latin for wart) is a clearly defined papillary outgrowth on the skin due to an overgrowth of the papillæ and true skin.

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The exact cause is not known. Warts appear chiefly in childhood. There are several forms.

Common warts (*verruca vulgaris*) are usually found on the fingers and backs of the hands of children. They are irregularly round, firm, and elevated.

Fingerlike warts (*verruca digitata*) develop usually on the scalp and are elevated, with several slender projections reaching out from their bases.

Flat warts (*verruca plana*) are well-defined flat elevations, pigmented brownish to black, occurring usually on the backs of old people. This is the type that occasionally becomes malignant as a result of irritation by injury or caustics for removal.

Slender warts (*verruca filiformis*) are slender threadlike outgrowths developing upon soft parts, chiefly upon the eyelids, face and neck.

Venereal warts (*verruca acuminata*) are groups of soft red vascular vegetations developing upon the skin and mucous membranes of the mouth, anus, penis, and labia in young people. When on the sex organs they are covered with an offensive puslike excretion. These growths are apt to grow rapidly and may resemble a raspberry or cockscomb.

Warts may be removed by excision, the electric needle, caustic drugs, or the x-ray; but the flat warts of elderly people should be let alone.

WEN

A wen (*steatoma*) is a sac composed of a distended oil gland or duct, filled with the oily matter from the gland. They are painless round or oval

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elevations from pea size to as large as an egg, and occur most often on the scalp, also on the neck, back and face. They usually remain stationary for years, but may grow slowly, or undergo inflammation and suppuration. They should be evacuated and the sac taken out. If the envelope is not removed the cysts will return. It is *not* advisable to "break" them, as frequently is advised.

WHITE SKIN

The appearance of white spots and patches of skin is called *acquired leucoderma*, vitiligo, and piebald skin. The spots are of various shapes and sizes, and in color are milk-white or pale pinkish white. They usually spread slowly, and they may unite. The skin is normal in all other respects. The hair on these spots may or may not become white. The spots at times occur in adults, and last throughout the remainder of life. Negroes are most susceptible to this condition. The causes are not known, though it is thought to be due to altered local nerve supply. A few cases undergo spontaneous restoration of normal color.

WRINKLES

Wrinkles or lines may be due to the unrestrained emotions that have been given expression in the face—fretting, worrying, anger, envy, etc., on the one hand and joy, gladness, mirth and laughter on the other hand. Those produced by beneficial emotions may be as pronounced as others, but they are more pleasing to encounter, and give their owners less concern. Loss of flesh or "habitual" or constitu-

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tional thinness tends to line formation. Pain anywhere in the body is registered in the face and may produce lines. Wrinkles are common in old age, from loss of skin elasticity, but are still more pronounced if the health is below normal. Using the eyes for "fine" work in a poor light or intense light or when the eyes must be strained to see effectively, and supposedly deep concentration upon any mental or physical work, will produce lines about the eyes and especially the frowning, scowling lines and "crow's feet." Lack of fresh air and a reasonable amount of sunlight and wholesome physical activity; digestive troubles; headache; tight clothing about any part of the body, especially about the throat, waist and feet; exposure to heat (as in stoking) or to sunlight (as engineers); and numerous other influences may make permanent lines in various parts of the face, or all over the face. Loss of teeth without replacement by artificial teeth will produce more or less deep lines in the cheeks.

To prevent wrinkles, at least prematurely or excessively or deeply, keep the skin as youthful and elastic as possible, the weight approximately at normal, the emotions under control, and learn to relax all parts of the body not involved in any task or duty or pleasure. To reduce and possibly remove some of the wrinkles the same measures are necessary. It may be necessary to bring about an increase in weight. Scientific massage may be beneficial, but wrongly applied massage may intensify the lines. Advertised methods usually are of little value, and some are positively injurious. "Face-lifting" operations often result in great deformity,

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and rarely accomplish favorable results. The measures given in the final three chapters will be of greatest service in eradicating or smoothing over wrinkles. There is no short-cut road to reduce wrinkles or to rid the skin of any other blemishes and secure a youthful skin. Peace of mind, and stopping the things that cause the wrinkles will be necessary.

CHAPTER V

Skin Diseases Due to Parasites

MANY parasites live in or on the human body. Under certain conditions, these are capable of causing much trouble or ill health. If the environment is right for their growth these parasites multiply; but under other conditions they multiply slowly if at all, and often appear to do no harm.

Agriculturists and horticulturists know that when plants and trees are deprived of some of the elements of normal nutrition they are most subject to the inroads of parasites. These can be controlled by spraying, but the attacks will return if later spraying is neglected. Resistance is best provided by liberal feeding and right balance of plant food. This also is true among animals, including man. Those of lowered resistance are not able to prevent parasitic invasion. However, when health is restored or increased to normal or to more nearly normal, resistance is raised and, very often, the parasites disappear.

Not all people, however, whose resistance is impaired, are troubled with parasites, but some are. Particularly affected by parasitic diseases are the very poor and those who live in unhygienic, unhealthy, unsanitary surroundings and who eat impoverished, unwholesome, and unclean food and who drink polluted water. Filthy water, dirty beds, lack of bathing, etc., favor the acquisition and development of parasites. The kind or kinds of para-

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sites acquired will depend upon what parasites are native to and present in the locality and climate, and the season of the year. Or, one may receive an imported variety from some one else who is infested with them.

Parasitic diseases sometimes, though rarely, are found among the well-to-do and those who live conventionally clean lives. If parasites do attack this class it is because the resistance to parasitic invasion has been broken down by some unwholesome mode of life and, through some channel, the victims have come in contact with the parasites.

Before most parasites can gain a foothold in the skin and thrive therein or thereon, there must be a lowering of the powers of life; nutrition must be abnormal, and renewal of tissues slow and imperfect. In such cases the skin is weakened and debilitated and ready to undergo degeneration. Physiological scaling of the skin takes place prematurely and the skin fails to renew itself promptly, constantly and perfectly. This gives opportunity for parasitic invasion.

Because of a lack of some of the elements and conditions necessary to the production of high-grade tissue, retrogression takes place and parasites find a ready entrance into the skin. Therefore, it will be easy for the reader to understand that any influence that impairs the powers of life, and thus impairs and disturbs nutrition will build a systemic condition favorable to invasion by parasitic organisms. The reader also will readily see that in order to bring about a complete and permanent cure of parasitic diseases it is essential to build up the gen-

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eral health and correct all environmental factors that are impairing health, as well as to give the necessary specific attention to the skin for the removal of the parasites or to restore the altered skin to normal, or both.

Parasites are conveyed from one individual to another in many ways. The use of common hair-brushes, combs, towels, hats and caps, wearing apparel, sleeping in the same bed, or coming in contact in any other way with the body or clothing of the infested individual or those articles he has contaminated, all are means of conveying parasites from one person to another. Some parasites are carried by dogs, cats, birds, and other domesticated animals and pets. Once admitted into a house the parasites find many hiding places from which they sally forth and disturb nearly everyone who lives in the house. Some people seem to be immune to some of these pests. Many, for instance, are never attacked by bedbugs, though the room may be "full" of them. Some are never bitten by mosquitoes. This peculiarity is thought by some to be hereditary. These two pests, however, are not parasites.

Parasites live upon or in the skin. They feed upon its tissues and fluids, and produce their young in its layers. They thus form a constant source of irritation which causes itching and inflammation in more or less degree. The skin endeavors to protect itself, which efforts at self-defense constitute most of the symptoms of the diseases or diseases caused by the particular parasite. The excretions of the parasites, of course, are poisonous or irritating and form part of the cause of the skin disease.

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Below are given the most common of the parasitic skin diseases and insect pests.

BEDBUGS

As stated above, these pests are not parasites, though they may get part of their nourishment from human bodies. They attack the skin of most people who come in contact with them, and suck their blood through the minute skin openings they produce by their bites. The sites of their bites (which may be anywhere on the body surface) are marked by inflammatory papules or wheals containing central hemorrhagic points or bleeding punctures. The removal of the bug soon is followed by the disappearance of all signs of its presence.

BITES

Some of the common insects whose bites produce more or less irritation and inflammation will be considered separately. In this brief section will be mentioned the bites of animals (dogs, cats, rats), the leech, and snakes. Most of these bites are harmless to people in good health. However, when the health is considerably lowered, and in elderly people and children the results are apt to be more or less serious, especially of snake bites.

More and more the public is being worked into a rabies or hydrophobia scare, every person being bitten by a dog being suspected of being a subject for later development of rabies if not treated by the Pasteur's anti-rabic virus. Recently a man in Indiana died supposedly of hydrophobia. He had the symptoms that the ignorant consider to be

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caused by the development of the rabies poison—foaming at the mouth, biting or attempted biting of other people, barking like a dog, etc. These symptoms and the quick death occurred one year after the bite by a dog that was supposed to be the cause of the disease and death. In all probability the man had what might be called “mental rabies”—he had worried over the possible consequences of the bite, had been misinformed of the symptoms of the disease, and slowly had developed these symptoms. Usually a dog bite is harmless, except that it may lead to serious consequences in the same way as may any other neglected wound in those with impure blood. There is such a condition as rabies, but that is another matter. Proper care immediately after a bite will prevent this serious toxic disease.

Rats, cats, weasels and ferrets may produce an intermittent fever by their bites, especially rats. In enfeebled people and children, especially, snake bites may prove serious; in fact, the outcome in these cases frequently is unfavorable. There are few snakes in the United States that are poisonous to a dangerous degree. The commonest of these are the rattlesnake, the copperhead, and the moccasin.

In any case of bite, the first needs are to prevent absorption of the poison or possible poison by the body, then to sterilize the wound. In most animal bites and leeches mere cleansing of the wound is sufficient, though the application of an antiseptic dressing cannot be condemned and usually is very advisable. These cases usually should be treated

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or be under the observation of a capable physician, though one should not immediately consent to virus or serum treatment that likely will be advised. For snake bites there should be applied immediately, tightly about the member and above the wound, a handkerchief or strap or cord, then the wound sucked vigorously if the mouth mucous membrane is healthy and unbroken, after which (or instead of which) it is advisable to cut out the bitten skin, letting the part bleed freely. The binding ligature may be loosened slightly occasionally, then re-tightened, in order to allow what poison may remain about the wound to enter the blood in minute quantities in order to aid the body in building up defensive chemistry against it. Reduction of systemic toxemia by a lighter, more eliminative diet, and very large quantities of water by mouth and as enemas, should hasten elimination of conditions within the body that make any wound capable of resulting seriously, and especially a wound that at the same time is associated with injection of some definite poison into the body.

CATERPILLAR DERMATITIS

This sometimes is called brown-tail moth dermatitis, though the irritation or inflammation more often is caused by the caterpillar stage than the fully mature moth stage. Besides, there are other caterpillars than that of the brown-tail moth that are capable of producing skin lesions. The trouble is in summer only, and due to the hairs or bites of the insects. In most cases red patches form within an hour or so after contact, these patches develop-

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ing into wheals like those of hives. Sometimes a more severe skin inflammation develops. Usually itching is intense. The face, neck and arms are the parts most often affected. The dermatitis usually is of short duration, though occasionally may cause some concern by its extent and duration.

CHIGGER

This little insect also is called chegoe, chegra, chigoe, chigre, and jigger, besides the long Latin names. The female penetrates the skin, burrows along for some distance beneath the epidermis, then deposits her eggs at this point. In the United States the insects seem to be somewhat different from those in South America and the West Indies. In our country the skin affection consists merely of small welts with aggravating itch, but without further trouble, the disturbance lasting only the greater part of a day, perhaps a little longer. Any part of the skin that has been in contact with grass may be affected. In the South American countries the entrance of the insect usually is at the toes, where its presence gives rise within a week to a painful edema, the formation of pustules, and, in some cases, ulceration and gangrene. Often the results are serious, sometimes fatal. Except when there develop abscesses, pustules and other destructive processes, removal of the mite is all the treatment necessary. This may be done with a sterilized needle, the nest of eggs then being squeezed out; or, as the natives do, by holding a lighted cigarette (or other fire) to the spot. The serious lesions are to be treated the same as similar lesions from other causes.

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ERYTHRASMA

This is a rare disease caused by a vegetable fungus called *Microsporon*. It occurs usually in the armpit and the groin, also in the folds just anterior to the crotch, and between the hips and thighs posteriorly. It appears as small, round or irregular, well-defined, slightly bran-like patches which are reddish brown in color. It is accompanied by itching, is slowly progressive, and may last for years. Filth and poverty are leading causes; hence removal of these conditions will tend to cure.

FLEA BITES

The common flea is a nuisance more because of its irritating buzz than because of its bite, for the latter is comparatively uncommon. But when it does bite the flea leaves a bleeding puncture with a surrounding reddened area. In individuals having sensitive skins wheals develop. The irritation is short-lived.

GADFLY

The gadfly, breeze fly or common horsefly (the female) has a piercing snout that produces a painful bite, though it is not poisonous. While they are a considerable pest to animals and often suck much blood, they rarely bite humans for the reason that they quickly are driven away.

The *botfly* is quite different. It deposits its eggs in the skin, where a painful boil-like swelling develops, which may suppurate. The larvæ usually are cast out with the pus. This trouble is common in the tropics. With the larvæ removed one need

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only wait for the healing of the wounds, though mild antiseptic dressings may be employed if desired.

HARVEST MITE

The harvest mite (also called mower's mite, harvest tick, red bug), is the larval stage of certain ticks found upon grasses and bushes during the summer and autumn. They are brick-red or yellowish red in color. They either bury their heads in the openings of hair follicles or burrow beneath the skin, causing intense itching. The legs and thighs usually are chiefly affected. Removal of the mite ends the trouble, as they are nonpoisonous.

ITCH

Itch is a common term applied to a number of parasitic affections having itching as a prominent symptom.

Baker's itch is a form of pruritis common among bakers who mix doughs by hand. The hands and arms, of course, are the parts affected. Since mechanical mixers have come into use almost universally, except in the smaller shops, the affection is much less common than formerly.

Ground itch (also called coolie itch, swamp itch, toe itch, water itch, water sore, and skin worm). The affection is common among the coolies of parts of India, and among barefoot workers in tropical and sub-tropical Asia, also, less frequently, America. It is a vesicular dermatitis, characterized by swelling and itching preceding the eruption, which is papular or macular at first, soon becoming vesicular.

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It is considered to be the result of entrance of a type of hookworm into the skin. The feet are almost entirely the parts affected.

Scabies. When the unqualified term "The Itch" is given, scabies usually is referred to. It also is called "the seven-year itch." Scabies is a contagious disease of the skin due to an animal parasite or itch mite (*sarcoptes scabiei*). The disease is considered highly contagious. It occurs at any age, being transmitted by direct bodily contact or by bedclothes, towels, toilet seats, etc. It is common among those who live in filth, though thoroughly clean people can contract it by coming in contact with articles contaminated by those infested. The most common way of contracting is by the use of towels, with inadequate drying between the fingers (the finger webs). The mites easily burrow beneath this soft skin, usually being undisturbed by friction until they have descended beneath the epidermis.

After getting below the top skin the itch mite burrows, either in straight or zigzag lines. Along the course of these burrows it lays its eggs and deposits its waste matter. The mite perishes, but the eggs hatch within from eight to ten days. The new mites make burrows of their own, in which they also deposit their eggs and excreta. When this larger crop is mature the mites repeat the process, and in this way the disease spreads.

The mite is a yellowish white parasite, barely visible to the unaided eye. The female is twice the size of the male.

At the point where the mite enters the skin a small papule, vesicle or pustule forms. The course

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of the burrow shows as a slightly dark elevation of the skin, varying in length from one-eighth to one-half of an inch. In addition to the burrows, well-marked cases of "Itch" present multiform eruptions consisting of papules, vesicles, pustules, crusts, excoriations (scratches or raw areas), and thickening of the skin. In extreme cases the skin may present the appearance of the bark of a tree. Intense itching accompanies the affection. It is much worse at night, due to the increased warmth from the bed and covering. Children with very sensitive skin often develop a high degree of inflammation.

The affection usually begins between the fingers or toes. Besides these locations for the eruptions, these appear on the front surface of the wrist, the flexor surfaces of the extremities, in the axilla or armpits, on the breasts of women, around the navel, the buttocks, and penis. The face seldom is affected except occasionally in infants.

The disease spreads rapidly, in many cases reaching advanced stages within one or two weeks. It is progressive and often lasts for many months. No tendency toward spontaneous cure is exhibited. It is quickly cured by proper treatment. This consists of some preparation which will destroy the mites and their eggs, scabies being one of a few diseases in which other than natural methods are required. The best treatment is a prolonged hot bath with soap, followed by a good rubbing of the affected areas with a sulphur ointment every night for three nights, without change of underwear but with only the one bath at the start of the treatment, one at the end of the three applications, and again

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after a second three applications, which completes the treatment. Sprinkling dry sulphur over the bed sheet upon which the patient lies is advisable, also, for the six nights of sulphur ointment application. Some use other applications than the sulphur ointment: beta-naphthol, balsam of Peru, staphisagra, etc. The general health must be looked after, especially to restore the skin to normal.

Straw itch (grain itch, straw-bed itch). This is an eruptive skin disorder caused by a minute animal parasite. In the United States the disease usually develops between May and October, following contact with cereals or straw which is infested with the specific mite. The mite lives upon the larvæ of grain-destroying insects. Farmers, harvest hands, laborers, etc., receive the mite in contact with the grain in the field, granary or storehouse, in stacking, baling or otherwise handling the straw; shippers, porters and others by carrying the grain in sacks; those who use straw in packing, by contact with the straw; and those who use straw in bedding mattresses. The most severe attacks are said to have occurred in those who sleep upon straw mattresses in which the mites existed.

Mild systemic symptoms often precede the outbreak of skin eruptions, such as general restlessness, loss of appetite, slight fever, sometimes vomiting. For the most part the eruptions occur as wheals, many of which have at their summit a central vesicle from the size of a pinpoint to considerably larger. Often the eruption may consist of barely raised red hivelike macules or edematous papules. They quickly become pustular, closely resembling chicken-

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pox vesicles. The eruption is of rose tint, varying in extent but usually profuse, covering the trunk and lower limbs. Occasionally a few eruptions appear on the face, but seldom on the hands and feet. Itching is intense. The untreated disease often persists for weeks, new lesions taking the place of old ones. Usually getting rid of the infested mattress or avoiding contact with infested straw or bags, etc., with sterilization of the clothing and hot baths to rid the skin surface of any migrating mites, will take care of the trouble. Beta-naphthol alone or in combination with some other elements may be used to hasten riddance of the mites.

LICE

Lousiness (pediculosis or phthiriasis) is a contagious insect disease caused by the presence of lice or pediculi. There are three varieties.

Scalp lice (pediculosis capitis, pediculosis of the scalp) is caused by the presence on the scalp of head lice, or their ova or "nits." Severe itching, which causes scratching, leads to the formation of excoriations, with either serous, purulent or bloody exudate. The exudate dries, and forms crusts and mats the hair together. It usually is accompanied by a foul odor. Due to irritation, the glands of the back of the neck often become enlarged and in many cases suppurate. This occurs most frequently over the back part of the head—the occipital region. Papules, pustules, and excoriations frequently are scattered about the neck and face.

Body lice (pediculosis corporis, pediculosis of the body) are larger than the scalp louse. The louse

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takes up its abode in the seams of the underclothing, where it deposits its eggs, the eggs hatching out within about six days. The louse is present upon the skin only when in search of food. The movements of the louse upon the skin give rise to intense itching, which causes scratching, which results in linear scratch marks, blood crusts, and, in chronic cases, pigmentation and thickening of the skin. Those parts of the skin coming in contact with the seams of the underclothing—the shoulders, chest, waist and thighs—are most affected. Hemorrhagic punctures exist at the sites where the lice have extracted blood.

The disease is rare among children, but is common in adults in middle life or advanced age, among the poorer classes.

Crab lice (pubic lice, *pediculosis pubis*) are the smallest of the lice. The mites fasten themselves to the hairs of the genital region, where they cling tenaciously while burying their heads deeply into the orifices of the hair follicles. The pubes (the hairs above the external genitals) and the perineum (between the genitals and the anus) are the regions usually involved. Occasionally the armpits and the hairy portion of the chest are attacked, and in rare cases even the eyebrows, eyelashes and beard are invaded. The disease, which usually is contracted during sexual intercourse, is confined almost exclusively to adults.

The usual symptom is itching, which varies in degree and is accompanied by hemorrhagic punctures, papules and scratches about the affected parts, usually the genital region.

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The little mites or their nits easily are seen on the hairs.

The lice (any kind) and their nits must be destroyed, after which the skin usually will quickly return to normal. It usually requires some mild insecticide to bring about the destruction of the mites. Cleanliness alone may accomplish the result early in some cases, but often fails to dislodge all the mites or their nits. A qualified physician easily can take care of such an affection, as there will be nothing but external applications to use. Beta-naphthol, tobacco, staphisagra, vinegar, tincture of green soap, etc., may be used. Some find coal oil satisfactory, for head lice especially.

LUMPY JAW

This disease, otherwise known as actinomycosis, is caused by the ray fungus. It is not very common in man, but sometimes is communicated from cows or swine, either of which, especially cows, it attacks rather frequently.

The disease appears as deep-seated tumors (lumps) or swellings, which approach the surface, become red or livid in color and break down, forming pus. The face and neck are the parts usually affected, the fungus being supposed to gain entrance to these tissues around carious or decayed teeth. The onset of the disease is insidious; often weeks or months elapse before the skin manifestations appear. This, perhaps, depends much upon the general systemic condition. If the internal organs become invaded the outlook is serious.

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MOSQUITOES

Some people seem to be bothered not at all with mosquitoes, the insects apparently ignoring them. Others seem to attract mosquitoes from great distances, and these usually or frequently are very markedly affected by the bites. The average person will be likely to bites if the mosquitoes are around, but does not "draw" them, and the bites are of comparatively little consequence. A reddened spot or wheal develops at the site of each bite, accompanied with itching. The wheal may be very minute, usually about as large as a split pea, sometimes as large as a quarter; and the itching may be slight or intense, for a few moments only or for the greater part of a day. If there have been many mosquito bites within a short time there may be produced sleeplessness, much nervousness or restlessness, loss of appetite, and even fever and vomiting, especially in nervous children. Alternate hot and cold applications, quickly applied, usually will give considerable relief. Ammonia water may be applied, or menthol-camphor. Compresses of boric acid solution are helpful. The oil of eucalyptus, cinnamon, or cloves, smeared on the skin, will keep mosquitoes away.

MOTHS

See Caterpillar.

PORK MEASLES

This is a tumor-like skin lesion, the contents of which are seen under the microscope to contain par-

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asites. The larvæ of the *tænia solium* (pork tapeworm) are the cause of the trouble, and are observed as rounded, firm, elastic tumors ranging in size from a pea to a walnut. They occur upon the trunk and limbs, and may remain for years unchanged. Often their removal by surgery is necessary.

RINGWORM

Ringworm is a rather common skin disease, due to a vegetable parasite called *tinea trichophytina*. There are six varieties.

Ringworm of the Body (*tinea circinata*, *herpes circinatus*, *tinea trichophytina corporis*). This begins as one or more rounded or irregular pea-sized hyperemic scaly patches. After a few days these form into a circle with very small papules or vesicles around the outside. The patches heal in the center at the same time they spread from their outer borders. They are pink or red in color, their borders are slightly elevated, and upon scaling they throw off bran-like flakes. Neighboring patches may come together, producing ring-shaped patches of skin that overlap or fold over each other. Itching usually is slight.

Ringworm of the Scalp (*tinea tonsurans*, *herpes tonsurans*, *tinea trichophytina capitis*). This begins as does ringworm of the body, and may occur anywhere upon the hairy scalp. The hair follicles are invaded and the hair at that spot falls out, producing a partially bald spot. Rarely, ringworm may be diffused over a large area of the scalp without producing well-defined and limited patches.

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This form is called disseminated ringworm. The disease is confined almost wholly to children.

Inflammatory Ringworm of Scalp and Beard (*tinea kerion*). This form is highly inflammatory and ends in suppuration. It forms reddish or yellowish raised boggy patches which are honeycombed with the distended openings of hair follicles, through which exudes yellowish pus. Burning, itching and pain are present, but vary in degrees. The suppuration hastens cure, though it may destroy the hair follicles and result in permanent baldness.

Ringworm of the Beard (*tinea sycosis*, parasitic sycosis, *tinea trichophytina barbæ*). This is the usual form of ringworm of the beard. It begins and progresses about the same as ringworm of the body and scalp, with the exception that induration or hardening, and nodular or lumpy tumors develop. Numerous pustules form at the sides of the hair follicles, which soon rupture and give off a yellowish pus, which dries and forms crusts. The hair becomes dry and brittle, and either breaks off or falls out. Itching and burning vary in degree. The chin, neck and under surface of the lower jaw most often are invaded, the upper lip rarely.

Eczematoid Ringworm (*epidermophytosis*, *tinea cruris*, *tinea inguinalis*, *eczema marginatum*, Dhobie itch, washerwoman's itch). This disease is very common. It closely resembles intertrigo. There are several different types: macular, vesicular, papular, scaling, macerated (soft from soaking), callous, like keratosis, etc. Usually several forms will appear in an individual case, though there are occasional true forms. When the body or skin is in

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particularly poor condition so the fungus grows well or when the fungus is especially vigorous the disease spreads, perhaps fairly rapidly. The thigh, perhaps as far down as the knee, the pubes (around but not in the hairy region), the penis or labia, the scrotum, the region between the labia or scrotum and the anus, and the cleft between the buttocks as far up as the sacrum are locations that may be affected by the vesicular type. There is apt to be extreme itching in some of these locations, especially the labia, around the anus, and between the buttocks. The macular form is found especially under hanging breasts, between the toes, between the penis and scrotum, and between the buttocks. The usual location of the callous type is the feet.

Some authorities consider leather and wool products the main sources of infection—athletic suits and garments of wool, and leather-handled or covered athletic goods. Excess sweating often is associated with it, perhaps as an important contributing cause. The disease has followed vaccination in a good many cases, for additional infection is then especially likely.

Ringworm in any form is very resistive to treatment. Whatever measures are employed, it will respond much more quickly and satisfactorily when the general health measures recommended in the next chapter are employed; for the health must be built up to the highest degree possible, all harmful and weakening habits must be avoided, and hygiene must be the best. Nothing is better than direct exposure to sunlight. Some authorities recommend daily barefoot walks of an hour or more in hot

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beach sand, sinking the feet well into the sand. The hands may be treated in the same manner. But the position must be changed often enough that hot sand may be used. Rubbing well into the skin equal parts of vaseline and salt, then that night using very hot fomentations over the part, and repeating this for a few days is very good. Early in the disease if the parts affected are bathed well with hot water and soap and then given an application of powdered sulphur in olive oil the trouble can be eradicated within a very few days. X-ray treatment is very efficacious in some cases. Cotton hose, underwear and gloves should be worn, and washed thoroughly every day.

TINEA VERSICOLOR (PITYRIASIS VERSICOLOR)

This disease is due to a vegetable parasite. It and the following affection are allied to ringworm but are not genuine ringworm affections. In rare cases the neck, arm, armpit, and face may become involved, though it occurs chiefly upon the trunk, beginning as yellowish pinhead to pea-sized macules which are scattered about over the affected areas. Within a few weeks or months these increase in size and run together, producing large, irregularly shaped patches, with sharply defined edges. The color, usually fawn-hued, may vary from a pale yellow to brown, or may exhibit a distinctly pink tint. The area involved is covered with a fine mealy scale. If this is not apparent it will become noticeable upon scratching the surface with the finger nail. Itching, though usually present, is mild. The disease is confined almost solely to adults, is

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considered mildly contagious, runs a chronic course, and frequently lasts for years.

TINEA FAVOSA

This disease, perhaps better known as *Favus*, is a contagious disease of the skin due to a vegetable parasite, having its seat upon the scalp. Occasionally it attacks the non-hairy portions of the body (*tinea favosa epidermidis*); and occasionally it attacks the nails (*tinea favosa unguium*; *onychomycosis favosa*), causing them to become thickened, brittle, yellow and opaque.

This disease is a diffuse or confined superficial inflammation around the hair follicles, with scaling, which soon is followed by the development of yellowish crusts about the size of pinheads. The crusts increase to the size of peas and then become cup-shaped. The typical favus cup or scutulum is about the size of a split pea, is rounded, of a sulphur-yellow color, and pierced by a hair. It crumbles between the fingers like dry mortar, and when removed from its seat in the skin reveals a shining, reddened, cup-shaped and atrophied excavation, which often is in a state of suppuration. The excavation upon healing leaves a scar and results in more or less permanent baldness. The crusts may be scattered or they may run together, forming thick irregularly shaped patches resembling a honeycomb. Typical cases give off a peculiar odor resembling that of a mouse or of damp straw. The hairs lose their luster, become dry and brittle, and tend to split longitudinally or to break off or to fall out. Itching usually is present and varies in inten-

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sity. The disease runs a chronic course, lasting years and sometimes for life.

The hairs should be removed, and mild parasitocides used.

SCABIES

See Itch, this chapter.

STINGS

Usually stings produce only a local disturbance, accompanied by no constitutional symptoms. Bee, wasp and hornet stings may cause great swellings locally, and in some people produce nausea and other general symptoms, possibly much nervousness, even hysteria. Some spiders are poisonous, and stings by these and scorpions and centipedes may cause quite decided general symptoms. The nervous system may be considerably depressed, and the heart action greatly altered. If the sting of a bee is left in the flesh, as frequently happens, it should be removed, by fine forceps or needle, using a magnifying glass if necessary. Any cold application made immediately may prevent swelling, but it would be better to use hot water as soon as possible, then cold in case swelling has resulted from the sting. Compresses of lemon juice, vinegar, or camphor may be used on any of these stings with benefit. Ammonia or strong solution of baking soda is very relieving. If there develop systemic disturbances, especially depression, considerable hot water should be taken by mouth. A tepid or mildly warm bath may be taken and remained in for an hour or more in some cases to advantage. Strong coffee is

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advised for the depression, and perhaps it would not be inadvisable. Usually, however, rest and simple local applications to reduce the inflammation or irritation and swelling will be all that is necessary. Poisoned wounds produced by spines of fish need merely local cleanliness; those of jellyfish, also. Oil of eucalyptus, cinnamon or cloves, applied to the skin, prevent attacks of biting insects.

WOOD TICKS

Ticks (*ixodes*) usually do not remain long upon the skin. They insert their proboscides into the skin to suck blood. The tick may remain there for several days, its body becoming distended to the size of a pea or bean or larger. Its removal is all that is required for a cure, though care must be made to extract the head when the body is removed. Usually applying turpentine or some pungent oil to his posterior extremity will cause him to loosen his hold. If the head remains it should be extracted by forceps. A mild antiseptic dressing may be applied if desired; but as the tick is not poisonous this is not necessary.

CHAPTER VI

Natural Treatment of Skin Diseases

ALL forms of skin diseases are probably curable if proper measures are instituted before such extensive degenerative changes have occurred as to render regeneration impossible. By proper measures I mean natural methods of living and treatment. I advise that these be resorted to at the start of the disease, and not used solely as a last resort after medical methods have failed. Many "incurable" cases of skin diseases and of many other diseases are the result of the use of drugs, serums, vaccines and surgery. As pointed out in previous chapters, many drugs cause skin diseases; and it is common medical practice to use some of these very drugs in treating skin diseases. Most diseases of the skin are self-limited or tend toward spontaneous recovery. Even many of those considered incurable frequently recover spontaneously. These facts indicate that were natural methods employed recoveries would follow more frequently in the so-called incurable cases, and the self-limited would recover in much less time than when suppressed and complicated by drugs. The real work of cure is accomplished by the body, and this is more likely to result if the body is purified and the constitutional strength built up to the highest standard.

If the reader has carefully studied the foregoing pages he will understand that there are not so many individual disorders as seems to be the case and

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that the treatment of most of them, when looked at from the physical culture or nature cure standpoint, must be practically the same. Whether the disease be due to toxins, parasites, impaired nutrition or injury, or whether it is an eruption, a new growth, or some other form of disease, before health can be restored and the skin again become normal a few primary or fundamental objects must be achieved. These may be arranged as follows:

1. The blood and lymph must be purified.
2. The blood and lymph must be renewed and nutrition restored to normal.
3. The nervous energies of the body must be greatly increased.
4. The skin must be cleansed and kept clean.
5. Local measures are to be used in many cases for hastening the removal of the affection and for restoring the skin to more nearly normal condition within a shorter period of time.

When the first four of these requirements are met most skin diseases cease to be, and in a vast majority of skin troubles the cure speedily is brought about. With the addition of simple special or symptomatic treatments in some diseases a great many more of these affections quickly vanish.

One who has a skin affection, at least one of many types, should consider himself more or less fortunate in one way: If it were not for the eliminative surface affection the causative toxins would affect some internal organ in a serious manner and to a serious degree. A skin disease does good in another way. The affection cannot be hidden; and, since it disturbs one's equanimity and tends to create a hin-

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dering self-consciousness, an earnest endeavor to correct the cause of it is very apt to be made. Unless an internal disorder causes pain, or some other symptom is forcibly and frequently brought to the sufferer's attention it is the common method to ignore it or to make only half-hearted attempts toward its correction. The unsightliness of pimples or scabs, or of a glaring nose or spot on the face, causes the unhappy victim to "get after" the trouble and to stay after it until it no longer offends, or at least to struggle toward its correction.

To bring about the purification of the blood and lymph, it is necessary first to find and correct the causes of the pollution. If this be indigestion or constipation or gastrointestinal decomposition, or all of these, such conditions must be corrected. If it is due to the use of drugs and serums these must be abandoned. If faulty elimination is the cause, elimination must be improved. If wrong thinking—wrong mental processes—should be the cause at least in part, it will be necessary to make a change from destructive to constructive thinking. If the occupation of the individual leads to the skin affection, through exposure to various kinds of "dirt," to heat, cold, chemicals or other irritating factors, it will be necessary to change the occupation or make some alterations in it, or to take greater care in cleansing the skin and in maintaining the general health so as to render the irritating factors incapable or less capable of causing trouble. In short, every factor in the life of the individual that exerts a weakening and debasing effect upon the individual or that directly or indirectly weakens or otherwise

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harmfully affects the skin must be corrected.

As with any other abnormal manifestation of the body or any of its organs, so long as the cause or causes of the disturbance be allowed to continue no appreciable or lasting results toward complete eradication of the trouble can be accomplished. One of the chief objections to the usual medical method of applying merely external chemicals to the skin lesions is that, since these chemicals may and often do cause sufficient suppression of the body's eliminative effort to produce an appreciable lessening of the skin's abnormal appearance, they lull the patient into the belief that no other procedure is necessary—that the manner of living that caused the troubles can be ignored. Let me cite one case to illustrate the effect of this.

In one of my sanitariums appeared a patient with a very unsightly rash over the face, which had been diagnosed as pustular eczema. The woman had come for treatment solely for the skin condition. However, it was found that her kidneys were functioning much below normal, with intermittent albuminuria and high degree of indicanuria, and some blood and pus cells in the urine; the liver was functioning below normal, as shown by the condition of the stools; and the blood pressure was 50 points above normal. Her age was 60, but until six weeks or so before she was admitted into the sanitarium her health had seemed to be fairly good. She had been doctoring with a medical physician who used external applications and who insisted that his patient required more nourishing food than she had been taking. In spite of her attempts to eat more

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and oftener, her weight rapidly dropped and her energies were greatly lessened.

After a complete examination it was explained to this patient that her body needed the skin trouble to help out the weakened kidneys and body in general, but that the right kind of eliminative treatment would permit the kidneys to take care of their duties normally or practically so, thus reducing the need for abnormal skin elimination. She and her daughters appreciated the logic of my claims, and readily agreed to a fast for the patient. After fasting but four days the skin showed a marked change for the better, and the kidneys were functioning better, the energies seemed increased, and the sleep was more refreshing.

But the husband disapproved of the fasting, and had told the doctor formerly on the case that we were "starving" his wife. The morning after the fourth day of fasting the doctor and the patient's husband came to the sanitarium for the patient. Two of the four daughters came, also. They and their mother begged that she might remain, but against their pleadings and my warnings she was taken to a hospital. I warned them (not in the patient's presence) that the patient would be dead within six weeks if they started using external applications again and failed to carry out a strict eliminative diet and general program. Twenty-four days later I was called to the home of this family. The patient had been taken home from the hospital, the doctor telling them there was nothing more that he could do for her! She was in a pitiable but repulsive condition, with her face, throat, chest, shoul-

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ders and back covered with large patches of angry, pus-yielding sores; and I was informed that her kidneys were eliminating almost pure albumin. Needless to say, the patient then was beyond human aid. She died within 48 hours. *In spite of* the applications which had been kept on the skin lesions the body simply had to have this avenue for elimination; but the amount of poisons to be eliminated, created by the forced feeding—"to build up her resistance!"—were even more than this organ could take care of. There is no way of proving my contention, of course, but I always have felt certain that this patient would have lived many years longer if she could have gotten her body cleansed inside—the internal pollution being the cause of her trouble.

Therefore, I say again that unless the cause or causes of skin diseases be removed the troubles will remain in some form, or some other organ of the body will be made to suffer, probably disastrously. There comes a time in the course of disease when the healing forces of Nature no longer can make any appreciable effort toward life preservation; but until that time comes no manner of suppressive or compromising treatment will keep these forces down to such a degree that some symptoms of "disease" will not make their appearance. And if the tendency is toward skin "disease," through the body's efforts to purify the body and bring about some degree of internal normalcy, the skin will possess some abnormal manifestations which, nevertheless, will be perfectly *natural* under the circumstances.

Throughout all my writings, and especially in my various books on health, I have so emphasized the

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value of the fast as a purifying agent that all who are acquainted with these writings must be familiar with this method of treatment. Usually, however victims of any particular disorder desire to know about the special application of any healing factor to their disorder. I cannot give here a regimen that will be perfectly suitable for every case of skin disease, because, as with any other manifestation of disease, the individual must be taken into consideration with his various peculiarities, including his response to any treatment factor. The individual himself will need to adjust the treatment to his own requirements—unless fortunate enough to be in the care of a nature cure physician or sanitarium. If the theory of the fast is understood this adjustment is an easy matter.

Without doubt the fast is the greatest single factor of body cleansing that we possess or ever can devise. To me, it is the most reasonable assumption that when the body no longer is required to expand its energies in taking care of food it can exert these energies toward purification of its blood stream, its lymph stream, its organs, and its countless cells. Not only this, but when it no longer must combat the toxins developing from unrequired food in the alimentary tract, those absorbed from this tract, and those developing in the abnormally functioning organs and cells, and cells of the body and all its organs and nerves can function in a more nearly normal manner, since they are not depressed by the energy-sapping poisons. Furthermore, when the blood no longer is saturated with food elements constantly and regularly supplied, it is free to take

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into itself toxins and abnormal products that have been deposited in organs, tissues and cells and get rid of these through the eliminative organs, thus quickly reducing the encumbrance that is general but, usually, especially prominent in certain tissues. These effects of the fast cannot be denied; and if they are secured it readily can be seen that any abnormal manifestation of the body or of any organ of the body must, of necessity, be greatly reduced.

The actual procedure of the fast is not complicated. All that is required is to abstain from food. This abstinence from food may be complete or partial; but by the fast, unqualified by any other term, I always have meant the taking of nothing but water. Many times I have prescribed a "fruit fast" or a "fruit-juice fast," the terms being self-explanatory. And often I have had reason to believe that the latter fasts were as beneficial for the cases where they seemingly were more applicable than the complete fast as was the complete fast where this seemed to be required. Much depends upon the need for rapid elimination or the less urgent need for rapid elimination as to whether the complete or the partial fast is to be adopted. Also, the patient's weight and energy govern to a considerable extent the type of fast. Quite evidently the thin and debilitated or the nervously exhausted individual cannot endure easily a total fast as can most individuals who are normal or above normal in weight and whose energies seem to be little impaired.

However, the *duration* of the fast is an important consideration, and usually is in fairly direct ratio to the patient's weight, strength and energy. Appar-

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ently the less vigorous persons derive as much benefit from short fasts as the stronger individuals derive from the longer fasts. Quite often, though, one finds one's strength and energies improving on the fast, even though the weight is reducing. And not infrequently an individual who is overweight finds his energies and strength being quickly sapped even on short fasts. How much of these effects may be due to the mental attitude toward the fast is impossible to determine, though it is certain that if one fears the fast or takes it under protest he will derive less benefit from this procedure than if its curative value is appreciated and it is entered into with the full determination to secure all possible benefit that may be derived from it.

The individual who can take a fairly protracted ("finish") complete fast should avail himself of this most desirable form of treatment. The next most desirable fasting treatment is the complete fast of shorter duration. The fruit-juice fast is the next most eliminative; and for the fearing individual or the very thin and debilitated individual this may be the best treatment when the fast is to be conducted without supervision. The fruit fast, during which the pulp of various fruits may be taken, is excellent but rarely is necessary, the fruit-juice fast usually answering the purpose admirably.

No preparation is required for the fast, contrary to the belief of many. If one's finger is in the fire it does not have to be withdrawn by degrees. So, if one's body is burdened with toxins and if these are being added in considerable amounts by eating, it does no harm to stop this poisoning suddenly. In

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place of the "next meal" merely take the juice of an orange. One then is launched upon his fast. For the first day or two the juice of an orange may be taken at each meal time or, better perhaps, an orange at each meal time and one between each two meals, making six a day. Or two oranges may be taken at mealtimes, none between meals. This may be called "preparation" for the complete fast; but, as the fruit juice usually is laxative and at the same time energizing, also as it contains neutralizing mineral elements, it has a definite benefit at the beginning of the fast.

After this first or second day on fruit juice, nothing but water should be taken. This may be hot or cold, according to preference. Thin and "cold-blooded" people prefer hot water usually; and many others prefer it during cold-weather fasts. The amount should not be governed solely by desire, for it often happens that the desire is greatly diminished, even nil, during the fast. Water is necessary in order to dilute the toxins, keep the blood normally thin, and dissolve toxins and deposits that have accumulated here and there. It also dilutes the urine, thus making it less irritating to the kidney structures through which it passes. And it may have somewhat of a laxative effect. The quantity should be at least three pints daily; and it is a good plan to take a glass of water each time one hears the clock strike—arranging to hear it every hour; otherwise, an attempt should be made to take a glass of water practically every hour, or ten to twelve glasses daily. If the water has a peculiar and undesirable taste, as it often has during the fast, a few drops of lemon

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juice may be added to it; however, if one drinks the water down without waiting to taste it by sipping, it usually will be found very easy to take the needed amounts.

This complete fast should be taken "from day to day" only, no attempt being made to fast for a certain number of days or to break some one's fasting record. So long as the energies remain good and there are no unpleasant symptoms, the fast should be continued. For the first 72 hours or so there is apt to be a noticeable "hunger," so called; but this is merely a habit hunger, as is proven by the fact that after this time the desire for food usually leaves entirely until the body again is in actual need of food or can take care of it normally. There may be a slight palpitation of the heart, and slight giddiness upon rising to a sitting or standing position after reclining or sitting, also some floating specks may appear before the eyes during the fast. These may be ignored, though care should be taken not to intensify the palpitation by worry or unnecessary or strenuous activity; and one may need to avoid rapid rising to standing position lest the giddiness precipitate a fall.

Among the indications calling for breaking the fast are: return of a normal appetite that craves some simple natural food; "watering" of the mouth; frequent, constant or disturbing palpitation; marked or constant giddiness; progressive weakness; insomnia (not the mere reduction of sleeping hours); nervousness or irritability uncalmed by relaxation; decided blurring of the vision not relieved by light physical activity; headache that persists; progres-

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sive chilliness; drop in weight or blood pressure to below normal, except weight reduction without any other untoward symptoms; clearing of the tongue (though it often is inadvisable to await this change). Many advise fat people to take the complete "finish" fast—fasting until a normal appetite is produced, probably until the weight is practically normal or approaches normal. These people may need a fast, but they need to be more careful than others not to develop a true acidosis from lack of all carbohydrate foods. Hence for these it often is advisable to take a few oranges daily, or some other fruit or its juice, or concentrated simple vegetable broths. The symptoms of acidosis are: deeper and more rapid breathing or labored or sighing respiration ("air hunger"), nausea, vomiting in severe degree (probably brought on by mere attempts to swallow), sweetish, fruity odor of the breath, headache, drowsiness or apathy or restlessness, anxious expression except during apathy, rapid and weak pulse. These symptoms of "acid intoxication" will not develop during a properly conducted fast.

It cannot be said offhand that a certain type of fast should be used in all cases of any one type of dermatosis. But ordinarily, I believe, it might be said that the complete fast, continued until marked improvement of symptoms is secured, would be better than any dietetic compromise in the following skin affections: abscesses, except tuberculous; anthrax; boils; carbuncles; dermatitis, epidemic and drug-produced forms; ecthyma; erysipelas; erysipeloid; farcy; fever blisters; florid complexions; herpes; hives; impetigo; jaundice; keratosis (con-

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tagious form); lichen; pemphigus; pompholyx; pustules, malignant and post-mortem; sycosis (acute and subacute); syphilitic lesions; vaccination dermatosis; whitlow.

On account of their chronic nature some skin diseases prevent fasting for a sufficient length of time to change greatly their manifestations; but since their cause is toxic in nature, and because of the nature of the skin lesions (perhaps pustules), the benefits of the fast are needed. In these diseases the better plan usually would be to take complete fasts of short or moderate length, or somewhat longer fruit-juice fasts (preferably the former), and repeat the fast every four, six or eight weeks until a cure or great improvement has been secured. Among the diseases I have found to be, and those I believe to be best treated by such a fasting regimen are: acne, except perhaps malnutrition (scrofulous) acne; angioneurotic edema; some complexion faults; dermatitis; eczema; elephantiasis; epithelioma; erythema; fibroma; fungoid tumor; hard skin; leprosy; pityriasis; prurigo; psoriasis; purpura; sarcoma; some cases of syphilitic lesions, and of itch; liver spots (chloasma of internal origin); lymph-vessel tumors; nerve tumors; new growths; also, perhaps, some cases of acrodynia, frostbite, gangrene, hypertrophies, lupus, pellagra, and sycosis.

In most of the other skin diseases not mentioned in the two groups above the fast will be of benefit only indirectly; that is, it is not specifically indicated in them. A considerable reduction in the total quantity of foods, or a modification of the diet to

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include an abundance of the alkalinizing, neutralizing and genuinely nourishing foods, especially fruits and green vegetables, or in some cases even more ample nutrition will be the dietetic requirement.

We have found, then, that the fast is the most rapid method of bringing about purification of the blood and lymph and the body cells, when the condition permits of the fast. It must not be understood, however, that during the fast is the only time during treatment, or the only means by which, purification is accomplished. The proper diet following the fast, or the proper diet when the fast is not employed, should accomplish this by a constant though less rapid alkalinization and elimination. But since the blood and lymph and nervous energy must be restored or built up toward normal, and since food is one of the chief means of bringing this about, the diets other than the fast will be included with the restorative measures, soon to be given. I shall first give the other eliminative measures that may be employed, either during the fasts or at other times.

Inasmuch as the fast must be regulated, in large measure at least, according to the strength, energy and vitality of the patient, there is not apt to be sufficient weakening from this procedure as to preclude other means of elimination. However, the fast will accomplish much without "assistance," and those who desire to conserve their energies for the fast by avoiding other eliminative means may do so, though I do not advise it for the majority of cases.

Those eliminative measures other than the fast are not to be limited to those cases where fasting is employed nor to the fasting periods. They are to

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be employed in practically all cases, and after or between fasts. They are, in fact, more important in those cases where fasting is not used, since when this most rapid eliminative measure is not used others to take its place somewhat are desirable, often necessary. In any case they may be said to be general health measures, and for this reason at least some of them should form definite parts of the treatment.

We have become so much a constipated race that almost all ailing people require some means of bringing about intestinal cleansing other than relying solely upon natural actions or, rather, spontaneous actions, for if the bowel actions were *normal* no assistance would be necessary—and few illnesses ever would “invade” our bodies. Countless drugs have been used in the past and many others still are employed to whip up the bowels to greater eliminative efforts; but these are harmful, and especially so when on a fast or corrective treatment. Hence we must rely upon some safe procedure. The enema has been found the ideal eliminant during the fast, also at other times when needed. This consists merely of injecting water into the rectum by means of a fountain or other suitable syringe, the quantity and temperature being governed by the needs. Usually one quart is sufficient in an ordinary enema, though one pint often is satisfactory; and many times one finds it difficult to retain more than one pint, which, however, is not fully effective, in which case the pint enema may be repeated one or more times. The best temperature is tepid, though often it is advisable to start with moderately warm water

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and at succeeding injections reduce the temperature a couple of degrees until fairly cold or fully cold water is used. This is an excellent means of naturally and safely stimulating and toning the rectal muscles and nerves and circulation, and also those of the entire large bowel (colon).

The high enema is a more advanced form of enema. For quick results in clearing the colon nothing equals the high enema. This is administered by means of an ordinary fountain syringe bag and its flexible tubing, to which is attached a slightly stiffer (but still flexible) and slightly larger rubber tube, usually called a "colon tube." With water at the desired temperature and preferably with the patient in the knee-chest position, the colon tube is taken from a can or cup of oil, the stopcock is released until the water appears at the end of the tube when the stopcock is again closed, and the tip of the tube then gently inserted into the rectum. After insertion for a few inches it is advisable to release the stopcock slightly so that water will gently flow into the bowel. This water tends to clear the way ahead of the tube so that it may be inserted easily and not fold up on itself. The tube should be inserted at least 12 inches, preferably 18 inches or more. Two quarts of water is the least that should be taken in this manner, and three or four quarts usually can be taken easily. It may be necessary with this high enema, also with the low enema, to close the tubing occasionally to allow the already injected water to disperse. This is necessary usually only when the injection is too rapid or at other times when it produces pain. Slowly injected, it

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should cause no trouble. A five-minute period is sufficiently long to retain the water of the high enema or of the ordinary enema, and usually three minutes is sufficient.

During a fast of five days or so some form of enema should be taken each day; and if the patient is very toxic the enema should be taken twice a day for the first two days. If the high enema is taken, once a day will be sufficient if this one is effective. After five days, if the fast is continued beyond this time, every second day will be often enough for either enema; but if the fast continues longer than eight or ten days the enema may be dispensed with after the eighth or tenth day, or taken every third day to the end of the fast.

The skin is "diseased" either because it is employed by the body as a necessary avenue of elimination, or because it *cannot* be used normally as such an avenue—as in the case of dry skin, fishskin disease, etc. It may be aided in its work of extra elimination, or it may be somewhat softened or toned up and made a better organ of protection and possibly of elimination, by proper baths. Elimination is not increased in quantity or degree as much by any bath as by exercise, but in some instances some eliminative bath is to be preferred to exercise. The type of bath will depend chiefly upon the patient's preference, his vitality, and his skin condition.

The warm tub bath is one of the best baths. If one has plenty of weight and vitality, the hot bath may be used; but in comparatively few cases can this bath be continued sufficiently long to accom-

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plish much good. And short hot baths are more apt to defeat their purpose, for they cause a protective contraction of the skin. It is true that the reaction will produce skin relaxation sufficient to allow slightly above normal skin activity to take place; but this still will be insufficient to accomplish what is desired. Hence the daily warm bath, continued for an hour in most cases or, preferably, 30 minutes twice daily will be the preferred bath.

A temperature of about 96 to 98 degrees is comfortable. A glass of hot water should be taken immediately before or upon entering the bath and every ten or fifteen minutes of the bath. This, with the constant temperature of the bath, will produce an active perspiration, which is what is desired. And the perspiration produced by such means (chiefly by the hot-water drinking, but especially by the combination) is created by the pronounced increase in circulation and cell activity, and will approach in benefit that created by exercise. An excellent means of maintaining an equal temperature of the water is placing jugs or large bottles containing boiling water in the bath water, thus making unnecessary the frequent draining out of part of the water and running hot water into the bath where an abundance is not available.

The bath should be terminated by a cool bath, either by allowing cold water quickly to enter the tub until the temperature of the bath water is cool or by a cool spray or splash to the body. However, if one is to retire immediately after the bath the cool bath may be omitted. Good friction should complete the entire bath, care being taken to avoid

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injuring the areas that may be affected with irritated or inflamed eruptions.

It is customary in medical practice to caution *eczema* patients against bathing the affected areas of skin. In my experience I have found that benefit is derived from such a bath as I have described. Perhaps even better results are secured by adding alkalines to the bath water. If sea water can be obtained conveniently for the bath water it is ideal. But a very excellent alkaline bath may be produced by adding one pound of sal soda (washing soda) to 30 gallons of bath water—or one ounce of the soda to each two gallons of water used. Or any of the following salts or salt mixtures may be employed, the total amount of salts to be added to 30 gallons of water: eight pounds of dry sea salts; six to eight pounds of ordinary table salt; one-half pound of Epsom salts; one pound of chloride of calcium (*not* chloride of lime); or seven pounds of common table salt, one pound of magnesium chloride, and one-half pound of Epsom salts.

These general baths, with or without the alkalines, are apt to be decidedly (but usually temporarily) weakening, especially those containing Epsom salts. For this reason they may need to be avoided by some people during fasts of any duration, and usually should not be taken by anyone after the third or fourth day of the fast. In any case, one bath a day when any of the alkalines are used, will be sufficient, even when on full nourishment. It usually is much better when relaxation for a period of at least 30 minutes can follow an alkaline bath.

It may be mentioned here that any of the alkaline

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solutions will be excellent to use with compresses for local applications. Individual cases will respond differently to the different solutions, and it may be found that one will agree better than another, though in some cases none will be serviceable.

It should be needless to say that fresh air is of great importance. The blood must have oxygen in abundance for itself and the body cells to burn up toxins and waste material. One should insure a supply of fresh air every minute of the day. If confined within doors the ventilation of the home or office or shop must be sufficient to provide a constant supply of fresh air and an exhaust of foul air. Open-air activity is one of the most beneficial means of obtaining the required oxygen and under the most favorable conditions. Sleeping rooms must be fully ventilated, though this does not mean that it is necessary to sleep cold or in a draft. If one is indoors most of the time there should be provided some means of moistening the air in winter, such as by pans or special humidifiers placed on or attached to the radiators. The lungs and the skin function much better in a slightly moist atmosphere than in a super-dried atmosphere.

Exercise is one of the most valuable means we have for purifying the blood and for preventing a harmful degree of toxemia. It is true that over-exercise, whether in a single "dose" or regularly, may add to toxemia by its effect of breaking down old cells and of producing numerous by-products of accelerated cell activity. But it is equally true, and of greater importance since far more people under-exercise than overexercise, that without exercise no

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human body can be free from toxic poisoning in some degree; and if the diet and general mode of living in other respects are those of the average individual the degree of toxic poisoning will be considerable.

If one's general condition will permit, daily exercise to the point of perspiration would aid tremendously in correcting practically any toxic skin disease. This degree of exercise is impossible for many people, and for most people during the cool and cold months; and, fortunately, it is not entirely necessary. But there should be some exercise once or twice daily, the amount and resistance to depend upon the individual's condition and requirements. The exercises should make necessary somewhat deeper breathing and faster heart action, for only exercise that has such physical effects will have any appreciable physiological effect. Exercise in this degree will produce some helpful degree of added skin activity, also, which is highly desirable, in fact necessary.

The exercises to select are numerous. No particular movements will have a direct effect upon the skin affections, except in case of pimples or other facial blemishes; hence, those selected must have a desirable general effect. It is much better when every muscle in the body is employed in the day's exercises, part in the morning and the remainder in the evening, though every muscle may be exercised in the same period. But exercises for the smaller muscles may be omitted if one's time is limited or the energy lacking or maximum effect is desired within the shortest period of time, and effort concentrated upon the larger muscles that have a pro-

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nounced general physiological effect—those of the trunk and thighs especially. Various trunk movements and thigh exercises, the latter as by squatting and rising, will be more quickly beneficial. Walking always is one of the most valuable of exercises, for its variety of effects and because it usually is done in an abundance of fresh air and sunlight.

Exercises that cause a temporary concentration of blood in the skin of the face will hasten cure of facial blemishes, by bringing larger quantities of blood to the skin and carrying away the products of the increased local cell activity—serving in this way as a local “blood bath” to the skin. These are the movements that have been illustrated in this book. But even when these are taken for their local effect, others of general benefit should be taken regularly, also. Whatever exercises are selected, perform them daily, and put enough vigor into them to make a noticeable effect upon the body’s functions.

Aside from the factors suggested for purification of the blood and lymph streams, rest and relaxation often are highly important. Many people keep their bodies more or less toxin-saturated by maintaining a constant or frequent fatigue, brought about by excessive physical or mental activity. They may not be aware of the fatigue because of some degree of mental or nervous excitement that keeps them buoyed up; or they may be conscious of a marked fatigue, but believe it necessary to “carry on” in work or pleasures or so-called duties. Many are emotionally exalted or depressed to a considerable degree and more or less constantly. Any of these states will be sufficient to produce or main-

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tain a state of toxemia which will retard a cure of toxic skin affections. Therefore, rest and relaxation, of the mind and nerves (and of the sexual functions) as well as of the muscular system, should be secured when attempting a cure of any abnormal condition of the body. And especially is emotional composure important. Anger, worry, fear, envy, jealousy, etc., must be avoided or a pure blood stream cannot be secured or maintained.

Building up the blood and lymph and nutrition is the next step toward a cure of skin diseases. This must be done not only by better feeding, but by proper attention to all of the many factors that affect the nutritive processes. The diet following a fast or between repeated fasts will be as important as will the fast, perhaps more so, especially where only short fasts are taken, as in chronic affections. And when the fast is not employed the diet will be the chief means by which a cure will be established. He who expects a cure without having to modify his diet in some degree is doomed to disappointment.

I have advised the milk diet in countless cases following fasts and in many cases of skin diseases, and this is the best blood-building diet that can be devised. It provides every element required for body nourishment; contains the necessary mineral elements and vitamins; is easily digested; increases the quality of the blood and gives it an abundance of fluid for absorbing deposited waste matter; increases the functions of every organ and gland of the body, including the skin and its glands; through the greater activity of the pores which it creates toxic material is eliminated; and it causes increased



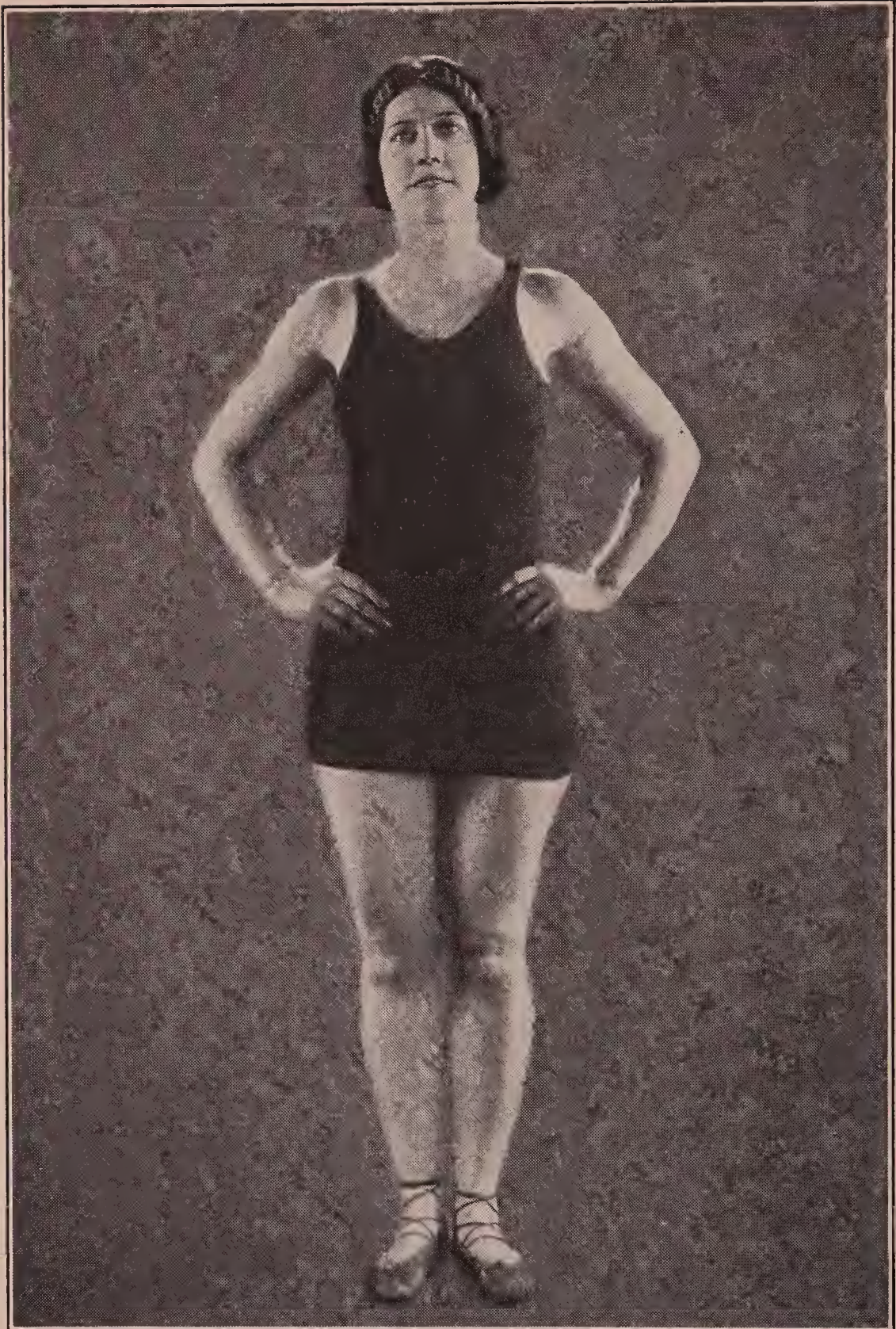
Standing easily, breathe slowly and deeply in and out through the puckered lips that restrict the breaths. Also close one nostril with a finger tip and breathe similarly through the open nostril, then reverse. Breathe deeply but not strainingly.



Stand free from tension. Take a full breath to elevate the chest, and hold the breath for four or five seconds while rapidly tapping the chest all over alternately with the palms. Relax, breathe normally a few seconds, then repeat once or twice.



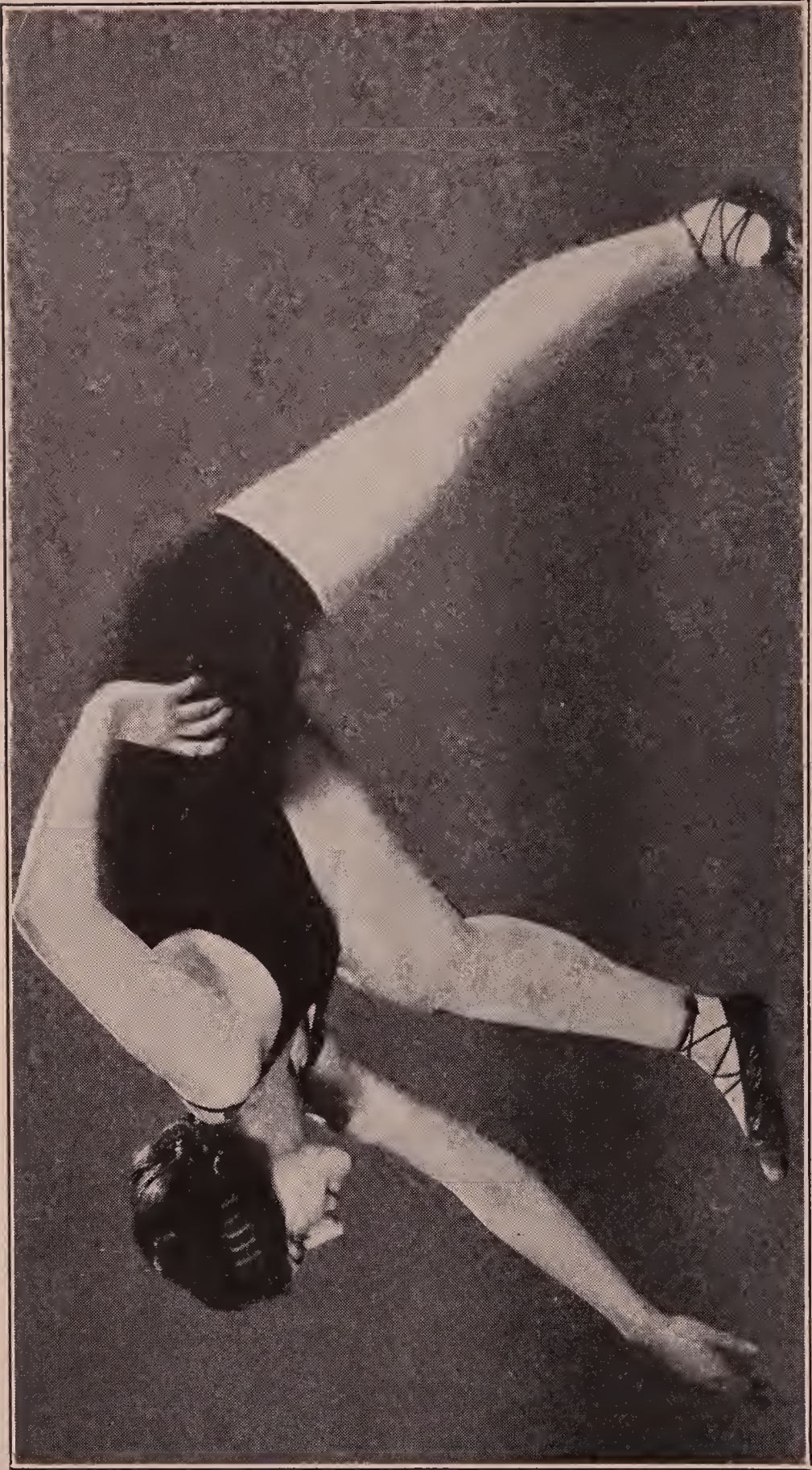
Stand erect, hands down. Upon starting to inhale, bring arms up and clasp hands behind head. Continue the breath while elevating the chest, and resist with the hands while bending the head well back, tensing the spinal muscles. Relax while exhaling, and repeat.



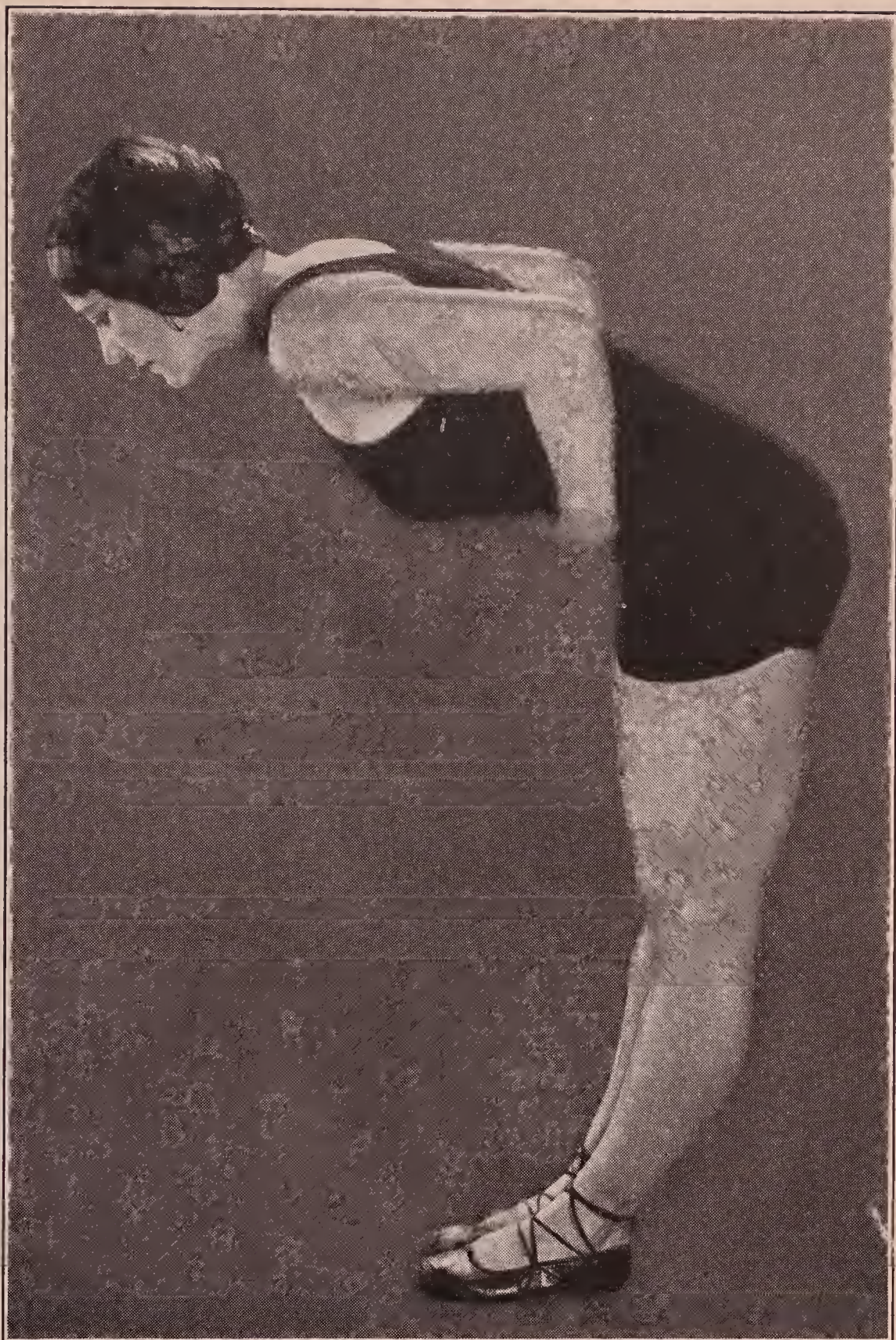
Standing as shown, tense all the trunk muscles. Now move the trunk, from the hips upward, in a rapid vibratory movement forward and backward over only an inch or two. Continue for only four or five seconds and relax fully before repeating once.



Stand erect, arms down at sides. Slowly inhale and raise arms outward. Upon exhaling bend forward, then rotate to position shown, inhaling upon the turn. Slowly exhale and inhale upon reversing the turn, then come to erect, arms down. Exhale, then inhale and repeat.



Stand erect, hands on hips. Lunge easily far forward with left foot, inhaling and keeping the trunk erect. Bend trunk forward, reaching left hand as far beyond left foot as possible, exhaling. Recover second position, then erect position. Alternate left and right.



Standing erect, clasp hands over center of abdomen. While taking a deep breath bend forward, holding hands firmly against the abdomen, drawing upward. Enlarge chest fully. Then "pump" abdomen in and out against hand resistance. Come to erect, relax, and repeat.



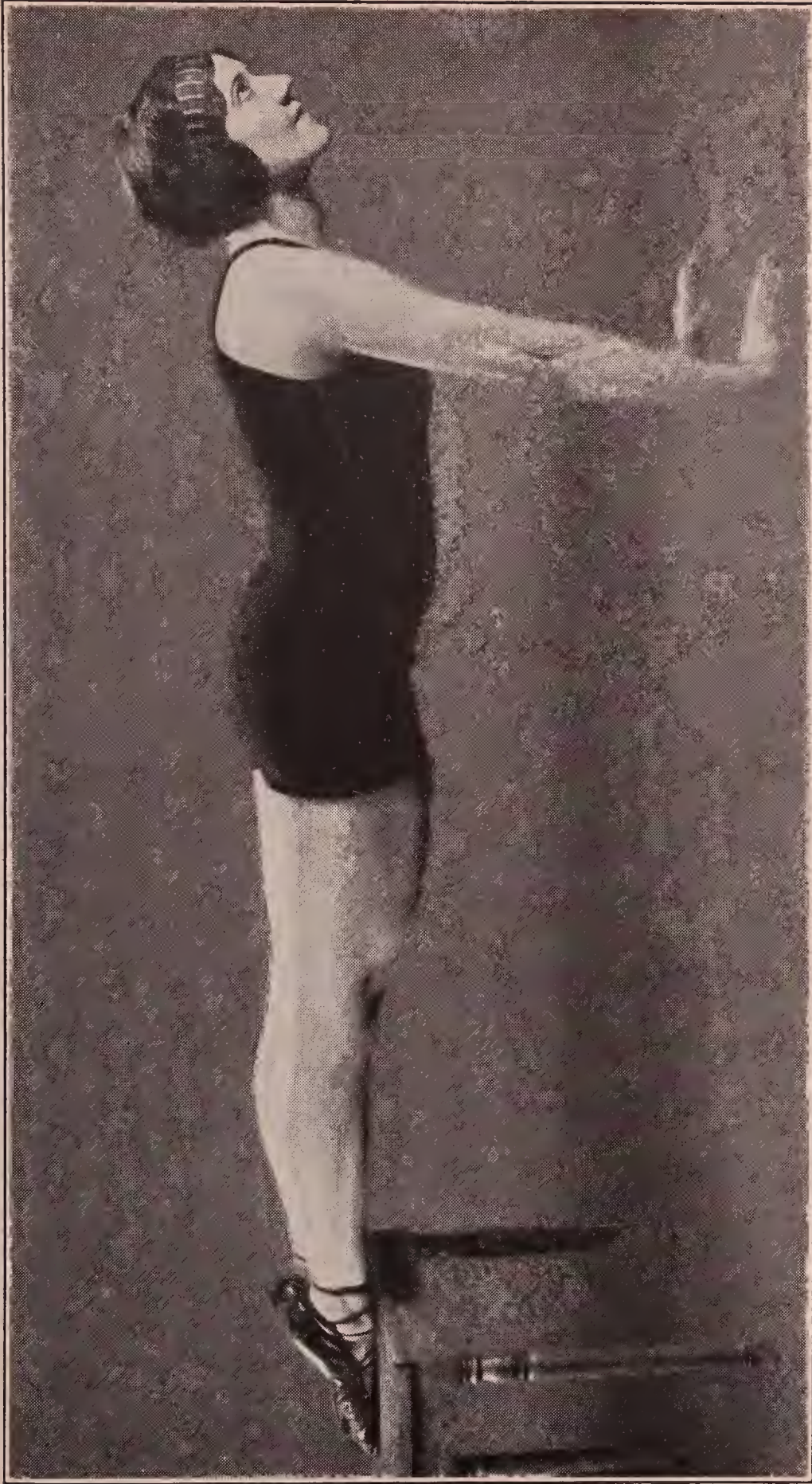
Start at position shown, then hop on the right foot, descending on the left, and repeat, alternating arm positions with good swings. The arm goes backward as the corresponding knee is raised. This "stationary run" or "running in place" is excellent for the circulation.



Clasping hands under thighs as shown, tense back, abdomen and arms and try to lift the body. Also grasp ankles with hands, forearms outside of legs, then hop up and down. Repeat the first movement several times before taking the second.



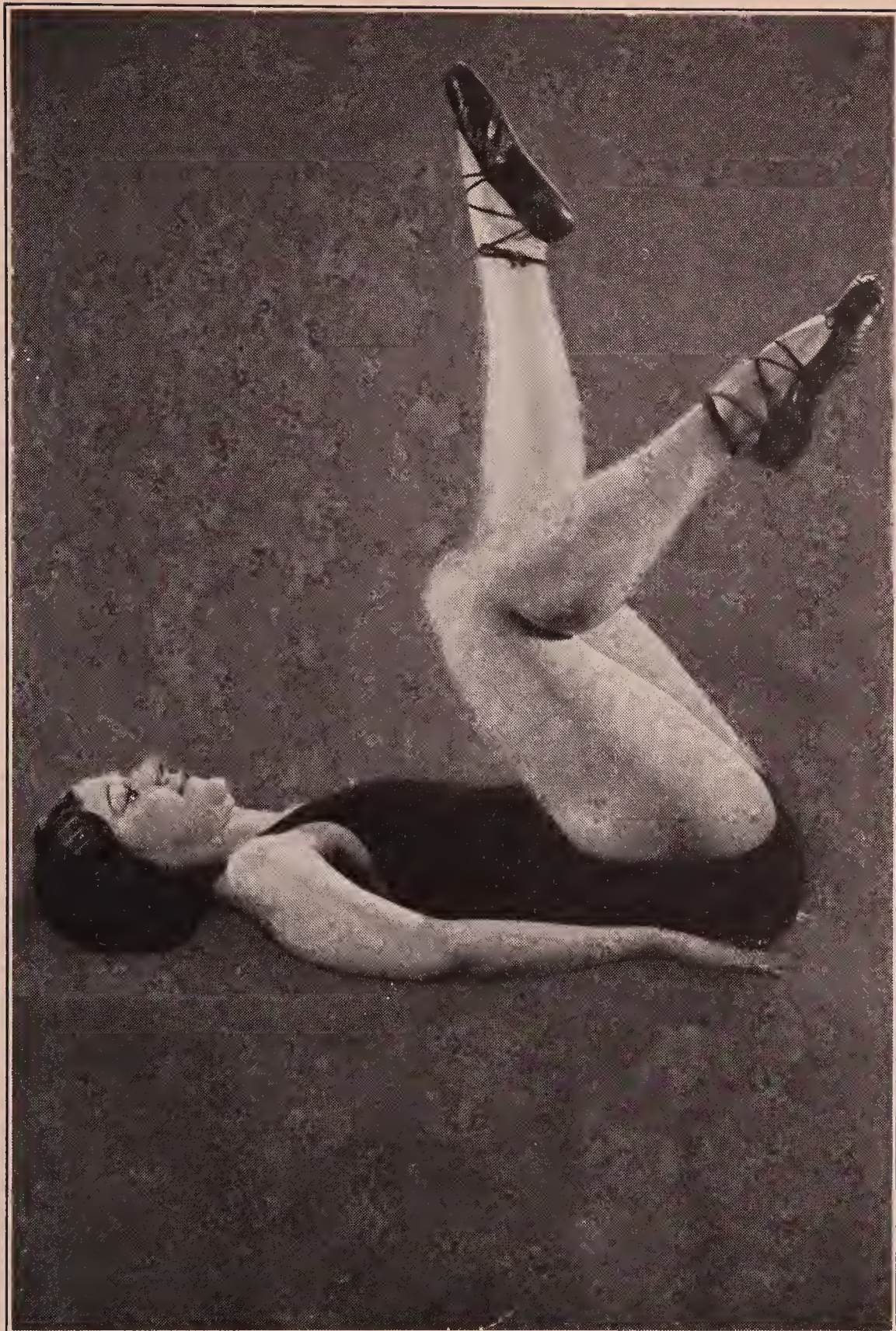
Squat with trunk erect, palms on knees. Begin a deep breath while bending forward, at same time carrying arms out, back and upward until forehead touches floor. Exhale fully but keep chest high while returning to erect position. Breathe normally, then repeat.



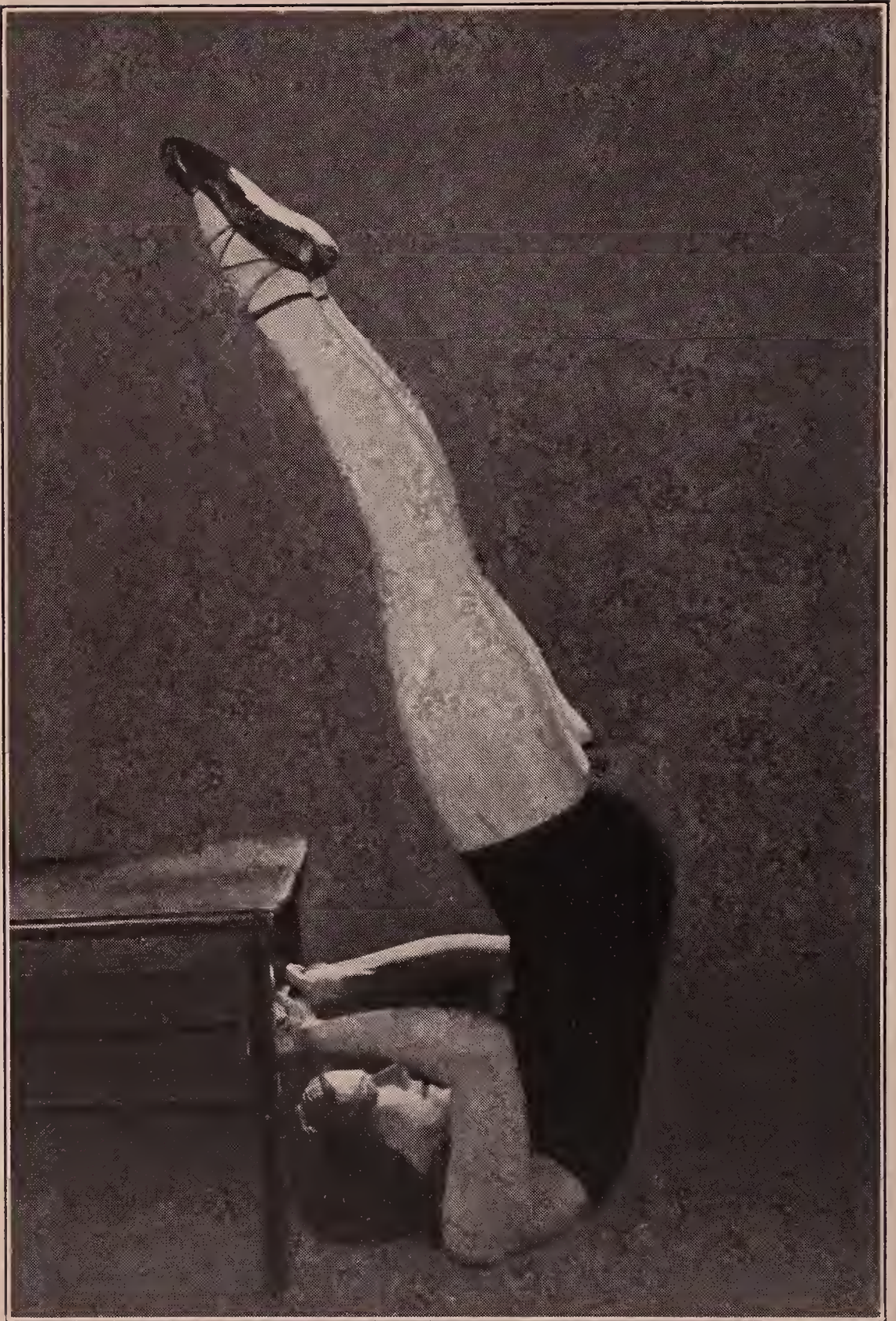
Take position shown, feet on chair, couch or bed. If arms are not strong, lower hips to floor, elevate to starting position, and repeat. If arms are strong enough, bend elbows until chest touches floor, push upward and repeat, and take first exercise also.



Rest the hips and lower abdomen comfortably on stool or pillowed chair, heels under some suitably heavy piece of furniture. Starting with trunk relaxed downward, raise trunk to position shown but with head facing front. Lower trunk, relax and repeat.



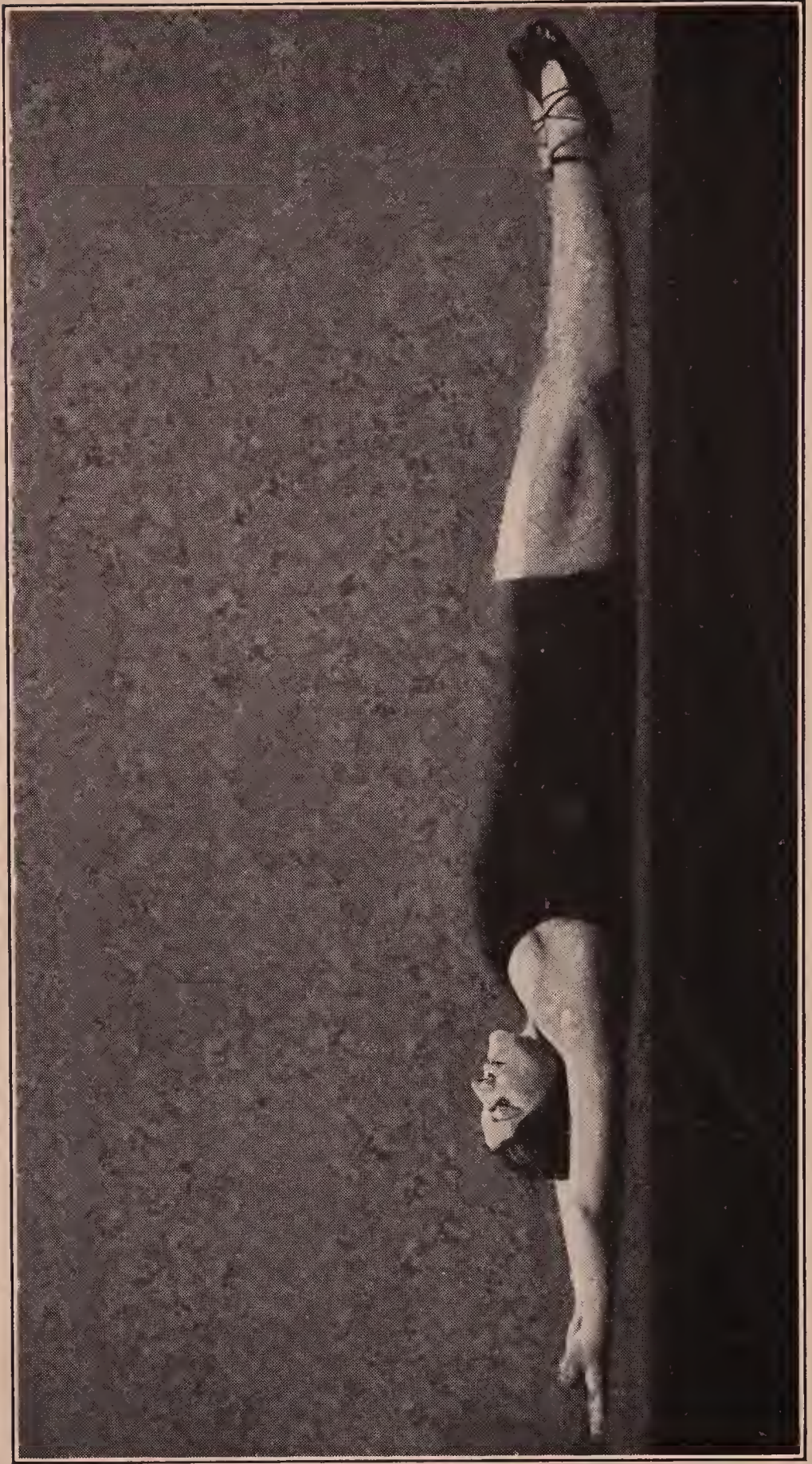
Lying on back, bend knees and bring over body. In this position perform the bicycle-riding movement, slowly at first, then gradually faster. Also raise and lower legs without quite touching floor. Also extend legs back over head, touching toes to floor.



Lying on back, hands clasping bed rail or other suitably heavy or well-braced piece of furniture. Bend knees slightly and raise over abdomen, then "shoot" legs upward as shown. Curl back while lowering, legs still over body, then repeat. Lower to floor, relax.



Lying flat on floor, hands under head. Take a deep breath and tense all muscles of back of body, and elevate hips as shown. Lower slowly, and repeat after relaxing. The hands may be at sides, also. Raise hips *high* each time.



Lying flat on back, arms alongside body. While taking a slow deep breath raise arms upward and downward to position shown. Try to take in more air while stretching arms and legs to the limit. Exhale, lowering arms. Breathe normally, then repeat.

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frequency of urination of a well-diluted urine, thus relieving the kidneys of irritation and at the same time carrying out, within each 24 hours, a large amount of toxins the blood has been able to extract or absorb from the internal body. But there is so much to the subject of the milk diet that I have written a book upon the subject alone ("The Miracle of Milk")—and, also, one on the fast alone ("Fasting for Health"). If one desires to take the milk diet it would be well to be thoroughly informed upon the subject, in order that the diet may be followed properly for best results.

The skin diseases for which the milk diet, following the fast, would be the most desirable diet are: acne, angioneurotic edema; anthrax; boils; carbuncles; chilblains and frostbite; complexion faults except, perhaps some cases of florid complexion; dermatitis; ecthyma; erysipelas; erythema impetigo; leprosy; pustules, malignant and post-mortem; vaccination dermatosis.

Many of the skin diseases, as stated, do not call for the fast. Yet some of these would be improved more rapidly by a milk diet than by a solid food diet. In such cases there should be at least one or two days of no solid food prior to beginning the milk diet—orange juice being the preferred preparatory diet. These diseases are: atrophies of the skin; chapped skin; dry skin; fishskin disease; keratosis; leprosy (some cases); lupus; pellagra; scleroderma; scum pox; scrofuloderma; tuberculosis of the skin; wrinkles.

The milk diet will not aggravate any abnormality, of the skin or elsewhere, except occasionally a

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catarrhal condition—though it must be understood that by the “milk diet” is not meant a hard-and-fast regimen from which there is no deviation; to be properly taken and of benefit it must be adjusted in amount, kind of milk, manner of drinking, etc., to the individual condition. This is true of any treatment program. There are some skin diseases that best respond to a properly selected solid food diet. Among these diseases are: eczema; elephantiasis; epithelioma; fibroma; lymphangioma; psoriasis; and sarcoma. It must be understood, however, that if the underlying condition or the predominating general condition or the specific disease of the “skin patient” calls for any certain form of treatment, dietetic or otherwise, this condition must receive first consideration, the skin condition being ignored—except, perhaps, for any local treatment that might be indicated or beneficial and not an interference with the general treatment. In any of the diseases mentioned in the group immediately above, the milk diet might be prescribed without any harm whatever if the patient’s chief trouble called for such a diet. The whole problem is one of individualization of treatment, regardless of what treatment factors are employed.

After the milk diet, or when for some reason the milk diet is not possible or desirable, to build up the blood and lymph the foods that are absolutely necessary are those that are rich in alkaline mineral elements and vitamins, while the acid-forming foods should be consumed in considerable moderation. The diet should consist largely of fresh fruits and vegetables, chiefly raw, with but moderate quantities

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of proteins, carbohydrates and fats. When the normal alkalinity of the blood and other body fluids is restored a great step has been taken in the cure of any disease.

Among the alkaline foods are all fruits, vegetables, melons and milk, that have not been processed, "refined," or denatured, or spoiled by poor cooking or overcooking. However, potatoes and sweet potatoes, dried beans, peas, lentils, bananas, figs and dates are inclined to be acid-forming, especially when eaten in any considerable quantities. Meat, eggs, fish, fowl, and cheese also are acid-forming, and should be eaten moderately.

For fear that some will still wonder what foods to use, the following kinds should greatly predominate in the diet: Fruits—oranges, grapefruits, apples, peaches, pears, grapes, prunes, apricots, plums, cherries, and all berries; vegetables—lettuce, spinach, asparagus, young alfalfa, tomatoes, celery, carrots, onions old and young, cauliflower, kale, green beans, young peas in pod, green corn, watercress, cucumbers, green peppers, dandelions, parsley, turnips, parsnips, kohlrabi, eggplant, mushrooms, squash, pumpkin, oyster plant, leek. Dried or evaporated and canned foods may be used when it is impossible to secure the fresh foods, but one should not rely solely upon them.

Since one should use the entire grain of cereals when cereals are employed in the diet, considerable starch and protein are obtained from a liberal use of these foods. Hence, in spite of the fact that the outer hulls and dark layers of grains are among our valuable blood-purifying and blood-alkalinizing

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foods, the quantity of cereal foods should be kept below the amount usually consumed, in order to avoid an excess of the acid-producing elements. The starch and protein of the cereals often are in such abundance that they are not neutralized by the alkaline elements of the outer surfaces.

Many people secure excellent results by using an exclusive fruit diet—using citrous fruits, fresh juicy fruits, and some sweet fruits, according to taste, or the first two varieties alone. Others take a diet strictly of vegetables alone, using either raw vegetables or raw and cooked vegetables, sometimes having one meal a day on either plan, or nothing but vegetable broth. Some prefer a fruit and vegetable diet, eating the foods uncooked. This is an excellent plan. Usually, however, it is better to have one or two meals of one or more fruits alone, and the other meal or two (either the two-meal plan or three meals daily) of vegetables, as preferred but usually raw or all raw except one cooked green vegetable.

A plan that I very frequently, in fact usually, advise consists of taking milk at the rate used in the strict milk diet (one glass every 30 or 40 minutes, according to the case) until one or two o'clock in the afternoon, during which time from two and one-half to three and one-half quarts of milk are taken, the quantity depending chiefly upon the sex and general condition. No food is then taken until the evening meal, when a vegetable meal is eaten, consisting of either raw salad vegetables or cooked green and tuberous vegetables, or a mixture of raw and cooked green vegetables, perhaps with one

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cooked tuber. Occasionally at this single meal of the day may be taken a slice or two of thoroughly dried or toasted whole wheat bread with or without butter, probably three or four ounces of cottage or two ounces of other simple cheese or an equal quantity of any other preferred protein, or sweet fruit. A fresh fruit or berry dessert may end the meal if the meal contained no starchy vegetable or other starch except the whole wheat bread. But the fruits or berries are not to be sweetened, unless by a little honey, or cooked with a sweet fruit.

It should be understood that it is impossible to outline menus that will be thoroughly satisfactory in all cases, even of the same type of skin affection. Where any of the foods have been known to disagree in the past such foods may be omitted and substitutions made. Often idiosyncrasies cannot be controlled, and it is inadvisable to force the body to adapt itself to these foods when many others in the same class are left from which to choose.

The quantity of food will depend to a considerable extent upon the individual and upon the type of work he does. Exact quantities cannot be given here. Usually, if one "listens" to his instinct or desires, there will be quite a fluctuation in quantities, some meals being very small, others being of fair size. But never load the stomach to capacity; hunger rarely should be fully satisfied, and never to the point where it would be difficult to take more. Better blood is built and better nourishment secured when the quantity is noticeably less than that called for by the usual appetite and so called hunger. Always when in doubt eat less than you think you need.

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After a few minutes away from the table every desire will have been satisfied. It often is a good plan to omit a meal or a day's meals or even more; or to take one single article of natural food at any one meal or several meals. The chief importance is to avoid possibility of overeating. Except for the present-day flapper who nibbles at nonnourishing tidbits and concoctions in a mistaken endeavor to maintain or secure a super-slender figure, few are inclined to undereat; the great danger is *overeating*.

Condiments should be avoided. They stimulate the appetite and cause one to eat more than what the body requires. They cause fermentation, thus perpetuating toxemia. They directly irritate the mucous lining of the stomach, thus in time interfering with digestion. They tend to overheat the blood, often making it necessary for the body to call upon the skin to assist in bringing about a normal condition, frequently by a "skin disease." They tend in time to cause or aggravate constipation, a severe menace to a victim of skin diseases. Salt in particular is inclined to produce a skin rash, especially eczema. But not only this condiment but all others should be omitted from the diet, except that a *small* amount of salt is considered essential to normal digestive functions. My contention, however, is that if the diet consists largely of natural and not wrongly cooked foods the body will obtain practically all of the sodium chloride it requires, in the best form for its use.

To increase the nervous energies of the body no specific is necessary and, in fact, none ever has been found. The factors that build the blood and lymph

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will aid in restoring the nervous energies and all sluggish or abnormal functions. But there are some factors that should be mentioned, since they are highly important and necessary. Enough has been said regarding some of these—exercise, especially, also fresh air and rest and relaxation.

Regardless of how much food one eats, if the power to digest and assimilate the food is lacking, one will not derive the hoped-for benefit from the food consumed. And this holds true regardless of how perfect the food and diet may be. The chief requirement in the digestion and assimilation of food is nervous power. If the nervous powers of the body are low, the body functions are impaired; digestion, assimilation, secretion and excretion are impaired, and in consequence the health of the body suffers. Nervous powers are limited in many ways: by late hours, overeating, dissipations and excesses of all kinds, stimulations, overwork, either physical or mental, "thrills," fear, worry, jealousy, anxiety and other destructive emotions. Before digestion, assimilation, secretion, excretion and elimination can be restored to normal it is necessary that all these factors and influences be corrected and supplanted by health-building factors, otherwise the nervous energies will remain low. The mere correction of these influences often is sufficient to allow the nervous power to rebound and bring about a cure.

There still is a factor not often considered that has tremendous importance in relation to skin diseases. Its influence is so marked, in fact, that consideration of it alone may make the difference between failure and success in the treatment of skin

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affections, at least some of them. I refer to sunlight, on the one hand, and to denial of sunlight on the other. When all other factors are right for a cure a continued hibernation within doors or a continued swathing of the body in too much clothing may defeat them all and perpetuate the skin disease. Often some of the other factors can be ignored and yet the skin be restored to normal by exposure of the body surface to sunlight or to artificial sunlight, or even to an arc light.

The ultra-violet rays of the sun have been shown to be a very important factor in affecting tissue changes within the body, and in the skin as well. These rays are absolutely essential to normal nutrition, nerve action, and to a healthy skin. Tests show that sunlight brings about both mental and physical improvement in those subjected to its rays. Properly applied, they are among our most soothing influences. These rays increase the body's resistance to disease, even raising its resistance to parasitic invasion and enabling it to overcome those already present. They destroy germ life, and thus are of immense sanitary as well as hygienic value.

The daily sun bath in skin diseases is of inestimable value. No other single factor, except fasting and diet, is of so much value in these affections. Savages, who are free of clothing, are remarkably free of diseases of the skin, and it has been noted that when their skins are injured, cut or lacerated, they heal with remarkable rapidity.

Sunlight cannot be controlled or sold, and this has given rise to various artificial means of supplying the ultra-violet rays equivalent to those pro-

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duced naturally by the sun. Practically all diseases of the skin now are more or less successfully treated by this artificial means. Excellent results are reported in acne, acne vulgaris, baldness (alopecia), bruises, burns, dermatitis, herpes zoster, hives, lichen, lupus, birthmarks (nevi), pruritis, psoriasis, seborrhea, eczema, erythema multiforme, erysipelas, boils and furunculosis, ulcers, and parasitic and other skin diseases, even where diet, fasting, etc., are neglected for the most part.

It has been observed that city dwellers who suffer with acne often are benefited by a longer or shorter stay in the country. There may be various influences responsible for this improvement, but the greater amount of time spent out of doors and the greater freedom of the body with resultant more liberal sunlight "treatment" doubtless play a most important part in it. More will be said about the sun bath in the next chapter.

In artificial sunlight treatment there are three degrees of reaction, one of which is sought for particular results desired. These are:

1. Stimulative erythema—a faint blush which appears from four to six hours after the treatment.

2. Regenerative erythema—a redness reaching almost to the point of blistering. This is a strongly bactericidal treatment, and is used in skin diseases arising from infections and parasites, disorders of the skin glands, and skin atrophies.

3. Destructive erythema—a very pronounced reaction employed in hyperplastic and hypertrophic conditions for the purpose of destroying the excess tissue and growths.

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The apparatus used for such treatments is expensive, consisting of very elaborate mechanism and using mercury vapor and quartz lenses. It is not suitable for home use, but is found in hospitals, sanitariums, and medical and drugless physicians' offices. Usually the treatment should be given only by a physician, and one should secure the services of a physician who understands the technique thoroughly. There are many competent drugless practitioners, and I recommend one of these in preference to a medical man—not that he will give safer and more satisfactory radiations, but for the simple reason that he will not employ suppressive lotions, salves, powders, etc., or internal medication or serums, which the medical man too frequently considers essential, or the most important part of his treatment, whereas it is the light which really does the work.

I recommend particularly the ultra-violet ray treatment in connection with other methods outlined in this chapter, in parasitic skin diseases, atrophies, hypertrophies, and new growths of the skin and its appendages. Other forms of skin disease can be cared for by the patient himself by employing the sun bath. And the sunlight can be made to do the work of the artificial light in these other disorders if the ultra-violet treatment cannot be had. Where regenerative or destructive erythema is desired care must be taken to expose to the rays of the sun only the part or parts it is desired to affect. The rest of the body should be covered—except that since general body radiations are of such benefit, shorter radiations may be given, then

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the body covered except for the local area to be specially treated.

In some small lesions, such as acne, eczema, psoriasis and ringworm, I have found it an excellent plan to use a reading glass for concentrating the sun's rays upon the affected areas. Usually it is best merely to bring about a partial concentration, not the full concentration that results in burning. However, I recall one case in particular where the patient, a young man, spent hours a day in the sun-bath parlor (after gradually developing a protective coat of tan, of course) and at frequent intervals used the burning glass to concentrate for a very few seconds the rays to the burning degree upon his psoriasis lesions. Those lesions so treated cleared much more rapidly than did the others, though he was using every possible beneficial factor except artificial light. His entire disease left him. It is impossible to claim much for the concentration of rays, but the rapidity of healing was noticeable. Since the actinic rays of the sunlight, however, do not pass through ordinary glass, the rapid healing in this case must have been due to the general direct radiations which the concentrated-rayed lesions received also, plus the actual slight burning of the lesions and the production of normal skin-cell activity.

Tinea versicolor frequently is completely destroyed in one single short treatment (less than three minutes) by the application of the ultra-violet light. Tuberculosis of the skin, lupus vulgaris, and alopecia areata (localized baldness) also are successfully treated by the artificial light or by sunlight.

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The light treatment, both sunlight and artificial light, promise to be of great value in practically all cases of skin disease, due to their local effect and to their beneficial action upon the general and local nutrition.

Another artificial light for treatment is the carbon arc light, made on the principle of the railway-station or street-corner lamps of many towns. These lamps are much less expensive than the mercury vapor lamps, but still are not to be recommended for home use. Because they are not so attractive, for one reason, they are not so popular as the mercury lamps. (It should be stated that the mercury vapor lamps use this vapor only in producing their light; it is not used in any way upon the patient). The arc lights are considered by some users to be superior to the mercury vapor lamps, for some conditions at least. Excellent results have been obtained in various skin affections by the arc lamps, lupus being one that has responded satisfactorily. The slight disadvantage of the arc lamp is that it requires 30 minutes or so for each treatment, while the quartz lamp requires two or three minutes at first, and after pigmentation has been established usually ten minutes at most. Pigmentation (tanning) is produced equally by the two lamps, the only difference being in the length of time required.

G. H. Lancashire, M. D., Honorary Physician, Manchester and Salford Hospital for Diseases of the Skin, England, thinks that in some skin diseases light treatment would be contraindicated, and mentions among these lupus erythematosus. However,

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he says: "In one such case I have obtained improvement by the light bath, the lesion itself being covered." The results in this case undoubtedly were due to the improvement of the general health resulting from the beneficial effects of the light rays upon the skin, since the lesion itself was protected from the rays.

In this connection it is well to emphasize again that any factor or influence that improves general health will tend to cure skin diseases of all kinds, while any factor or influence that impairs general health tends to retard or prevent the cure of skin diseases. The skin must be regarded and treated as a part of the body, not as an independent entity with no vital connection with the rest of the body. The skin suffers or not, as the rest of the body suffers or not.

Cleanliness of the Skin. It should hardly be necessary to emphasize the importance of skin cleanliness. Unfortunately, however, many do not realize its tremendous importance. For cleansing the skin, bathing in water, air baths and friction baths all are essential. Directions for these will be given in the next chapter. It is only necessary to say here that care should be exercised in taking friction baths as not to injure the diseased portions of the skin. Where there is inflammation or skin eruptions these areas of the skin should not be subjected to friction. It is to these conditions that air baths are particularly soothing and healing.

It should be remembered that cleanliness involves not only *removal* of harmful dirt accumulated from the inside and the outside, but *preven-*

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tion of accumulation as much as possible. Frequent (daily) bathing will prevent heavy accumulations, but more than this is necessary. It is important, also, that the clothing be light and porous, in order that the body will not be bathed in foul perspiration and that the air may reach the skin to cause normal evaporation from its surface, as well as more nearly normal pore activity. The skin that is *lightly* protected by clothing, that is bathed constantly in air, and that receives a daily bath, even a cool or cold tonic bath, will be clean if the body internally is kept at all clean by a proper diet and normal elimination, and if there is enough regular exercise to keep functions normal. If one is employed at such work as to be frequently or constantly exposed to dust, soot or other dirt, then, naturally, somewhat more active cleansing measures are needed; but avoid over-bathing with hot baths, and avoid over-use of soaps.

Special treatments. In some skin affections special treatments, special baths or water applications will be of benefit in hastening removal of the cause or healing of the lesions. Often the mere soothing of an irritated skin gives valuable relief from torment and from anxiety, and at the same time quiets the nerves, provides greater relaxation, and tends to hasten cure. Emollients added to bath water are important parts of the treatment in some cases. To 30 gallons of water at a temperature of from 94 to 96 degrees, may be added either five pounds of bran or one pound of cornstarch. The bran first should have been soaked for 20 minutes in sufficient water to cover; and the cornstarch should have

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been made into a thin paste with a gallon of water. Or a pound or two of isinglass may be added, after being dissolved in a gallon of water. These baths, especially when cornstarch or isinglass is used, are valuable in acne of the body, atrophies and hypertrophies of the skin, dermatitis, eczema, fishskin and any dry skin, hives, impetigo, intertrigo, lichen, prickly heat, prurigo (itching), sunburn.

Fomentations are excellent in a few skin affections, chief among which being abscesses, boils, carbuncles, and pustules. Fomentations are given as follows: several thicknesses of woolen flannel (linen or cotton cloth will serve the purpose) wrung from very hot water and placed over the part, are covered with a few thicknesses of dry flannel, with or without some moisture-proof material over all. The moist cloths should be replaced every three to five minutes, depending upon temperature of water used, and the fomentations should continue for 15 minutes, repeated once or twice daily in most cases. The cloths should be large enough to cover an area at least four times as large as the inflamed area. After the hot applications, thick cloths should be wrung from cold water and placed over the reddened area for one minute, the part then gently dried and covered with dry woolen cloths. If boric acid is added to the water used for the fomentation the results will be somewhat better, and infection will be avoided.

Acne often does not require any local treatment, but usually the skin condition is improved by local applications, though the general health absolutely demands correction or recurring crops of pimples

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will appear. Hot applications are excellent, especially of a boric acid solution. The water should be quite hot, and soft cloths should be used to apply it. The cloths are to be applied often enough that the skin may be kept hot. Moderate pressure may be given to the cloths. Cold applications should be made immediately after completing the hot applications, which latter should continue for six minutes, then the face dried with a soft towel, without friction. An excellent treatment, also, is bathing the face with hot water and green soap every night and morning, using a moderately coarse towel or wash cloth to apply fair friction during the bathing. The face then is bathed in cold water, then dried. A simple cold cream may then be applied if desired, but is not of benefit toward curing acne, and may as well be omitted.

Vacuum treatment is excellent, as it increases the local blood supply. A small glass cup may be heated in hot water and applied open side to the affected skin, which is slightly drawn into the cup. A large-mouthed bottle may be used in the same manner; or a sterile rubber cup may be used, this to be slightly pressed on top when applied, a vacuum being produced when the cup fills out. Special suction cups may be obtained, also. Several treatments (several days, given once or twice a day) by this suction will be necessary before noticeable improvement will be produced. Quick cold applications or quick hot and cold applications alternated may follow the vacuum treatment.

Since *blackheads* very often are the nuclei of pimples, the hot applications recommended for

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pimples will be helpful in eradicating the unsightly blackheads. However, whether or not they are associated with acne, blackheads may be treated by the same method, except that when there is no acne the face should be given considerably more vigorous friction than when there is the inflammation of acne. Either a coarse cloth or a flesh brush should be used for the friction when possible, hot water being used for several minutes before or during the friction. Then, when the face has been treated sufficiently by these means, the balls of the fingers or thumbs should be used to express out the blackheads. Some use a metal blackhead expressor, but the fingers are better. The finger nails should not be employed. Neither should steaming. This extracts the oil and causes premature withering of the skin.

Some claim that local treatment will not be fully effective unless the acne pustules are first emptied. This may be done, if considered advisable or necessary, by a sterile needle. Physicians use spoonlike instruments (curettes), and evacuate the pus. Except in quite large pustules this is unnecessary. Usually it is better for the individual to omit tampering with the pustules even in the semisurgical manner of pricking with a needle. Improve the quality of the blood and the general and local circulation and the acne gradually will leave. Blackheads also will disappear by these means, plus clearing of the follicles, as described.

In addition to the use of fomentations, *boils* are greatly benefited by the prolonged neutral bath (94 to 96 degrees). The duration of the bath should

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be from 30 minutes to an hour and one-half, and should not be followed by any cold or cool bath, neither should there be friction during the bath, as a rule. After the core of the boil comes away the cavity may be cleansed with sterile gauze or absorbent cotton saturated in peroxide of hydrogen or boric acid solution, and dressed with boracic lint. Usually it is best for the patient with a *carbuncle* to be under medical care providing serums or internal medication are not administered. But they may be aborted or made less severe by eliminative measures and fomentations.

Angioma cutis and *nevi* in very young infants (before the age of three months) may be cured by prolonged pressure. The best means of obtaining the pressure is by means of a small disk of bath sponge rubber not over one-half inch thick, trimmed to match the defect in contour, and held in place with garter elastic or other firm bandage. In older cases, but still in young children, perhaps better results would be obtained by painting the part with collodion ("new skin") twice or three times daily. The pressure in either case must be applied for many weeks, except for the time of changing or re-adjusting. Still older cases require physical or surgical measures for relief, such as the electric needle, sunlight, Finsen light, x-rays, etc., or tying off of blood vessels or removal of the abnormal tissue.

Aside from suggestions given for clearing of the digestive tract and building up the body properly, *angioneurotic edema* sometimes responds somewhat better to internal secretion treatment than without such treatment, the main secretion or gland sub-

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stance being adrenal. This is strictly a medical procedure, which most cases will not need to consider.

Burns that may be taken care of at home (first- and second-degree burns and third-degree burns of small areas) may be relieved and healing hastened by some of the following applications: sodium bicarbonate (cooking soda), equal parts of egg white and sweet oil, starch, boric acid, sterile or carbolyzed petrolatum (vaseline). Hot or cold, wet or dry applications may be used according to soothing effect produced. Some cases do better with one, others with another. Carron oil (equal parts of limewater and linseed or olive oil) is an excellent local application in new burns. It both soothes and hastens reduction of inflammation. Collodion ("new skin") may be used on small superficial burns. This also is of benefit on styes, and on boils after the core is discharged and the cavity somewhat healed. Used on smallpox papules it may prevent pitting. Small wounds, especially scalp wounds, may be coated with collodion after thorough cleansing of the part. But unless exposed to dirt any wound or inflammation should be exposed to air and sun. Olive oil is a very soothing application to burns and raw surfaces. In eruptive diseases it helps hasten the scaling, and prevents scattering of the scales. A cup of bath salt soaked in a wash basin of water overnight and the water then used at a temperature of 78 to 80 degrees is soothing to burned areas, and healing. Half a tablespoonful of baking soda may be added to this salt solution.

Burns and other injuries to the skin to which dressings are liable to stick and irritate the injured

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skin when removal is attempted may be treated by the following type of compress: arrange the part so that it is somewhat inclined; place over it a few layers of cheesecloth or absorbent cotton; beneath it have an oilcloth for drainage to a vessel beneath; above, have a fountain syringe with the tube above the higher point of the compress, with a string tied about the tube so as to constrict it and allow only a dropping of the water from the syringe bag, or regulate the flow with a metal stopcock. With water at about 60 or 65 degrees in the bag (first saturating the compress with water at this temperature) allow the water to trickle on to the top of the compress, run through it to the lower end, and out on to the oilcloth to the vessel beneath. The cold water may be allowed to run for an hour or two at a time, but then should be removed and heat applied so as to restore full circulation to the part. An evaporating compress also may be used in these cases: a few thicknesses of suitable compress material kept saturated with cool water. The compress must be in close contact with the skin and must be in direct contact with the air—not covered. *Erythema* and other irritated skin conditions free from severe inflammation may be treated by this evaporating compress with success.

After the initial reaction from the exposure to cold, *chilblains* may be treated by any of the following measures, aside from those given in discussing chilblains: dipping first in hot water for a couple of minutes, then in cold for 20 to 40 seconds, and repeating once or several times (this treatment is good for sweating feet, also); a hot foot bath be-

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gun at 102 or 103 degrees and within three minutes raised to 115 to 120 degrees, continued for five minutes and then standing in one-half inch of flowing cold water while rubbing the top of one foot with the sole of the other for ten seconds and then reversing, and continuing until the feet are red, then drying; wrapping each foot in a cold wet towel and covering each with a dry blanket, then covering the entire body to maintain warmth. Wear thin cotton or silk stockings next to the feet and wool over these, if wool is found necessary for warmth—not wool next to the feet. These measures are even more valuable for prevention of chilblains than for restoration to normal after damaging exposure, though they are excellent for the latter. In the case of the hands, warm gloves should be worn, but not coarse woolen ones. Drying must be thorough after bathing.

In *dry skins* it is necessary to improve the digestion, assimilation, metabolism and elimination to such degree that the skin will be better nourished. It may be that in some few cases internal secretion treatment will be indicated, but this is for the medical physician to determine. However, local measures may be of great service. Some were mentioned under Chapped Skin, in a preceding chapter. Among other beneficial measures, when not overused, are the following: Some form of sweating bath, continued for as short a time as possible to obtain the desired increased skin activity; the electric cabinet is excellent; so also are hot air or steam baths, hot blanket packs, dry blanket packs with some means of applying additional dry heat

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(electric pad, hot water bottles, hot bricks, etc.), and sun baths through white sheets or nightgowns. Each of these sweating baths should be followed by a short cold bath, adjusted in temperature and degree to the patient's general condition, then the body carefully dried. Massage, with sweet oil or olive oil, but also properly applied dry massage, will help much.

In *eczema*, a 30-minute bath twice a day at a temperature of about 95 degrees will be soothing and generally beneficial. If the skin feels hot but there is no temperature elevation, the bath temperature may be two or three degrees lower; but for undernourished individuals it would be better to have a temperature two or three degrees above. No other bath follows this neutral bath. The drying should be gently done. When a chronic *eczema* has thickened the skin the neutral bath will be beneficial, though it may be slightly above the temperature given—96 or 97 degrees. In these cases alternate hot and cold compresses are helpful, continued 15 to 20 minutes at a time, given two or three times a day. When severe lesions cover a considerable area of the skin, as in *severe burns*, *confluent small-pox* and *pemphigus*, the prolonged neutral bath (slightly above 95 degrees for the thin and anemic, 95 degrees or slightly below for the "full-blooded") will prove an excellent treatment. The same bath will be beneficial in case of nonirritated *dry eruptions*. The neutral bath containing ten ounces of washing soda to the 30 gallons of water is helpful in case of *scaly eruptions*.

In case of *elephantiasis*, in addition to rest, ele-

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vation of the affected member or members, proper nourishing but eliminative diet and sunlight and fresh air, hot or cold or hot and cold compresses should be employed. Removal to a noninfected country is of benefit, both as a prophylactic measure and as curative treatment. In fact, most cases will be greatly benefited by this change alone.

While *epitheliomata* are more or less malignant growths, they will make favorable response to a strict regimen outlined in earlier paragraphs of this chapter. Certainly they can be prevented by careful living; and any lesion that is at all likely to develop into an epithelioma should receive attention as if it already were an epithelioma. Local treatment is dangerous in the patient's own hands. It often is in medical and surgical care, and for this reason the treatment should first be general; then, if this fails and it apparently is indicated by the stage of the growth, proper local treatment may be considered.

In *erysipelas* local hydrotherapeutic applications are of great value. When the disease is in an early stage and extending, with the skin a fiery red, cold compresses should be used. The water should be from 50 to 65 degrees, and the compresses should be renewed every five minutes or when they have become warm. Every one and one-half to two hours the cold compress should be removed and a moderately hot fomentation applied for five minutes, then the cold compresses reapplied. When the skin color has changed to a duller red and the inflammation seems controlled, a cold compress should be placed over the area, covered with dry

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flannel, and retained in place for half an hour or so and reapplied once.

The treatment of *herpes zoster* has been given elsewhere complete enough for most cases. However, after the eruption has subsided, an excellent treatment is the application of hot fomentations for five minutes, then the application of a very cold compress for half a minute, both being repeated once or twice at each treatment period, and from two to five treatment periods daily. Between these periods keep over the affected region a wet compress (applied cold) covered with a dry flannel, with some impervious material over all.

The irritation of *hives* often is relieved by the douche. A rubber hose may be attached to the bath-tub faucet for this douche, the water to be used quite hot. The end of the tube may be slightly compressed with the fingers in order to spray the water slightly and increase the pressure, though no great water pressure on the skin should be allowed. The duration may be from two to five minutes, the entire body being sprayed or douched. The itch of *pruritis* and *jaundice* may be relieved by this means, also. The neutral bath, hot sponging, and hot sponging with washing soda in the water, are also beneficial in these irritating disorders.

Lupus vulgaris requires attention to general health—fresh air, open-air exercise, good relaxation, rest and sleep, nourishing but not heavy foods, etc. Gradual pigmentation of the body by sun baths until prolonged exposures are possible is excellent, though the eyes should be protected by dark glasses or a dark cloth, and many people may need to pro-

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tect the head. The use of suction cups to increase the local circulation has been found of value, sometimes rapidly effective. The artificial sunlight treatment may be used in addition to these measures.

In the treatment of *jaundice* the underlying condition must be corrected, as is true of all skin conditions. There should be much water taken internally, both by drinking and by large enemas, the enemas twice a day. In addition, sweating should be produced by some satisfactory means—cabinet bath, blanket pack, hot-air bath (perhaps electric lights beneath a canopied sheet), steam bath (a steaming vessel beneath a porous or open-work chair seat or bed arrangement, with blankets tent-like over the patient), or hot tub bath. Fifteen or 20 minutes is long enough for the sweating, after which should follow a quick cold bath or a neutral tub bath, and a sponge or wet-towel rub. A cold wet-hand, cold friction-mitt or cold-towel rub once or twice a day will be generally tonic in effect. The liver may be awakened to greater activity by hot compresses over it on the abdomen, followed by a cold wet compress covered with flannel and mackintosh.

Cleanliness is necessary in *prickly heat*, but local treatment usually is advisable to relieve the itching and irritation of the skin. In the cleansing water it is advisable to have soaked bran, as described earlier in this chapter. The itching may be allayed by using ammonia water—a quart of water containing a tablespoonful of ammonia; limewater is considered better for children. Any sterile oil may

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be used over the affected parts twice a day (upon retiring and arising), gentle massage at this time being of further aid. In case crusts form they may be covered with oil, or they may be removed and the parts beneath treated with peroxide of hydrogen and boric acid washes, then treated with a mildly medicated vaseline.

Usually in *prurigo* there is impaired nutrition, and a better diet is necessary, possibly with cod-liver oil added. The hygiene must be improved, also, and sun baths should be given daily. The surrounding temperature is to be uniform. In addition, baths containing baking soda usually are helpful in relieving the itching and hastening the cure of the eruptions. Sometimes a simple vaseline gives considerable relief, especially if a secondary eczema has developed.

Bran baths and alkaline (soda) baths are beneficial in *pruritis*. A solution of equal parts of water and aromatic spirits of ammonia is very soothing, applied by cloth or sponge to local areas. After any bath or application the skin should be dried by patting, not with friction. *Pruritis ani* and *pruritis vulvæ* are relieved by compresses as hot as can be comfortably borne, with all the boric acid in the water that it will absorb (saturated solution). High frequency electricity is of benefit in either of these local affections. The prolonged neutral bath, large enemas, copious water drinking and massage should be employed in any *pruritis*. Cider vinegar and water containing washing soda, also steam baths, are recommended.

The local pain in *purpura* may be relieved by fo-

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mentations followed by flannel-covered cold wet cloths, preferably with impervious material over all. Alternate hot and cold compresses or merely alternate sponging often relieves. In fact, local pain from practically any cause is soothed by these measures. A hot application for five minutes followed by cold for one minute, repeated if desired, is one of the most promptly acting measures.

The electric light bath is one of the best measures in *psoriasis*. Sun baths are excellent, also, as stated in the discussion of *psoriasis*. A strictly bland, nonanimal, nonstimulating diet is important. Bran and washing soda added to the bath water (warm bath) aid in removing the scales, especially if the body is rubbed gently with green soap. Air baths, electric cabinet sweat baths, mercury vapor lamp and arc lamp radiations all may be tried, and should be tried before resorting to any serums or other medical treatment, which fail too often to be considered worthwhile risks.

It should not be understood that all cases of skin diseases are curable. Some of the atrophies and hypertrophies are incurable, particularly when they reach certain stages. The same is true of some of the other diseases in certain stages. The best that can be done in some of these is to arrest the progress of the trouble. By improving nutrition and building up the general health to the highest degree possible many skin diseases can be partially or completely overcome, and those that are merely held "at a standstill" may give no further trouble. Some diseases recover spontaneously, as I have stated before; certainly these should be quickly eradicated

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by proper care of the body, perhaps in some cases with the additional local care by simple and harmless natural measures such as I have suggested.

In some cases of hypertrophy of the skin and its appendages surgery may be permissible; but the reader should understand that this is in no sense a cure. The surgery, when apparently necessary, should be preceded and accompanied and followed by constitutional measures. If this is not done recurrence is likely. Surgery only removes the growth or enlargement or abnormal tissue and does not correct the cause or causes. The same is true of their destruction by means of caustic drugs or the electric cautery, or when their absorption is forced by means of the x-ray or the ultra-violet ray. However helpful these things may prove to be in some cases, they should not be regarded as complete cures. No disease can be cured unless its cause first is corrected and removed. In most diseases this is all that is required to accomplish a speedy return to skin health along with return to general health.

I urge all those who suffer with disease of the skin first to give attention to the building of good general health, to the purification of the blood and lymph, to building rich red blood, and to conservation and recuperation of the energies of the body.

Things to DO. Anyone can do all of them.

1. Eat plenty of fresh fruit; some of the citrous fruits may be taken occasionally between meals.

2. Eat plenty of green vegetables. Have most of them uncooked. Cook those desired cooked in a vessel that retains their juices and flavors. The

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juices contain mineral salts that are absolutely necessary to general and skin health.

3. Drink (slowly) considerable milk, buttermilk or cultured milk.

4. Use foods in Group 3 in place of sugar.

5. Drink plenty of fresh water daily, either cold or hot, preferably cold.

6. Try an occasional day of fasting or of fruit or vegetable broths only.

7. Keep the bowels normally active. Use the enema if necessary, but attempt to secure proper elimination through laxative foods, water drinking and exercise.

8. Secure sun baths when possible.

9. Get a fresh air bath daily, with friction preferably.

10. Provide an abundance of fresh air for the lungs day and night.

11. Exercise some every day. Walk daily. Take deep breaths often. Take deep breaths, hold the breath and force the blood into the face—a few seconds only at a time, but often during the day. Take the exercises illustrated once or twice daily.

12. Secure relaxation often. Develop mental composure. Think cheerful thoughts.

Things NOT to Do. Don't avoid any of the things to *DO*.

1. Don't use many foods at any one meal. Complicated menus ruin digestion, cause fermentation and putrefaction, hence toxemia, which ruins the complexion.

2. Don't rely upon drugs, either in the body or on its surface.

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3. Don't use complexion (?) concoctions, rouge, powder, lotions, etc.

4. Don't eat much fat, or sugar (none is better), or meat (none is better).

5. Don't combine starches and acids, or two starches, or starches and meat or other heavy protein, or sugar and acid, or sugar and starch.

6. Don't eat unless hungry; and quit eating before hunger is fully satisfied.

7. Don't eat candy, cake, pie, white flour products, or any pastries.

8. Don't eat pickled foods, spices or spiced foods, or smoked or salted foods.

9. Don't drink coffee, tea, chocolate, cocoa, alcoholics, or soda fountain beverages.

10. Don't eat oftener than three times a day.

11. Don't wear your energy away needlessly.

12. Don't think pessimistically, destructively: *be cheerful, optimistic!*

TREATING CHILDREN

In considering the various skin diseases we have found that some of them are especially likely to affect infants and children. Some few seem to belong to childhood only. Infants are especially likely to be affected by acne; birthmarks; dry skin; hard skin (sclerosis of the newborn); dermatitis, especially scaling dermatitis of infancy; eczema; fishskin disease, during the first or second year of life; jaundice of the newborn; milium (white acne); mottled skin; and pemphigus, congenital, newborn, and hereditary syphilitic forms.

Children of various ages from the second year

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to youth are likely to be affected by acne, simple and malnutrition forms; blackheads; boils; burns, including sunburns; chapped lips, chapped skin, and dry skin; dermatitis, especially drug-produced and vaccination forms; eczema; erysipelas, especially when undernourished; erythema; fever blisters (cold sores); freckles; frostbites; herpes (simplex); hives; pruritis (itch); lichen, scrofulous form; milium; molluscum contagiosum; pityriasis rubra pilaris; prickly heat; scrum pox (impetigo); scrofuloderma and lupus (forms of skin tuberculosis); warts; also, among the insect and parasite affections, insect bites and stings, especially of bees and mosquitoes, lice, and ringworm.

It is not to be expected that infants can be put through the strenuous forms of treatment suggested in the previous pages in this chapter. Many of the children cannot undergo such rigid treatment, though older children and hardy younger children who habitually have been overfed often need such treatment and can endure it easily and with benefit. As with adults, the treatment must be adapted to the condition of the child—his age, condition of nutrition, apparent vitality, nature of the affection, etc. Even in the same family there will be children who will require different treatment for the same condition: not different factors of treatment, but different modifications of the same factors.

In most of the individual disorders the treatment has been suggested as it applies to children. While the fast may be indicated by the nature of the affection, it usually is better merely to curtail the diet and to have it predominantly fruits, green veg-

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etables and milk, with perhaps either milk alone or fruit alone early in the treatment. In every case where there is fever, however (except the fever of tuberculosis, if this disease should complicate any skin affection), there should be no food allowed except unsweetened diluted citrous fruit juice until the temperature is normal. During this time the bowels should be cleared once or twice daily by means of a barely warm enema, the quantity of water to depend upon the age of the child and the requirements. Very small quantities may need to be used in each injection, the enema to be repeated immediately after expelling the first. Usually this treatment, with perhaps the addition of confinement to bed in a well-aired room, is all that is required to bring children back to normal in organic and cell activity. Some skin affections will not be cleared up within the short time that a child can fast; but considerable improvement will be secured, and further care in feeding and securing elimination usually will in time bring about complete restoration to normal. It is not advisable to fast (or fruit-fast) a growing child for more than three or four days, and one or two days will be sufficient if the child is undernourished.

When there is no fever to complicate the skin disorder, some such diet as the following will be good for a few days, to be gradually increased after that time—say after from five to ten days, depending upon the child's condition and the results obtained: for breakfast a fresh fruit, cooked or uncooked, and a glass of milk; lunch of a vegetable broth, one cooked green vegetable, and a small

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allowance of fruit or part of a glass of milk; dinner, the same as lunch, or with a slice of whole wheat bread (preferably toasted) with a small pat of butter added to the meal. Deny children all candy, jellies, jams and preserves, cornstarch puddings, spices, chocolate and cocoa, meats, nuts, fish, pickled and salt foods, and pastries when attempting to correct a skin disease. Cod-liver oil may be added to the diet to advantage. Use enough of the laxative foods that the bowels are normally active, but not overactive.

The normal outdoor play of children is excellent for their general health, and must be encouraged. However, it is not advisable to allow children to become exhausted in their play. Competitive games often cause such high degree of nervous excitement that if there is any nervous element in the causes of their skin affection the skin condition is apt to remain or become aggravated. In their play there should be no more clothing worn than is absolutely necessary. They should have free circulation of air through their clothing and about their bodies. The clothing also should be light in color, in order that the sunlight may penetrate to the skin when possible. If arrangements can be made for a sand pile, it would be excellent to allow the children to play nude or in very light-weight, light-colored clothing in the sand in the sunlight. Sun baths should be arranged for in some manner, if necessary through a lowered top sash of the window, as described in the next chapter. Exposures should be very short to begin with, except in the winter months. In summer, five minutes would be long

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enough for most cases, unless the child is very dark naturally, when eight- or ten-minute exposures would not be too long. It is better to complete each sun bath with some sort of cold or cool bath of very short duration.

As in the case of adults, care must be taken to avoid overbathing of children. As a rule, however, children are not likely to receive too much bathing. It is important that the skin be kept clean, but this should be done by moderately tempered baths, slight use of soap, friction baths, frequent change of clothing of light weight and suitable texture, and, if possible, prevention of play in dirty places.

In order that children may have the best health possible, it is necessary that they get sufficient rest, relaxation and sleep. The sleeping hours should be regular and ample. There should be no awakening for breakfast at a certain time simply because the parents and older members of the family desire to eat at that time. The constant awakening of a child from unfinished slumber may easily prevent development of a high degree of health; it may even bring about a gradual reduction of health and vitality. However, if the child is put to bed at the proper hour at night it is likely that he will "get his sleep out" at the most satisfactory hour in the morning. Young children should take a nap in the afternoon. School children may be inclined to give too much time to indoor study. "Bookworms" should be encouraged to spend more time out of doors, for one thing, and to give the mind more rest, for another. Such children are very liable to

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sluggish circulation, irritable nerves, constipation, and other conditions that easily lead to skin affections.

When there is tendency to dry skin, chapped skin, cracked lips, etc., it may be necessary either to increase or decrease the clothing for outdoor activity. Cotton should be worn next to the skin, wool over this if more is needed. Heavily clothed skin may soften up somewhat, in some cases, by the use of lighter clothing that allows the body to receive air baths through the clothing. These cases require special care to avoid irritating or skin-drying soaps and hot baths. They should be accustomed to cool or cold baths and daily friction. The use of some mild oil is permissible when the skin is inclined to crack. Any tendency to diarrhea should be corrected, but also constipation should be avoided or corrected. There should be plenty of milk in the diet, also whole grain cereals and vegetables, with not too much citrous fruits.

As a rule, the suggestions given for adults, modified somewhat for the youth of the child patient, his lower vitality, and his more tender skin, will take care of the great majority of skin diseases and affections of childhood.

For the skin disorders of infancy, usually the mother requires treatment, rather than the baby—if the infant is breast-nursed. In such cases the mother should take care of herself as if *she* had the skin disorder. The suggestions given earlier in this chapter will be suitable. Usually it is necessary for the mother to alter her own metabolism, to increase her own elimination, to supply her body with alka-

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linizing foods, and to deny herself acid-forming foods in such amounts as to induce or perpetuate a toxemia. When the mother's blood is in the best condition for her own health, when her skin and bowels are functioning more nearly normally, when her nerves and energy are restored to normal equilibrium, her milk will be pure and health-restorative for her nursing baby.

For the bottle-fed infant the modification of the diet may be one for the physician to govern. It may be necessary to increase or decrease one or more elements of the bottle milk. In either breast-fed or bottle-fed babies it may be necessary to give an occasional enema for a while, though this should be avoided as much as possible so as not to make it a habit.

Only the purest Castile soap should be used for the baby's skin, and then only the lather from this—the soap itself should not be applied to the skin nor to a cloth that is applied immediately to the skin. Bath water should be softened, by borax, boric acid, bran, or some other harmless means. Hard water is likely to be irritating to a baby's skin. The skin should be kept clean, especially about the groins, sexual organs and hips, where the discharges from the bowels and bladder may be sufficiently irritating to cause skin troubles. But overbathing should be avoided in case of infants even more than for children and adults. The bath water should be at about body temperature, followed by an application at a slightly lower temperature. It is well, also, to reduce gradually the temperature of the finishing application, so that in time the child is receiving fairly

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cool baths. This will be of benefit to every organ and function of the body.

The matter of treating babies and small children for any affection whether of the skin or other organ or system of the body is largely one of common sense. Diet is the most important factor, and if this is *right* practically every function will be normal and every organ in perfect health. The skin being but an organ, with definite work to do, it may be kept or be made normal by providing it with the work it should do and avoiding placing upon it the burden of part of the work of some other organ. When it is "treated" decently it becomes or remains the perfect organ, the organ of greatest beauty in the body, such as it was designed to be.

CHAPTER VII

Hygiene of the Skin

DUE to its complex structure, the skin is subject to a large variety of affections ranging from a mild blush to tumors and cancers. But the skin is designed as a protective covering for the body and is adapted to withstand a good deal of harsh contact with, and abuse from, its environment. If reasonable care be given it and the internal condition of the body is kept normal, the skin will prove fully capable of performing its functions in an efficient and healthful manner, and no diseases of the skin will develop. The proper care of the skin, therefore, is of utmost importance not only to the skin itself but to the whole body.

The first requisite of a healthy skin, as of every other organ of the body, is pure, rich, freely circulating blood. Most diseases of the skin are due directly to toxins in the blood or to deficient nutritive material in the blood. Those skin diseases due to parasites or other causes usually do not affect a healthy skin. To have a healthy skin one must have health of the whole body, and this means that one must live a healthful life. Exercise, proper food, pure air, rest, sleep, and all other natural factors, with abstinence from all hurtful practices, are just as essential to skin health as to the health of any other organ of the body. A good digestion and normal bowel action are particularly essential in all skin diseases.

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Aside from the above considerations, there are several important external factors influencing the health of the skin which must be given their due attention not only for maintaining and regaining skin health, but for attaining and maintaining the highest degree of health and vigor of the body as a whole. These factors will be taken up under their separate heads.

Cleanliness. It is true that a clean skin is a healthy skin only when we employ the word cleanliness in its broadest sense. However, cleanliness of the skin, as commonly understood, is absolutely essential to the health of the skin and, therefore, to the health of the body as a whole.

Under primitive conditions, with the body free of clothes and exposed to the constant action of sunlight and air, the self-cleansing powers of the skin are a constant source of wonder. Bathing, as we understand it, hardly ever is necessary. But under modern conditions, with the body smothered in clothes, usually of dark color, and denied all contact with sunlight and air, the skin has lost much of its self-cleansing powers, and much of its normal vigor and functioning power.

It is essential that frequent bathing be resorted to—to keep the skin clean. Modern plumbing and bathing appliances make bathing a pleasure instead of an irksome task, and no longer is there any excuse for anyone to remain in the “army of the great unwashed.” But these modern appliances are not necessary. Where a bathtub, shower or other modern appliance for bathing is not at hand a basin of water, a wash cloth, sponge, brush, or the hands

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and a towel are all that will be really required for a cleansing, healthful bath.

For cleanliness, a bath in or with warm water with soap is best. However, as noted elsewhere, the frequently repeated use of soap and warm baths, but particularly hot baths, extracts the natural protective oil from the skin and leaves it dry and harsh—"brittle"—causing it to crack. For this reason, unless one is engaged in work that makes a daily bath of this kind essential for thorough cleanliness, a warm or hot bath should not be taken more often than three times a week. In fact, unless hot baths are of very short duration they should not be taken at all except for some healing or curative purpose, and not more than once a week should they be necessary for cleanliness, even when one's work is of a very dirty nature. Warm baths will accomplish all that hot baths will accomplish. The mildest soaps, preferably the vegetable oil soaps rather than animal oil soaps, always should be used, as these have less harsh effects upon the skin. The "best" soaps are unnatural and tend to dry and irritate the skin, especially the sensitive skin. Any soap that causes the least smarting or tingling when applied to the skin should be discarded. Soaps containing a large amount of lye should never be used.

A warm bath relaxes the skin, and if such baths are repeated too often they destroy skin tone and impair its natural reactive powers. For this reason it is important that all baths at temperatures above neutral be followed by a cold bath of some sort, except in cases where the warm bath is taken for its relaxing and sleep-promoting effects. The sim-

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plest cold bath is a splash of cold water over the entire body, with thorough rubbing of the skin with the hands or a bath towel—preferably first with the hands, then with a towel, and then a good friction with the hands to complete the bath.

A regular cold or cool bath, without any warm application of water or soap, usually is sufficient to keep the skin clean, especially when such a bath is taken daily. But it has as its chief benefits the invigoration of the skin and the training of it to prompt reaction to cold—not only to the cold water of the bath, but especially to cold atmospheres which we cannot avoid and should not, for our health's sake, try to avoid. Few means are more effective for invigorating the skin than the cold bath, especially when accompanied by friction. The effects, however, are not confined to the skin; the nervous system is toned up, the heart is strengthened, the circulation is accelerated, and the appetite, digestion and metabolism are improved.

To be really beneficial a cold bath must be followed by a prompt and vigorous reaction. The feeling of cold and chilliness that follows immediately upon the application of the cold water should be followed quickly by a feeling of warmth and increased vigor. If this reaction does not follow, means should be resorted to to bring it about as quickly as possible. Aside from the friction of drying, exercise is the most effective and natural means of accomplishing this. If the individual is too weak to exercise, then rubbing and stroking alone may be sufficient, or artificial heat may be applied, though this is not often advisable.

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The fact that one does not react immediately to a cold bath is evidence of weakness of the skin and of the body in general, especially the nerves and circulatory apparatus, or, occasionally, of too long application of the cold bath. In the former cases there should be "training" by starting with short cool baths and, day by day, gradually lowering the temperature of the bath until reaction from a cold bath is complete. Those who do this will develop healthy vigorous skins, and will be less subject to colds and other disease than those who coddle their skins. Another excellent way to accustom oneself to the cold bath is to stand for two or three minutes in from two to four inches of fairly hot water before and while taking the cool or cold bath. A short hot general bath (of two or three minutes' duration), without soap, usually will warm the skin and increase the circulation sufficiently that reaction will follow promptly after a cold bath. When reaction is weak the bath room should be warm. Exercise before and possibly after the bath, just sufficient to warm the body, is excellent also as a regular practice.

Bathing should not be done immediately after a meal, as it interferes with digestion by calling the blood to the skin instead of allowing it to concentrate in the digestive system. Baths, especially cold baths, should not be taken immediately after such vigorous exercise as to produce very rapid heart action. There should be sufficient pause to allow the heart action to return to a more nearly normal condition. For those who work at physical labor and perspire freely, evening is the best time for the

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cleansing bath; but such people should take the morning tonic cold bath, also.

Friction Baths. Under primitive conditions the skin came in contact with the elements of man's environment and was subject to more or less constant friction. This aided in keeping the skin clean and in maintaining its normal vigor and functional power. In modern life this natural friction is denied the skin. We even select for direct contact with the skin the softest clothing that we can select or afford. As an efficient substitute for the natural friction, and as a most effective means of improving and maintaining skin health and vigor, the friction bath now is widely used.

Its great value as a cleansing bath is shown by the fact that many people never use any other bath for cleansing purposes. Of course, these people are not engaged in work that makes them very dirty or who really require applications of water and soap. But the others can and do keep their skins healthfully clean and vigorous by friction alone.

The friction bath may be given by means of the hands, friction mittens, a flesh brush, or a coarse rough towel. One man I knew used corn cobs for a friction bath for years. At first the friction should be very mild and of short duration; but as the skin hardens and is invigorated the friction may be made more vigorous and of longer duration. Harshness and rough treatment, however, should be avoided at all times.

The friction bath may be taken in connection with the water bath, or with the sun and air bath, or it may be taken alone. Its advantages are it can be

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taken quickly, and no special apparatus is necessary. For these reasons it may be used morning and night, and at any other time when the clothes are changed. Another advantage is that it is exercise as well as a bath.

Those who have skin diseases should avoid subjecting the affected parts to friction, except perhaps in the anemias; even in these any eruption-covered areas should be treated in this manner with considerable care.

Sun and Air Baths. The skin is perhaps not more than 50 per cent efficient as an organ of elimination under present living conditions. Its power of protecting the body against sudden changes of temperature also is greatly reduced. This is the result of coddling the skin, taking it out of its natural element—sunlight and air—and making clothes, houses and fire do the work for which the skin is intended.

The plant that grows out of doors has a thick tough covering, strong stems and leaves, and easily survives the hot winds, dry winds, frost, hot sun, drought and sudden changes of temperature, while the same kind of plant raised in a hothouse perishes quickly if exposed to these same “unfavorable” but natural conditions. Every cell and fiber of a plant raised out of doors have more vitality and possess greater resistance to adverse influences than is the case of an hothouse plant.

This same principle operates in both animals and man. Those who spend much time out of doors, exposed to sun, heat, cold air, sudden changes of temperature, rain, snow, etc., usually are more robust and hardy, while those confined indoors, away

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from the sunlight and air reveal by their pale, inactive skins and fat and flabby or thin emaciated bodies the weakening effects of the indoor existence.

In climates where cold appears intermittently or in seasons, a certain amount of exposure to the cold is absolutely essential for full physical vigor and development. Such exposure is as essential as are exercise and food. Our ancestors spent most of their time in the open and were more or less unclad. Consequently they were more hardy and vigorous.

Skin diseases are conspicuously absent among the unclad races of the earth, and it is noticed among all of them that injuries to the skin heal much more rapidly than do injuries to the skin of the much-clad races. But the benefits to be derived from such a life are not confined to the surface of the body. Even the bones are larger and, if broken, heal more rapidly in those races which live in the sunlight than in the indoor or clad races.

Naturally, people in the tropics and subtropics cannot have the benefit of exposures to cold. It might be argued that if they survive without the cold it should not be necessary for those in temperate and cold climates to have the exposures. But in the hot climates the inhabitants mature early and enter senility at comparatively early ages; also, when in their prime they do not have the vigor possessed by those in colder climates. They are inclined to "laziness," created by the constant depressing heat or warmth. Many of them increase their energy and vigor by bathing in the sea, which always is several degrees below land temperature in the hot regions. But in any case it cannot be

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said that they use artificial means to protect themselves from the cold; they take what climate they have and make the best of it. The fact that they wear little or no clothing helps equalize the difference in climate.

The normal powers of the skin, when lowered by coddling, in a great measure may be restored by exposing it for a brief time daily to the air and the direct rays of the sun. In order to do this all clothing should be removed from the body. The present prudish attitude toward the body makes it impossible for city people to get the full benefit of sun and air baths. Some day, I believe, sun and air parks will abound in our cities, and provisions for sun baths will be found on the roofs of many of our high buildings. Until that time comes city folks will have to do the best they can under the circumstances. Fortunately, a larger and larger percentage of city dwellers are taking to the country and the beaches in summer, where, especially at the beaches, a fair portion of the body may be exposed to the air and sunlight. The sea bathing itself is a great tonic, both to the skin and the body in general. But unfortunately, bathers use dark swimming suits, which prevent the sun's rays from reaching the covered portions.

One may take a satisfactory sun bath through a window in his own room by lowering the top sash and curtaining the bottom sash (in order not to offend prudish neighbors), and then lying in the sunlight that streams in through the open window. Sunshine that has passed through ordinary glass does not have the same beneficial effects as the un-

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filtered light, because the glass reflects the beneficial chemical or actinic rays of the sun, preventing their passage through it. A special glass has been devised, however, from which window panes may be made, which permits the actinic rays to pass through. This is a recent discovery, and will not be available for common use for some time, though it has been used in some hospital sun rooms.

Clothing. The beneficial effects to primitive races of being exposed to the elements brings up the consideration of the relation of clothing to the health of the skin. From what has been said before, it is obvious that the less clothing one wears the better for his health. The two purposes served by clothing are, first, to protect the body, especially from cold; second, to ornament the body. Prudery has added a third use, to hide the body. However, this third use grows out of a wrong mental attitude toward the body. Contrary to the Biblical explanation of the adoption of clothing, I feel sure that hiding of the body became a reason for clothing only after ages of wearing them for protection against harsh elements. The only use for which clothing really is essential is for protection, chiefly against cold in cold climates. Clothing thus becomes a sort of artificial skin which, however, more or less weakens the natural skin.

Clothing does not supply heat to the body. It merely prevents the too rapid radiation of the heat generated by the body. Some kinds of clothing are warmer than other kinds because they retain body heat much longer or much more thoroughly. Thus loosely woven clothing, which contains air, does not

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conduct heat away from the body as rapidly as do tight-fitting or closely woven materials.

Clothing is made of linen, cotton, wool, silk, leather and fur, and, for waterproof clothing, rubber. Woolen materials are slower conductors of heat than cotton or linen, but they retain moisture much longer. For this reason cotton or linen is better for underwear. A damp skin is a cold skin, because of the reduced circulation or the evaporation, or both. Those who wear woolen underwear are apt to suffer from damp skins and, therefore, cold skins. Linen and cotton, on the other hand, rapidly absorb moisture and readily transmit it to the air by rapid evaporation (from them, not from the skin, from which they have absorbed the moisture), thus keeping the skin dry and warm.

The weaker a skin is the more it needs to be "trained," and the more the body beneath it needs a "trained" skin. But with the average person instead of training the weak skin, the weaker it becomes the more it is overheated and coddled. There is an old story of a sportsman who sat heavily clad in furs and cuddled up close to a fire while his almost wholly nude Indian helper stood some distance away seemingly unmindful of the wintry winds that swept by him. The sportsman asked the Indian why he did not get cold. The Indian pointed to the face of the white man and said:

"Your face no get cold."

"No," replied the hunter, "my face is accustomed to it."

"Ugh," grunted the native American; "Indian all face."

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Every part of the body can be inured to the cold as well as the face. On a large island at the southern tip of South America (Tierra del Fuego), where the cold of winter is intense, the native Fuegians are accustomed to go about nude except for a sealskin robe, which is fastened about the neck and shifted from side to side according to the direction of the wintry winds. They often sit bare upon the snow and ice.

The skin is the natural protector of the body, and when made to serve this protective purpose one is not made uncomfortable or sick by every change in temperature or by being caught in the rain. Our civilized life has caused the skin to deteriorate. From infancy we are smothered in clothes and protected from the cold until the skin loses much of its power of protecting the body.

One should accustom himself to wear as few clothes as is consistent with comfort and decency. But this does not mean the very irregular distribution of clothing such as we frequently see upon the ultra-modern "flapper." In this case the protective forces of the body are hard pressed to take care of the circulation and reactions when some parts are oversupplied with clothing and others far undersupplied. If clothing is to be light it should be comparatively equally distributed over the entire body.

In winter one should wear light-colored and lightweight underclothing, and wear the heavier outer clothing so that part of it can be removed upon entering a warm building. We keep our rooms and buildings at about summer heat in the winter; and to sit in these rooms, covered with heavy underwear

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and heavy outer clothing, is to overheat the body, weaken the skin, and invite disease. Even light outer clothing cannot save the skin and body when heavy underwear is used in warm buildings. Only those who are out of doors for hours at a time in winter have a legitimate excuse for wearing heavy underwear; and even these, or many of them, would be really warmer with light underclothing if they took proper care of the skin in other respects, especially by exercise and friction and cold baths. Overheating the skin lessens its reactive powers and makes it less resistant not alone to changes of temperature but to disease influences as well. For the highest physical vigor and development there should be some exposure to cold—not of the face alone, but of the body. Wear light porous underclothing, and heavy woolen but porous materials on the outside, but add or remove outer clothing “in layers” according to the changes in temperature. Don’t be guided by the calendar; be guided by the temperature.

The importance of sunlight as a necessary factor in animal as in plant nutrition is becoming more and more recognized. Only a few years ago the whole orthodox world ridiculed the advocates of natural methods for employing the sun bath; but to-day they are rapidly adopting this means of restoring and maintaining health, and some even have the audacity to claim that they themselves originated the idea!

The color of clothing affects body health and skin health to a great extent. Dark colors exclude the sun’s rays from the body, while the lighter hues

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permit their access to the body. Black is the greatest offender in this respect, while white offends the least. Khaki also offends but little. Black not only excludes the sun's rays, but it absorbs the heat rays, thus causing one to suffer more from heat. The nearer the clothing approaches white in color the better for the wearer, while the nearer it approaches black the more unhealthful it is. In this particular women's clothes generally are more healthful than men's. Men's suits usually are made of dark material.

Cosmetics. Cosmetics are used in a vain endeavor to imitate a healthy complexion, and to cover up and hide skin defects and blemishes rather than correct them. Many thousands of women and girls of to-day are ruining their complexions by a too liberal use of cosmetics.

The natural beauty of a healthy skin is far superior to any drug-store "complexion" that ever was concocted. But such beauty is based on good health and pure blood and would require that we abandon a few of our pet vices. The majority of mankind would much prefer to retain these vices and get along with a cheap imitation of a healthy complexion. This is the worst feature of the cosmetic evil—it enables those who are sick and too indolent to get well, to make themselves "presentable," though all that some need is a shroud to make them "living corpses," while others give good imitations of the bedaubing work of amateur color artists.

The best "cosmetic" for any face is rich, pure blood built by proper food, fresh air, exercise, outdoor life, sufficient relaxation, and temperate habits.

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Cheeks that are "painted" in this manner possess a beauty that no chemist can hope ever to imitate. This complexion will not wash off and is not injured by a little perspiration, nor does one need to worry continually whether or not it is "on straight." In fact, the things that "ruin" artificial complexions increase the beauty of natural complexions.

Massage often is employed to beautify the face. Harsh massage or massage improperly given may coarsen the skin or stretch the skin and subcutaneous layers and cause the skin to sag. But properly applied massage is of benefit in that it improves the circulation in the tissues, hence improves their nourishment and contour. The color brought into the cheeks by massage is there temporarily, but when the treatment is given with moderate frequency the improvement in color tends to become permanent. Massage wrongfully applied easily can do more harm than the best massage possibly can do good. Never submit to massage by one who has not had a thorough preparatory training course. Electric massage especially is very apt to be injurious. While in some cases skillful massage may be of benefit, there are safer means within the reach of most people. One explanation of the popularity of massage is that it permits the individual to be lazy and self-indulgent while they "let George do it."

The Hair. In caring for the hair it should be known that luxuriant hair depends upon a rich blood supply to the scalp and hair roots, and not upon some "wonderful" tonic or shampoo. Keep the scalp clean, massage the scalp with the finger tips, pull the hair by running the fingers through it while

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pressed together, brush the hair frequently and thoroughly, let plenty of sunlight and air come in contact with it, wear no tight hat that interferes with the circulation in the scalp, keep generally healthy, and the hair will be as full in quantity and as beautiful in appearance as it is possible for it to be considering hereditary influences and age. Those who are interested in care of the hair should secure my book "Hair Culture."

The Hands. The skin of the hands reflects in large measure the health of the skin of the body as a whole. Undue exposure, of course, to wind or cold or dampness, and especially to harsh substances and hot soapy dishwater, may make the hands unsightly when the remainder of the skin is in good or fair condition; and it also may make the nails brittle.

Many people are too hasty in their hand bathing, failing to remove grime that collects from a thousand surfaces touched by the hands. The hands should be bathed thoroughly, warm water being used, also a good grade of vegetable soap and a nail brush. The water should be soft if possible. A little borax may be added to hard water to soften it; a few drops of ammonia will be satisfactory. All soap should be rinsed from the hands, then the drying should be thorough. Especially in winter the final water application should be cold. Usually no creams or powders are necessary, but if the skin is harsh a little cold cream of good quality or olive oil may be rubbed in. This careful bathing of the hands tends to keep the nails in good condition.

The Nails. The nails should not be bitten or cut

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with scissors to shorten them. A nail file should be used, and this should be applied somewhat from the under surface of the nail rather than the upper surface or directly on the end. File the nails when they are driest—not when soft from bathing. Care should be taken not to dig into the quick when cleaning the nails. Proper bathing and use of a nail brush will take out practically all the grime from beneath the nails. The modern method of dish-washing is with a dish mop, by which the hands for the most part can be kept out of the water. Keep the nail folds or cuticle of the top surface pushed back from the nail with wash cloth or towel, or use the end of the nail of a finger of the other hand, or orange-wood stick. This will prevent hangnails. If the nails are too brittle they may be softened somewhat by applying vaseline or cold cream. Gloves may be worn by women during sweeping and dusting.

No elaborate treatment is necessary for the hands and nails, if the general health is looked after and the simple suggestions I have given are followed.

Skin Hygiene. To sum up, then, the hygiene of the skin :

1. Build the best blood possible, and improve its circulation. This is the first requisite.

2. Tone and “harden” the skin by cold tonic baths, or begin with cool baths and gradually accustom the skin and reaction to progressively cooler baths.

3. Keep the skin clean, but avoid oversoaping and overuse of relaxing baths. Moderation is always the best practice.

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4. Improve circulation, reaction, tone and texture by regular friction baths.

5. Treat the skin to sun baths when possible, and let it know the feel of air in direct contact daily.

6. Avoid coddling the skin with heavy clothing, heavy underwear, closely woven clothing, and overheated rooms and offices. Use light-colored clothing when possible; avoid constant use of black or dark clothing. Wear porous materials.

7. Avoid drug-store complexions—chemical cosmetics. Use the “cosmetics” of Nature and develop a complexion that won’t rub off. Massage or have massaged the face only expertly if at all; better too little (if possible) than too much.

8. Do not shun cold and reasonable exposure. They help build health.

CHAPTER VIII

How to Have a Beautiful Skin

BEAUTY is more than skin deep. True beauty of the skin lies a great deal deeper than the skin. Much of the so-called "beauty" of to-day is not even skin deep. Often it is only as deep as the rouge and powder employed by countless numbers of girls and women who rely upon these cosmetics for their complexions.

The use of cosmetics now is almost universal, though recently "cosmeticians" and "beauticians" have considered starting a "drive" to enlist the sensible or disinterested unpowdered and unrouged four million women (one-tenth of the woman population) as users of powders and cosmetics. As long as there is money to be made in the manufacture and advertising they will try to persuade most of the feminine portion of the population to employ them. Recent archæological discoveries show that women three, four and five thousand years ago were addicted to the use of cosmetics, though it is reasonable to presume that in those past ages only the indolent, sensual-loving courtesans and women of means employed them—not the mass of women. Vanity cases, perfume jars, rouge pots, and the chemicals themselves have been discovered after having been buried for many centuries. Thus it appears that the natural tendency of women is to get something in the way of an alluring coloring without effort. But in bygone centuries the women

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were not supposed to be very much enlightened!

The employment of cosmetics arises from a double source. First, there is the innate desire of the human being to ornament or decorate the body, particularly those parts that possess an appeal to the opposite sex; and, second, the average woman realizes that her complexion is unattractive and that this mars her beauty. As in most other things, instead of seeking and correcting the cause of the blotched, coarse, sallow or defective skin, effort is made to patch and cover up the blemishes and let it go at that. The money annually spent for cold creams, skin whiteners, powders, rouges, lip sticks, eyebrow pencils, etc., in America alone soon would pay the entire costs of the World War.

Cosmetic Injuries. The employment of creams, lotions, clays, and chemical preparations weakens and deteriorates the skin and renders it less resistant to external forces. In its weakened condition, these cosmetics may and do injure the skin. For one thing, the skin becomes tender and easily infected. Skin bleaches or whiteners particularly are injurious to the skin. Continued use of these preparations coarsens the skin, enlarges the pores, destroys skin elasticity, injures the circulation, creates wrinkles, and otherwise produces changes that eventually make a true complexion and good skin texture well-nigh or completely impossible.

Many of the face powders used contain lead, and cases of lead poisoning have been traced to them. Doubtless many of the obscure pains and aches from which so many women suffer are due to this same cause, or to the drugs or poisons which have

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been absorbed from constant use. However, most powders are nonpoisonous, their chief harm lying in the fact that they clog the pores of the skin of the face and neck.

The bleaching agents that are so extensively advertised to give you a new skin in from 20 minutes to three days are decidedly injurious to the skin. Besides actually killing the outer layers of the skin, they cause a contraction of the minute blood vessels of the face, thus forcing the blood out of the skin and giving to the skin a white, corpse-like appearance.

The following, from the "Practical Medical Series" (1924, pages 25 and 26), will serve to open the eyes of readers to the dangers they run when employing the cosmetics and "beautifiers" that are in altogether too much use:

"Cole, in a timely article, calls attention to the different types of poisonous preparations that go into the manufacture of many cosmetics, and lists lead, mercury, bismuth, arsenic, silver compounds, salicylic acid, resorcinol, phenol bodies, pyrogallol acid, nitric acid, calcium, barium, wood alcohol and paraphenylendiamin as among those contained in these preparations. He cites cases of severe dermatitis resulting from the use of a hair dye containing 23 per cent of lead acetate, and tells of cases of lead neuritis and others of dermatitis resulting from dyes containing this drug. Lead is also contained in some face enamels and creams and certain face powders, and a number of cases of lead poisoning have followed their use. Mercury is used variously in cosmetics, sometimes in hair dyes, but more

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often in face creams and skin bleaches. The well-known skin bleaches on the market contain respectively 33 and 50 per cent of ammoniated mercury. This drug is also employed in the form of bichloride and calomel, and cases of bluish discoloration of the skin of the face, as described by Goeckeiman, are recognized. The so called 'rice powders' frequently contain bismuth, and those using them may show symptoms of clamminess of the skin, nausea and spasms. Salicylic acid, resorcinol and phenol bodies enter into the composition of some hair tonics, and dermatitis may follow their use.

"Wood alcohol often enters into the manufacture of hair tonics, bay rum and toilet waters. Silver compounds and pyrogallic acid enter mostly into the manufacture of hair dyes, and may endanger the patient in the same way as lead or mercury. Calcium and barium used in the manufacture of depilatories (hair removers) frequently give rise to dermatitis.

"Paraphenyldiamin, commonly used in hair dyes, is said by the author to be the most dangerous drug of them all. The dermatitis following its use may spread over the entire body, and the eruption is characterized by its persistency, as it may last for many weeks. Symptoms of general intoxication also have been reported. He states that this drug is also used in the mascara employed to stain the eyelashes, and persistent dermatitis may follow its use. The various preparations used to sleek down the hair also give rise frequently to dermatitis of the face, neck and hands. The author recommends the education of the public and closer regula-

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tion of the sale of cosmetics as among the steps to be taken to alleviate the situation."

It is difficult to understand why the desire for financial gain will lead anyone to manufacture and sell preparations that have such possibilities for harm to their users. But at the same time it is no less difficult to understand how a profession that is constantly pouring these very drugs down the throats of the sick and injecting them directly into the blood and tissues, can have the face to attempt to educate the public of the dangers of applying them to the skin and hair! If the chemicals do such things to the skin, and in some instances even produce a general intoxication, what must they do to the more delicate and less resistant structures of the interior of the body? They should be kept off the body, it is true; but they should be kept out of the body, as well.

The skins of all women are not of an equally good texture. However, few if any women possess a skin that naturally is displeasing. The rough, coarse, blotchy skins one meets almost everywhere are due to lack of care, disease, rough usage, or cosmetic preparations, or to one or all of them. Woman's skin naturally is of a fine, delicate texture; but it readily becomes coarse and ugly if mistreated, neglected, or roughly used.

Diet. As I have emphasized before, diet is one of the chief factors in producing a beautiful skin, or an unattractive skin. Pimples, blackheads, a too-dry or too-oily skin, a shiny skin (as a shiny nose), blotches, etc., almost always are the result of a diet consisting of white bread, pastries, candies, pickled

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“foods,” fried foods, chocolate, cocoa, coffee, tea, sugars, or excessive starches, or to a diet containing an excess of these over the wholesome and truly nourishing foods. The overuse of starchy or oily foods produces an oily or pimply skin. Such annoying conditions often may be quickly corrected by proper diet, and need not be covered up with powder.

A pale, anemic skin, which means colorless cheeks, is the result of poor nutrition, frequently from self-denial of nourishing foods, and should be overcome by increasing digestion, metabolism and nutrition in general rather than merely covered up.

The unbalanced diet, especially when used in connection with excessive amounts of meats, also tends to produce constipation, which in itself produces pimples, blackness, sallowness, or other unsightly affections. The correction of the constipation by proper diet and exercise soon restores beauty to the skin.

The proper diet for skin beauty should consist largely of fruits, vegetables and milk. Meats, cheese and eggs, and all starch foods, particularly grain foods, should be eaten in moderation. White bread, pastries, candies, drinks other than water and milk in some form, and fat and greasy foods should be wholly avoided. Skin health, as already pointed out, depends largely upon health of the body. The condition of the blood stream is mirrored in the skin. Beware of any and all dietetic follies that tend to impair your health. Only a healthy skin is beautiful.

It is impossible to devise menus that will be suit-

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able for all possible conditions. But there are general rules that most persons can follow in meeting their food requirements. The desire of many is for definite menus. These should not be necessary if time is taken to make a little study of the subject of diet. I believe that I have said enough in previous chapters to enable most people to select foods and combinations that will be beneficial and that will not tend to cause or aggravate or prolong their skin affections. The following few paragraphs will aid still further in outlining meals. The different classes of foods will be combined for convenience in groups.

Group 1. *Acid Fruits*: Grapefruit, lemons, limes, pineapple, strawberries, sour oranges, sour cherries, sour plums, gooseberries.

Group 2. *Subacid Fruits*: Apples, peaches, prunes, pears, apricots, grapes, some cherries and plums, berries other than strawberries and gooseberries.

Group 3. *Sweet Fruits*: Dates, figs, raisins, persimmons, bananas, some prunes.

Group 4. *Proteins*: Eggs, milk, meat, cheese, nuts, fish, fowl, dried beans, peas and lentils, shellfish, peanut butter.

Group 5. *Carbohydrates*: Cereal products (white or wholewheat flour products, oatmeal, rice, corn, rye, barley), bananas, potatoes and sweet potatoes, chestnuts.

Group 6. *Fats*: Cream, butter, olive oil, nut oil.

Group 7. *Mineral-Salt Vegetables*: Asparagus, artichokes, beets, beet tops, Brussels sprouts, cabbage, carrots, cauliflower, celery, cucumbers, dande-

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lion, eggplant, endive, German celery, green peas in pods, green peppers, kale, kohlrabi, leek, lettuce, melons, mushrooms, okra, onions, oyster plant, parsley, parsnips, pumpkin, radishes, romaine, rosekale, spinach, squash, string beans, tomatoes, turnips, turnip tops, watercress.

Group 8. *Starchless Carbohydrates*: Honey, maple sugar, sorghum and New Orleans molasses.

In designing meals, the following combinations will be healthful and of benefit in clearing skins and in keeping them clear. Only one food of any group mentioned is to be taken in combination.

Group 1 should be taken alone, either as breakfast, or 20 to 30 minutes before breakfast; or combined with Group 2 or Group 3, or with both Groups, 2 and 3; or with milk, though preferably not cherries; or with Group 4, with or without Group 7 added, but for dinner or supper, not for breakfast. No sugar should be used on any food in Group 1.

Group 2 may be combined with Group 1 or Group 3, or with both groups; or with Group 4 or Group 7 or with both Groups 4 and 7; also with Group 6; or with Group 5 (but not potatoes or sweet potatoes) by some people, who also could combine Groups 2, 5 and 7. When taken with milk or cereals, or both, they may be taken for breakfast; but in the other combinations they should be taken for one of the later meals of the day.

Group 3 combines well with Group 1 or Group 2 or with both groups; with milk, cheese or peanut butter of Group 4 but not well with the other foods in this group; with Group 5, except potatoes and

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sweet potatoes; with Group 6; and with Group 7 and Group 8, though the last combination should be rigidly avoided by all who have skin defects and by most of those whose skin is easily affected by abnormal products of digestion. Group 3 combines especially well with sweet milk, buttermilk or any cultured milk, also with any whole grain cereal, and any vegetable in Group 7. When taken with milk or with cereals an excellent though somewhat heavy breakfast is provided. The other combinations are best taken later in the day.

Group 4 belongs to dinner (lunch) or supper (evening dinner). Except for milk, and probably (in some cases) eggs, cheese and peanut butter, the foods in this group should be taken sparingly and not more than three times a week. Except for milk, these foods combine *best* with Group 7, and it is much better to confine the combination to these two groups. However, nuts in combination with sweet or subacid fruits *or* with Group 7 agree well with cereals. Any form of flesh food combines satisfactorily with any food in Group 1 or Group 2.

Group 5, except for whole grain cereals and perhaps bananas, belongs to some meal other than breakfast. Foods combining well with this group are Group 6 and Group 7, also milk.

Group 6 is composed of foods that must be used cautiously by those who have skin defects or complexion faults. It combines, so far as digestion is concerned, with Group 2, Group 3, Group 5 and Group 7. The amount allowable of any of these foods is so small that, in proper combinations, they may be taken at any meal.

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Group 7 is the most important group of all, with the possible exception of Group 1. Some meals should be composed of no other foods than some of those in one or the other of these groups, in which cases more than one from the group may be taken. Also, the caution of using but one food from any group in any one meal does not apply to Group 7, since both cooked and uncooked foods in this group may be taken, and in raw salads any number from one to half a dozen green vegetables may be used. Combining groups are Groups 1, 2, 3, 4, 5, 6—any one. Other combinations are: With Groups 1 *or* 2 and 4; 1 *and* 2 and 4; 2 *or* 3 and 5; 2 *or* 3 and 6; 3 and 5 and 6. Do not make the mistake of using vinegar on any raw salads, or in any other way. Vinegar is a prolific cause of skin blemishes. It is better, also, to avoid mayonnaise, on account of the fat contained in it. Avoid more than bare tastes of salt. Learn the natural flavor of foods.

Group 8 is a group that scarcely belongs in any diet, with the exception of small amounts of honey. Even those who must guard the skin carefully may be able to take small amounts of honey, with milk and any fruit especially, except perhaps those in Group 1. It agrees perfectly for many people when combined with Group 3 and whole grain cereals, or with the cereals and Group 7. Where the combination otherwise is satisfactory, Group 6 will not interfere when added to Group 8. Except with the smallest amounts of honey, milk should be taken in fair quantities when honey is used.

The following plan is a good one for many who

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have unsatisfactory complexions, and will benefit many cases even of eczema and acne: Fast from one to three days, drink a glass of cool water every hour. Then live on milk and rice water or barley water for a week or ten days, using two quarts of milk and one quart of water; take a glass every hour for twelve hours a day. Occasionally during the day, or on an occasional day, buttermilk or cultured milk (preferably acidophilous culture) may be substituted for the milk and cereal water. After this time, take a glass of hot water upon arising or immediately after the morning bath. Have any single fruit from Group 1 for breakfast. For luncheon have a slice or two of thoroughly toasted whole wheat bread; *after* finishing this, eat an apple, an orange, half a grapefruit, *or* lettuce as desired, or take one glass of any preferred milk, or a small bowl of clear vegetable soup. For dinner have any food from Group 4, except milk, and one cooked and one raw vegetable from Group 7, but use meat only every second day; a dessert of any food in Group 2 may be used, either cooked or uncooked, but must not be cooked with sugar.

Some cases would do well to take the strict milk diet for several weeks. Others might take milk only for from two to four days; or whole wheat bread and milk; or buttermilk or cultured milk; or milk toast; or vegetable broth; or fruits from Groups 1 and 2; or salads from Group 7. All of these, in fact, may be used in any case, but with a reasonably "substantial" diet between these limited diets.

It is highly important that the bowels be kept

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active. Two or three bowel actions are necessary when on "full rations." The above diets usually will take care of this function satisfactorily, especially if there is regular general exercise. Some excellent but simple measures that will tend to normalize bowel activity may be used. Try eating a scraped raw turnip or carrot at night, or an apple at this time. Stewed fruits from Group 2 (unsweetened) often are more laxative than the same fruits raw. Spinach and raw cabbage are especially laxative vegetables. In most cases body bendings and twistings, and trunk-raising and leg-raising movements while reclining, also walking, will create normal bowel activity providing the diet is not directly constipating.

Cleanliness. The skin must be kept clean. This is as true of the skin of the body as of the skin of the face. However, it should be understood that excessive washing and bathing are injurious to the skin, this being particularly true if hot water and soap are used. These deprive the skin of its very essential oil, leaving it dry and causing it to become rough and to crack.

In bathing the face it is a good plan to use a cloth, since this is more cleansing than the hands. The cloth need not be coarse, but a coarse cloth not used too strenuously would be more cleansing and stimulating than a soft cloth. Another advantage of the cloth is that greater cleansing is possible without soap, and the less soap used the better for the skin. Most people are not careful when washing the face to cleanse all parts equally well. Blackheads usually are more numerous on the wings of

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the nose and the adjacent parts of the cheeks, and in the depression immediately above the chin. It is these regions that usually are not cleansed well; the hands or cloths used are rubbed over the cheeks, chin and forehead and the other parts but lightly touched. Needless to say, all parts should be bathed and cleansed equally well.

The chemical preparations—rouge, powder, cold creams, lotions, etc.—employed on the face are worse for the skin, at least many skins, than ordinary dirt, and constitute a real filthiness of the skin. They stop up the skin pores as effectively as dirt, and usually with a gummy mixture that is not easily removed. Some of them paralyze the glands of the skin, thus preventing them from functioning. These things are merely white or colored dirt, and should be left off the face. If they *are* used, in spite of warnings of their dangers, special care should be taken to remove them frequently and to allow the skin to be free from them for as many hours a day as possible.

Soaps. Unless one is exposed to dust and dirt, or in the heat of summer when perspiring freely, it is possible to cleanse the face thoroughly without soap, but at most soap should be used as sparingly and as few times daily as possible. When the skin is rough or dry, soaps are particularly liable to aggravate the condition, especially soaps containing much lye. Soaps containing drugs, antiseptics, etc., may be of excellent quality, so far as the soaps themselves are concerned, but it is doubtful, however, if the small amounts of chemicals used will have the supposed antisepticizing effect, since they

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are in contact with the skin for such short times at each application. These will not have any effect whatever in beautifying the complexion, and it is probable that they will injure it. When soap is necessary, use the purest, mildest soap obtainable, of vegetable fats and nonirritating in effect.

Massage. Do not rely upon massage for a beautiful complexion. In fact, don't expect a beautiful complexion from this measure. If the complexion will not be pleasing without it, if the habits in general are such as to prevent an attractive complexion, massage will accomplish nothing in that direction. At best it is but a minor auxiliary agent. However, skillfully applied it may be used as a finishing touch to a complexion that already is reasonably satisfactory.

Sunshine and Air. Give the skin sunlight and air daily. The most beautiful complexions are those that are tinged with the glow of health produced by good acquaintance with these elements, and that are deepened in color slightly by them. If there is overexposure the skin may be thickened, toughened and coarsened and its beauty somewhat impaired. But even this condition is much more desirable than the pale, anemic or sallow complexion of the stranger to the elements. A healthy coat of tan is a decided improvement over the deathlike pallor or whiteness apparently so much preferred by many. The "white-as-a-lily" complexion is a sick complexion. Sunlight and air are essential to that peachlike bloom that rouge and powder are used to imitate.

Drugs. Many drugs, when taken internally, pro-

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duce pimples, pustules, and discolorations of the skin. If one desires a beautiful complexion it is necessary that drugs of all kinds be avoided under any and all circumstances. These never build health. On the contrary, they lower vital functions, possibly wreck the health; and any degree of lowered health spells ruin to the complexion, at least the complexion is not all that it might have been. If there is any abnormal physical condition for which drugs usually are prescribed, it is quite evident that the entire organism needs an "overhauling," and this is best done by adopting those numerous natural health factors that I have emphasized in this book.

Exercise. The general health of the body is the very foundation of a beautiful skin. Exercise is one of the most important requisites of health. More than this, however, perfect cleanliness of the skin, from within outward, demands that sweating take place. Vigorous exercise that opens the pores of the skin and produces copious perspiration is essential to the greatest and most enduring beauty of the skin. Exercise should be taken daily, though it often is impossible during the cold months to exercise to the point of perspiration without making too great a demand upon one's energies. Under such circumstances there should be sufficient exercise daily to stimulate heart action and respiration and to bring about a glowing warmth. This alone will produce an opening of the pores, through which there will be an increase in invisible perspiration if not an increase to visible perspiration.

Brisk walks in the fresh air and sunshine will

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supply sun, air and exercise, and are health-building in other ways. But even if the sun is not shining one should walk, for the benefit of the air and the exercise. It is claimed, and with good reason, that the complexion is benefited by moist atmosphere, as in fogs, mists, rains and snows, as much as by sunlight. Hence, there is no kind of weather which one should shun.

The exercises illustrated in this volume have a different purpose from general exercises and walking. In many people, especially those who use various preparations upon the face, the blood supply is deficient in the skin of the face. The purpose of the exercises illustrated is to increase the circulation in the face. Whether or not one has pimples and other blotches and blemishes on the face, the exercises will be of benefit in improving the complexion. The extra blood that they bring to the face does not remain, of course; it circulates through the vessels and joins the general circulation. When leaving the skin it takes with it a greater amount of the broken-down cells and the waste products of and in the active cells than is taken by the blood under ordinary conditions. Not only this, but the increased quantity of blood permits of better skin nutrition, for there is more nourishment brought to this organ, especially when the proper elements are supplied by a proper diet. Furthermore, in time the local circulation becomes permanently improved, thus creating a complexion that endures.

The exercises should be taken once a day at first, later twice a day. They may, in fact, be taken at any time of the day, and some of them several times

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a day. They may be combined with the general exercises or taken as a separate "system." Elderly people or those who have high blood pressure or hardening of the arteries should avoid them or take them with considerable caution. Those who easily are made dizzy will find that if they begin the exercises in moderation and gradually increase the number of movements and the number of exercises used the dizziness will gradually disappear.

Rest and Sleep. Throughout the universe ebb and flow, activity and rest, sleep and wakefulness are the rule. Whether one's chief duties or pleasures are physical or mental, rest, relaxation and sleep are essential to health. There can be no benefit from physical exercise unless there is a period of relaxation of corresponding length or degree. Building takes place only during rest. Many people are incessantly busy when awake, and are so tense when they lie down to sleep that full relaxation does not take place even when they do sleep. Many use up vast amounts of energy by useless physical and mental activities—perhaps such nonsensical actions as tapping the fingers or toes when sitting, making needless and meaningless motions with the hands, screwing the face in various out-of-shape grimaces; or there is constant fretting and worry and cares that accomplish nothing but lowering of the health. The present age is one of countless ways of expending energy, especially nervous energy from mental, psychic, social and sexual activities.

Business cares or problems and every other occupant of the mind should be routed a few times daily, and especially just before sleep comes, except that

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cheerful thoughts or constructive thoughts that require no deep analysis or processes of thinking aid in bringing that relaxation that in turn brings refreshing and beautifying sleep. But sleep should not be overdone. Eight hours out of 24 will be enough to spend in sleep for all those who are not nervously exhausted. Some really require nine or ten or more hours of sleep a night, for at least several nights in succession, with perhaps a short sleep during the daylight hours, in order to restore the nerves to proper equilibrium.

Relaxation at night and just before retiring is not all the relaxation one needs. At every opportunity during the day one should drop mental and physical activities and just "slump" for a while. Even a few moments of this complete relaxation occasionally during the day will conserve energies and, if the habits are right otherwise, permit of restoration of energies to normal.

To recapitulate briefly, when it is desired to develop a beautiful complexion from one defective in any degree or manner, it is necessary to correct all bad habits. Clean out the body by means of the fast and an eliminating diet, and follow this with a sensible diet to keep the body clean inside. Keep clean outside, also, but don't overdo the cleaning process. Build up the general health and keep it at the highest point possible.

[THE END]

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