

THE
JOHN CRIPPAR
LIBRARY

BEAUTY A DUTY

THE ART OF KEEPING YOUNG

By
SUSANNA COCROFT

AUTHOR OF
"WHAT TO EAT AND WHEN;" "PERSONAL HYGIENE;" "THE READING OF
CHARACTER THROUGH BODILY EXPRESSION," ETC.



RAND McNALLY & COMPANY

CHICAGO

NEW YORK

THE
RADIO HOUR
YEAR

Copyright, 1915,
By RAND McNALLY & COMPANY





Susanna Crockett.

CONTENTS

CHAPTER	PAGE
I THE CULTIVATION OF BEAUTY.	5
II THE HAIR	21
III THE EYES	131
IV THE NOSE	166
V THE MOUTH	181
VI THE EARS	204
VII THE HANDS.	222
VIII THE FEET	245
IX THE COMPLEXION	269
APPENDIX	375

L613.4
R500

380723

BEAUTY A DUTY

CHAPTER I

THE CULTIVATION OF BEAUTY

Time was when cultivation of the beauty of the human face and figure was considered vanity,—an instigation of the evil spirit. Happily, that day has passed. Every thought, every touch, every influence that inspires the sense of beauty, is just so much added to uplifting and redeeming the world from sordidness and gloom.

A well known Bishop is quoted as having said:

“Beauty fills us with fresh thoughts and joyous emotions. It lifts towards higher worlds and promises the vision of better things. It awakens in the soul the conscious harmony that is itself. It is God’s smile on His world, bidding us to take hope and be of good cheer.”

Indeed, the development of attractiveness in oneself is just as elevating and cultivating as the study of beauty anywhere.

Is the study of the reproduction of this flesh by an artist—in marble, or paint or charcoal—more elevating than a study of the tint of the skin, the contour of the head as affected by the hair dressing, the preservation of the artistic lines of the flesh in living, breathing life? Is the effort to preserve the body—the beautiful soul-home of the human being—less ennobling than the study of art in the abstract?

Away with the thought that the purpose to make the human form divine, a beautiful, wholesome expression of the beauty and wholeness within, is vanity!

“They are never alone who are accompanied by noble thoughts.”
—SIR PHILIP SYDNEY.

The cultivation of beauty vanity? It is a duty each one owes to self, but especially is it a duty of woman,—the world looks to woman for the refining delicacies of life.

As a mother, a sister, a wife, a sweetheart, you may not surround your husband, child, sister, brother, father or friend with the best art pictures, which help to lift the mental and spiritual tone of your home. You may not be able to provide a Diana, a Venus, a Madonna, painted or chiseled by one of the best masters; but you can be yourself a more beautiful picture, because you are the work of the Master Artist. Human hand cannot portray the depth and breadth and subtle beauty of moving, breathing flesh.

Every woman may be the most artistic expression in her home. She may care for her skin and keep it delicate as coral, she may keep the lines and curves of her figure as beautiful and symmetrical as those of any Venus or Diana.

Your privilege, as a woman, is to educate, to refine, to “allure to brighter worlds and lead the way.”

You can bring the best of art to your family. You can do the Master Artist honor, in expressing your share of beauty. Do not express His spirit clothed in any garment but your best,—and remember the robe of the spirit is your physical body.

It is woman's privilege, and should afford her pleasure, that she can be the object of her husband's admiration; she can be the realization of art in his home,—in his life. She can be a daily, refreshing inspiration to father, mother, brother, sister, child or sweetheart, and thus lend an unconscious, educational influence, uplifting and refining.

A woman lends to the comfort of the home by her attention to material duties, but she makes the comfort in heart and mind,—the home atmosphere,—by attention to herself,—to mind, soul, heart and body.

Realize Your Ideal Look in your mirror. Study yourself,—are you satisfied? Is your complexion *clear*? Does it express the clearness of your life?

Are there discolorations or blemishes in the skin,—which symbolize imperfections within?

Are there wrinkles?—Do they bespeak a heart at rest, a mind in harmony—in poise?

Are your cheeks rosy?—Do they bespeak warm blood, circulating freely and nourishing all tissues?

Are your eyes expressive,—lustrous,—bespeaking a strong soul with rested nerves?

Are the pores fine, or large and coarse,—showing inattention to breathing, circulation and diet?

Are your teeth white,—reminding us of the whiteness of ivory?

Do your nails meet the ideal which describes them as delicate pink, shell-like ornaments?

Does it not depend upon the attitude of mind with which we approach the subject? We may approach it in a superficial mood, or as a sweet, serene duty, developing the artistic side of our natures. We may make it the most gratifying, educative study.

If you *possess* personal charm, would you not like to know the simple, sensible ways of improving and of *preserving* it?

"The body is the robe of the spirit."

Beauty God put beauty into every grain of sand, into
 Everywhere every cloud of the sky, into every leaf and vine and
 bud and flower, into every shadow and high light.
 Look where man will, beauty is everywhere;—and where in all life
 is a more beautiful production of Nature's handiwork than the human
 form? It is Nature's masterpiece, with the God-head pervading and
 speaking and moving through it.

Nothing in all life is more elevating, more refining, more
 ennobling than the study of the beauties in Nature and art,—than
 the coral tint of the flesh, the glint of the hair, the depth of the eye,
 the symmetrical curves of the figure, and the delicate lines of the
 neck, supporting the head, as the stem of a dainty flower supports
 its blossom.

Curves, lines and hinges in all man's creative works are copied
 from the human figure,—yet deeper and more than the physical
 beauty is the suggestive power of the spirit—culminated in man
 alone.

The purpose of the Creator in surrounding man with these
 beauties and endowing him with eyes to see and mind to appreciate
 was surely to inspire him to reach up to a cultivation through their
 study,—to show him a beautiful purpose therein.

Is not all beauty eternal? As it sinks into man's consciousness,
 does it not stamp its impress upon the soul?

In the study of the embryo of human life,—the spirit—shall we
 forget the expression of the physical beauties which foster its devel-
 opment? In the study of the spiritual, shall we forget the study of
 the delicate home given to it? As a frame gives a setting to a beau-
 tiful picture, so doth the body reflect the soul. The silken tresses

glint the sunlight,—the pearly whiteness of the teeth, the coral tints of the hands, the light and shades given to the face by the softness of the hair, all speak of a subtlety,—alluring—just beyond our reach.

When I see a human form with an abnormal amount of flesh, suggesting to the beholder the predominance of the physical over the mental and the spiritual, or see one round-shouldered and stooped, with cramped, bony, angular chest and sallow complexion, I am reminded of a gnarled and crooked tree and feel like crying out:

Oh, my sister, arise to your birthright of beauty, light and power. Stand upright. Do not despoil God's temple but lend your share to the beauty and use of the world. Remember that beauty is use—it is education—refinement. Lift head and heart and soul, and drink in the beauties of life. As you drink your fill, Arise! Study to express these beauties through the clearness and color of your skin and hair and through beautiful proportions of your figure.

Let your grace of movement express the clearness of your inner life;

Let the cleanly body, with hands, hair and skin well groomed, express the cleanness of life;

Let your upright body express the uplift and courage and strength of your soul.

As you keep yourself wholesome without, you feel the wholesomeness and self-respect within, and your life has a deeper satisfaction as you realize the serene, educative dignity of your being.

Treat your body with the dignity and reverence you would a sacred temple and you will not fritter away time upon it;—you will form the habit of doing the right thing systematically.

"We are too close to God for doubt or fear."

“God made your body and He made it great;
It has a guest of might and high estate.
Keep the shrine noble, handsome, high and whole,
For in it lives God’s guest, a kingly soul.”

“How much time this all takes!” you say. Yes,
No Time but how much time do we waste?

Let us save the time we spend at the bargain counter, or upon cards, furniture, or in cooking fancy, unhealthful dishes, or doing fancy work.

Let us save more of the time we spend at the fashionable shops and restaurants, in the reading of inferior books and sensational newspapers, in idle conversation and gossip, in unedifying and non-intellectual social functions and in unnecessary features of household work and devote it to the dignified work of caring for the temple of the soul.

A figure well groomed, well proportioned and gracefully carried requires neat but not expensive clothing. It takes no longer to dress the hair becomingly than unbecomingly; it takes no longer to wash the face the right way than the wrong way, when we have studied ourselves and formed the right habits.

Just learn the thing best for you, then form the habit of doing it, and you will not flounder. You will cease to experiment. Habit is a great conserver of energy.

Keep the blood circulating freely and lots of air in the lungs, that the body may be wholesome and cleanly within, as well as without.

The woman who has beauty of features has a better opportunity to make her beauty of character felt.

Beauty is
Power

“Handsome is that handsome does” will do for some, but the philosophy of the old maxim, though good as far as it goes, falls short. The strongest character cannot exert an influence for the betterment of others until she has the *attention* of those she wishes to better, and much energy is lost in battling obstacles and opposition to gain an audience. This very battling hardens the features at times. So, too, does the intensity of thought.

An attractive woman never needs to strive for attention.—It is hers and she has every advantage over her plain sister who gives little attention to the niceties of her toilet. When *outer* charms have won for her attention and admiration, her *inner* charm, strength of character and true worth will be the more readily felt and recognized.

The woman of strong character needs most to cultivate softness in facial lines, in expression of features and manner; time thus spent will be to the advantage of the world as well as to herself.

Few men have time to spend in the art galleries, but nearly every man has a keenly artistic sense and appreciates beauty in woman,—the beauty in figure and feature, the clear skin, the luxuriance and gloss of well kept, well dressed hair, the sparkle of lustrous eyes, the gleam of teeth well cared for, the daintiness and grace of expressive hands. He is cheered, rested and uplifted by such beauty, just as a woman, who has time for the art galleries, is feasted and refreshed by beauty on canvas or in marble. Some beauty of feature attracts him first,—the ideas and character next.

Men Are
Lovers of Beauty

*“Think truly, and thy thoughts
Shall the world's famine feed;”*

A woman of real, physical beauty, if accompanied by beauty of thought and life, is a woman of power. Who has not marveled at the favor and consideration bestowed upon some soft-eyed, gentle woman?

Crowds make way for her.

Busy men stop to listen to her.

Men of influence use their power to help her gain what she desires.

She is first to be served at shop or table.

She is the center of an admiring group at every social gathering.

Women as well as men love and admire her.

She is a leader,—the most influential kind of leader.

Why?

Because she is beautiful; and if you look closely, you will find that the culture of heart and mind and the refined nature, have led her to give careful attention to the details of her toilet.

True, the care of the skin, the nails and the hair are superficial and real beauty is from within, but the outward care expresses the inner culture.

However well a woman may look to these outer things, she cannot be truly attractive, cannot express her highest, most cultivated thoughts, cannot possess the fullest degree of magnetism,—winning for her friends and influence—unless she carries herself well, has a well proportioned figure and enjoys good health, because these have a dynamite force all their own.

But, even as we know these last things *can* be accomplished by *nearly* all women, so do we know that the “finishing touches” are

possible to *every* woman; and she, who neglects making the most of the personal gifts she possesses, is not only "burying her talents" and so disobeying a Divine injunction, but she is losing a great deal of enjoyment which rightfully belongs to her and is failing to contribute to the beauty and to the uplift of the world.

Women Happier
If Attractive

The cultivation of beauty exerts a reaction upon the individual, as well as an influence upon her friends. When a woman looks her best, she feels better, can accomplish more and is happier.

"If the ill spirit have so fair a house,
Good things will strive to dwell with't."

—*Shakespeare.*

This is as it should be.

What woman is not happier when she finds, as she looks in her mirror, that she is looking particularly attractive?

The satisfaction with self as the eye dwells upon some feature of her toilet, fresh and wholesome, has a wonderful effect upon her mental poise. She sees life through different eyes. She is happier and her family and friends are happier in consequence.

This happiness is the satisfaction of mind, which should always result as the eye rests upon beauty. The same satisfaction is realized upon seeing a beautiful flower or a beautiful landscape.

It may be that she has given her face a massage and in consequence she looks fresh, her skin is clear and her eyes bright.

It may be that by reason of her care of the hair, it is glossy and abundant, or she may have discovered a more becoming way of dressing it.

*"Speak truly, and each word of thine
Shall be a fruitful seed;"*

Her nails may be particularly well manicured. In fact, any toilet accessory which makes her better satisfied with herself affects her mental poise, her eyes sparkle, and her friends reflect her mental atmosphere. She has a better time. She enjoys life.

One does not need expensive clothing. *A face radiating mental poise, a well groomed body, clothed neatly and carried with grace and dignity is its own aristocracy.*

Attraction
versus
Beauty Many a woman knows that from the popular standpoint, she cannot be beautiful to the unthinking judge. There are many, also, who modestly under-rate themselves and are inclined to under-value the beauty points they possess.

Few, very few there are who have not some redeeming feature which distinguishes them among their friends. It may be a beautiful skin, a beautiful head of hair, or a beautiful tint or pleasing manner of dressing the hair, or beautiful hands, nails, teeth, brows, eyes, ears or feet,—they may have one or many good points.

Strive to make the very most of your distinguishing features, just as a florist strives to bring to perfection a beautiful flower, and you will be adding to the culture and beauty of the world, while your family will delight in the marks of improvement, and be rested as they look upon you.

Every woman can be attractive and charming in some particular, and she can be well groomed and pleasing in all.

We must bear in mind that we please first through the eye, then through the ear.

Whatever her motive, whether to please her husband or to win a sweetheart, or whether because she enjoys the feeling of power and satisfaction which rightfully belongs to every woman, every charm a woman possesses should be developed to best advantage; and many she does not dream possible to her can be "caught and held fast," even to the very last flicker of life's sunset.

Let us dwell on that word "developed"—a *developing beauty*.

Every woman can acquire it—can possess it in increasing degree as years are added unto her.

Young or old, *no woman's skin need be pimpled, wrinkled, dry or sallow.*

It is possible for every woman to become a beautiful old lady; but it is when Time first begins to leave his stealthy footprints, that she must look to her laurels and "Attend!"

Beauty is not monopolized by youth. The most noted beauties have won their fame in more mature years, when expression of character and culture have been added to the beauty endowed by nature.

A beautiful young woman is beautiful because of form, features or complexion—her natural endowment, perhaps, well cared for. If she value these, she will seek to learn how she may preserve them; and if she would retain her power to charm, she will seek to develop the beauty, which springs from culture of mind and beauty of thought,—thus adding character to mere physical beauty and producing yearly increasing charm.

It is upon a good constitution that the aged must largely depend in the resisting of disease; and this same care and realization of the

*"Live truly, and thy life shall be
A great and noble creed."*

individual's physical best is what helps to produce the beloved old,—the aged person upon whom one loves to look and enjoys having about.

True beauty, genuine beauty, influential beauty radiates the more powerful light because it emanates from an exhaustless, ever developing source, with health of body and mind for its well spring; and even as a reflector makes the lantern rays brighter, so true beauty, that which is from within, is intensified, glorified, in proportion to the inner beauty of character, which is outwardly reflected through the facial expression.

Holding the head high does not make a princess. "The King's Daughter is all-glorious within," says the Psalmist. For this very reason there is greatest hope for the woman who desires to be beautiful.

Unhappy, lonely wives who are letting your
You Have Won, husbands drift away from you, look well to your
You Must Hold personal appearance.

Wives to whom life has become a humdrum monotony, turn to studying beauty within yourself and seek to express it outwardly; put on a becoming gown, massage the lines out of your face, dress your hair becomingly; make it silky, glossy and abundant; make the hands soft; manicure the nails afresh; make the very most of yourselves and watch the silent influence.

It is not enough that a woman beautify her husband's home and cater to his stomach. She must call out and preserve *in herself* the charms which attracted him to her in the days of courtship;—she must remain the winning sweetheart, and she can accomplish this by growing in grace of body as she grows in grace of mind and spirit.

Greater charm and talent are sometimes required for holding than for winning.

The lives of many husbands, wives and families, too, become sordid and uninteresting,—not only to others, but to themselves, because they lose the spirit of progress, the impulse to educate and uplift those about them, to exert a refining influence upon others and they become careless of themselves and of their appearance.

**Grow More
Beautiful**

In order to maintain her influence, therefore, a woman must keep both body and mind fresh and active. She should not overlook the importance of such details as preserving a youthful figure and a springing step, carrying herself in correct poise, walking correctly and so caring for her body as to constantly give outward expression to the beauty of mind and character, which should be maturing to full beauty within.

**What Are
We To Be?**

Right here, let us be frank with ourselves:—

What kind of old ladies are we to be?

Shall we become sallow, hollow-faced, wrinkled, scrawny, fussy, meddlesome, peevish old women, whom most honest folks wish were out of the way?

Shall we become pudgy, over-fat, sloppy, greasy old women, whom none can comfortably endure to have around?

Or, shall we become the sunny, cheerful, unselfish, sweet-to-see old ladies, whom everyone adores and respects and for whom young and old gladly make a place, often with sacrifice of their own personal comfort? Is it to be fading beauty or developing beauty for us—for you?

*"Whatever the weather may be," says he,
Whatever the weather may be,
It's the songs ye sing, and the smiles ye wear,
That's makin' the sunshine everywhere."*
—RILEY.

Beauty Preserved
Means Watchfulness

You are thinking only of the *now*?

But "*then*" will be "*now*" some day,
remember, and the making of ourselves the
best we can in every "*now*" makes the "*now*" of every to-morrow
happier for ourselves and for those with whom we come in contact.

The beautiful woman must never cease in her pleasant duty of
preserving and developing her charms—of face and form, as well as
of thought and manner; and the ugliest of us must, *must*, if happiness
is *any* aim in life, set about the sacred duty of banishing every trace
of whatever is turning us against the world.

Yes, "us against the world," and not the world against us.

The world is *with* us, if we are with the world.

Our happiness, our success, our popularity is largely what we
make it and outward beauty reflects inner cheer, to the possessor,
first and most,—next to the observer.

Being beautiful—becoming so—*remaining* so
Largely a Matter of Knowing How —is largely a matter of knowing how.

The cultivation of beauty is an art, just as
the singing of a song, the painting of a fine picture, or the writing
of a stirring poem is an art; and in every "*art*" "*knowledge* is
power," and perfection is gained through practice.

The naturally beautiful girl or woman needs to study herself
in order to preserve her divine gift; while she who has not been so
blessed by nature, should and may, learn to greatly improve her
form, her features, her skin, eyes, hair, teeth, hands and nails. By
doing this she will have the consolation of knowing she is making
the most of her natural gifts and if, at the same time, she develops
the mental in proportion to the physical, she cannot fail to become
a power in whatever circles she moves.

"Let the howlers howl,
and the growlers growl,
and the howlers howl,
and the growlers growl,
and the gee-gaws go it;

Behind the night, there is
plenty of light, and
things are all right and
I KNOW IT."

**Importance of Being
Able to Judge** Most women realize so fully the importance of cultivating and preserving those exterior charms which appeal to the eye, that they are too ready to try this, that and the other remedy, regardless of its source,—with the sad results, too often seen, of real beauty marred forever by the application of some harmful drug, or the following of “directions,” put together to fill a newspaper column.

For example, the skin varies in different individuals. A treatment or lotion affecting one skin or one kind of hair, beneficially, sometimes has exactly the opposite effect upon another.

**Beauty's
Requisites** Health, beauty of thought, a well proportioned figure and good poise are perhaps the first requisites to genuine beauty; and in helping thousands of women to gain these through my course in Remedial Exercises, I have become interested in studying how women may cultivate and preserve those outward expressions of beauty which may be called superficial, yet which are quite as important as others more difficult to obtain.

The satisfaction derived from helping thirty thousand women to regain health and beauty of figure and carriage has led me to wish to help and guide them in the “finishing touches”; in correct bathing and care of the skin, in the care and preservation of the hair, hands, eyes, teeth, etc., and in the selection of toilet articles, which are efficient, reliable and harmless, and which are suitable to the individual.

The desire to have my pupils understand *how* to care for themselves, how to select and reject from the hundreds of preparations one sees advertised and reads in “beauty columns” has led me to thus deeply study the subject of the outward expression of beauty.

My pupils in Remedial Exercise and Bodily Expression do not

“If I can put one touch of rosy sunshine into the life of any man or woman I shall feel that I have worked with God.” —GEORGE MACDONALD.

begin at the surface, but seek at the foundation. They seek health, and in attaining it win grace and suppleness of figure. They then need but the "finishing touches" to complete the personality that wins.

The "glow" of the cosmetic is perishable, and "drops" put in the eyes to give luster, are dangerous.

The beauty which is genuine is not like some people's manners, "a veneer over essential barbarism." It is the result of health and intelligent care, and is most attractive, because genuine. With the cultivation of *this* kind of beauty, moreover, has come a mental awakening which has transformed the facial expression.

CHAPTER II

THE HAIR

Responding so readily to intelligent treatment as it does, there would seem to be no reason why every woman, in health, may not have an abundance of soft, glossy hair.

No matter how beautiful the face may be, if the hair be thin and harsh and show lack of care, it detracts from the softness of expression, while abundance of hair, artistically arranged, brings out the best lines of face and feature, softening all of the harsh lines and angles.

Beauty of character is a more lasting charm than beauty of features; yet, it is unmistakably true, that one with attractive outward charms has every advantage in winning and holding attention until she has the opportunity of making her beauty of character and life known.

No woman can afford to ignore the power of physical beauty. We educate through the eye, we beautify and refine through the eye as well as through the ear, and the outward should be a fitting expression of the culture of the inner being.

A fair quantity of hair may be carried to old age. It is not necessary that it grow thin and scraggly. There are a goodly number

Do not lose sight of the fact that physical beauty enhances, but never supplants the beauty of the spiritual—of mind, of character.

of people who reach a ripe age with abundant hair and nothing lends a softer light to a sweet, old face than a delicate framing of soft white tresses.

Women would cease to be attractive if their hair were not fairly abundant and becomingly dressed. The latter result is more easy of attainment than the former and in view of the increase in the number of comparatively young women, whose hair is prematurely gray or losing its life and luster, I feel that time and thought should be devoted to the study of causes and remedies.

The care of the hair is worthy the study of every woman who would appear at her best, and certainly beauty and wholesome expression are among woman's strongest charms.

When a woman finds she is losing more than a few hairs each time she dresses it, she should look to her physical condition, at once, and seek to correct weak nerves and disordered vital organs, instead of rushing to the drug store and purchasing some advertised hair restorer or tonic, expecting it to do the impossible for her.

There is no harm in using certain well known and reliable tonics for the hair, however, (which matter will be taken up elsewhere in these pages), but they must be given only a small share of the credit, when good results follow, as it is the circulation promoted while rubbing in the tonic that brings about the best result.

The first gray or faded hair, or the appearance of too many filaments on your comb, as you manipulate and dress your hair, should serve as a warning to "take a stitch in time" and so change your habits of living, diet and periods for rest that nature may have a chance to repair wasted tissues, build up a good circulation and strengthen the nerves. New nourishment brought to the roots, which

are still alive but inactive, will check the fading and whitening hair and cause new hairs to come in their natural color.

The renewal of hair is of necessity a very slow process, but if the physical condition be kept at normal and gentle massage of the scalp repeated for a few minutes every day, most excellent results in hair growth can be accomplished in a very few months.

The hair reaches its best point of development in early maturity, but if good blood and a good circulation are maintained in later years and no nerve depletion takes place, through illness, worry or undue strain, the hair will keep its healthful appearance and not fade nor lose its color nor luster till long past middle life.

I wish most strongly to impress upon you the fallacy of relying upon newspaper articles in regard to the hair, the skin, face creams or hair tonics. Most men and women, who have given a thorough study to this work and who are able to write upon it scientifically, are busy and demand a more permanent medium than newspapers for their work.

All who understand the physiology of the hair and skin realize the very great harm that is being done by men and women who are paid so much to fill columns along certain lines and who give directions in these columns that are absolutely unscientific. It is surprising how many follow such directions or apply hair lotions and tonics, without knowing whether the particular treatment is suited to the individual case.

What is food for one person's hair is not food for another, and each woman should study her own condition. She should know the virtue of the ingredients in a tonic or lotion and then decide whether that particular one is suited to *the present condition* of her hair.

"They might not need me
Yet they might—
I'll let my heart be
Just in sight.
A smile so small
As mine, might be
Precisely their necessity."
—EMILY DICKINSON.

It is not safe to apply a lotion, just because it helped a friend, if your condition is not the same as your friend's.

But you say: "A tonic is a tonic." Yes, but the ingredients differ. Your friend may have needed alcohol to stimulate the nerves of the scalp, while your nerves may need soothing. She may have needed a little oil for a dry, contracted scalp, while yours may need an astringent.

The intelligence of woman often seems lacking, in her mental attitude toward drugs, patent medicines, hair tonics, face creams and powders.

Woman must awaken, must use her own mentality and common sense, instead of merely imitating or following what "So and So says." The spasmodic, vigorous rubbing on of a tonic, because it helped Mrs. — should be replaced by an intelligent study of self and patient work for a few minutes each day upon exercises which, together with correct breathing and proper food, keep the strength of all vital organs.

The day of expatiating upon one's imperfections, as if they were marks of distinction has passed, and instead of talking about them, one now feels more like hiding until she has used intelligent care in correcting them.

One must look deeper than the hair for the cause of its impoverished condition. Since the growth of the hair is from the root, and since it receives its nourishment from the blood, it will be readily seen that the chief efforts to promote its growth and strength must be directed to a good circulation of blood, pure and rich in nutriment, and particularly to a free circulation of it about the hair follicles.

**Causes of
Poor Hair**

The following are some of the physical conditions affecting the hair:

1—Poor circulation and the consequent failure to thoroughly nourish the roots.

2—Failure to breathe deeply and fully as a regular habit and the consequent failure to purify the blood and to tone the nerves.

3—Constipation—this allows the poisonous waste of the body to remain in the blood affecting all skin tissues, including the hair.

4—Indigestion, of either the stomach or intestines, which means that the food is not properly put in condition for the nourishment to be absorbed by the system.

5—Rheumatism or gout, showing a too acid condition of the blood. (This is largely dependent upon the circulation and the elimination of waste from the intestines, skin, kidneys and lungs.)

6—Abnormal condition of the nerves which prevents the free circulation of blood through the arteries, veins and capillaries of the scalp.

7—Anaemia, which means that the blood does not contain the right proportion of red corpuscles to carry sufficient oxygen to the roots of the hair. (This is dependent again upon the circulation and the proper food.)

8—A torpid liver, which does not properly form new blood corpuscles nor properly convert the poisons of the system into harmless compounds.

Should the hair remain thin or the scalp inflamed or infected with scurf for any length of time after an illness, a specialist upon health should be consulted. Measles, typhoid or scarlet fever often affect the hair in this way. It may be noted here that those suffering

with rheumatic tendencies often suffer also with dandruff, thin hair, grayness or baldness.

Before reaching any conclusion, however, it is well to ascertain that the trouble is not caused by a lack of care and cleanliness of the scalp. Clogged pores and glands or a congestion of the scalp may be the prime cause.

If massage manipulations of the scalp, which cause a freer action of the capillaries and bring more blood about the roots, do not result in a better tone to the hair, one should attend to regular exercise, deep breathing and a proper, nutritious diet, thus bringing more nourishment into the blood itself.

All of the hair tonics and hair growers in existence will not take the place of this nourishment; in fact, it is a fallacy to suppose that lotions rubbed onto the scalp are going to enter into the blood formation and nourish the hair. Their help is in stimulating the nerves, which, in turn, stimulate the blood supply.

The old idea that nourishment can be conveyed to the roots of the hair by rubbing in fatty substances is absurd. The virtue of oil rubbed into a dry scalp is to relax the tissues about the capillaries and the massage necessary to rub the oil in, brings to the scalp a supply of nourishing blood.

All food to build the hair, as well as the nails or any body tissue is carried through the blood and whatever causes impoverished blood must affect every part.

Imperfect circulation throughout the body with all of the ills resulting from it, is at the root of most cases of poor hair.

The condition of the hair shows very accurately the condition of the system. When it is dry, lifeless and brittle, it indicates that

the body is being improperly nourished, but when it stands up well from the scalp and has luster, strength and brightness, the bodily condition is usually good.

The sympathy of the hair with the rest of the body may be noted in the case of horses. Change in water, which has not been agreeing with a horse, will make an entire change in the gloss of the horse's coat.

In fact, it is practically useless to attempt to treat the hair without first putting the general system in good condition. This can only be done by promoting a proper digestion, which will put the food in condition to be absorbed by the system; by maintaining a proper activity of the intestines, that the nourishment may be absorbed; by creating a forceful circulation to carry a full supply of blood to all parts of the system and by bringing about a normal activity of all tissues and nerves, that the nourishment in the blood may be assimilated. The impurities of the body must also be properly thrown off through the natural channels of the kidneys, intestines, pores of the skin and lungs, else toxins will remain in the system.

It will be noted, then, that it is often the physical culturist or the physician who gives exercises to create a good circulation and also outlines a diet, to whom one should go when troubled with failing hair, instead of to the hair-dressing parlors, because if the blood be loaded with poisons, no amount of massage to bring that impure blood to the hair follicles, nor no amount of lotions put upon the scalp to stimulate the tiny nerve ends, will correct the poisonous condition.

The fact that it is the nourishing condition of the blood, which feeds the hair and makes it luxuriant, more than the care of the hair

itself, is very definitely shown in the heavy and beautiful hair, which we often find upon those who wash their hair but twice or three times a year and who give little time to brushing it,—still the scalp is thoroughly nourished and the hair grows, while many who are much more cleanly and give much more time to these things, have poorly nourished scalps and very thin, scraggly hair.

The latter may be accounted for in the condition of the nerves. Those who give the body more care are usually more intelligent. Their daily lives call for more nerve force; this retards the blood supply to the capillaries about the hair roots, preventing the nourishment of the hair, even though the blood be in normal condition; or it may be that the blood does not contain a proper proportion of the chemicals forming the hair.

The demands of present living, which call for such a large expenditure of nerve force and vitality and the total disregard of the laws of health and right living, must be held accountable for many cases of poorly nourished hair, premature grayness, falling hair and baldness. Nerve tension must be relaxed, a stronger vitality and reserve force built up and more normal habits of living established, if nature is to do her work rightly.

Hair roots deprived of proper nourishment soon grow weak and die, just as plants droop and fade if robbed of nourishing soil, water and sunshine.

Once a hair root dies there is no medicament known to science, which will restore it.

**Effect of Nerves
Upon the Hair**

It must be borne in mind that the nerves play one of the most important parts in the nurture of the hair. Each hair grows from a papilla of

the skin and the nerves form a network about the papillae, one nerve twining itself about each hair follicle.

The direction of the larger nerve trunks is illustrated in Fig. B. These nerves branch and branch until they form a perfect network about each capillary of the skin.

Overstrained nerves and habits of worry, contract the capillary walls and affect the amount of blood in the capillaries; the blood in the capillaries about the hair, of course, affects the amount of nourishment in the hair itself.

Overstrained nerves also affect the amount of pigment in the skin and the hair, and are one chief cause, therefore, of hair turning gray. In cases of extreme neuralgia of the head, the pigment is sometimes so affected that the hair grows gray in patches. When the hair has turned gray, by reason of this overstreuous condition,—if it be not too long continued,—it sometimes regains its normal coloring when the tension is relaxed.

In some affections of the skin of the scalp, the corium becomes contracted, the nerves are pressed upon, and the root of each hair seems sore to the touch. In such cases, an ointment well rubbed into the scalp to relieve the contraction is salutary.

The nerves controlling the scalp have their
Necessary
Daily Exercise direct centers in the medulla oblongata, and any exercise for the spinal column,—more particularly for the upper spine,—or heat applied for relief from nerve tension here, will have a salutary effect upon these controlling nerves.

*Therefore, those who wish glossy, abundant hair must attend:
 To the condition of the nervous system,
 To definite exercise to promote a good circulation of blood,*

*To proper food, that the quality of the blood itself may be regulated,
To the normal action of the liver, intestines, skin and kidneys, that all
poisonous matter be thrown off, and
To deep breathing that the blood may be supplied with the normal
amount of oxygen.*

Daily massage for the scalp and exercises for the neck, are invaluable and with a little direction every woman can massage her own scalp. Three minutes given to this each morning or each evening will produce better results than a half hour once a week by an expert hair-dresser.

In almost every case, whether the hair be lost through nerve strain, illness or misuse, if the blood be purified and nourished, its health and vigor can be regained with a few moments of intelligent, daily care, and this fact should cause every woman whose hair has grown thin or harsh, or who has lost the fluffy abundance of the hair line about the face, to take courage.

Few operators who treat the hair know anything about the chemical composition of preparations used, but since these chemicals are not absorbed into the hair from outward applications, this chemical knowledge is not absolutely essential, however desirable for the work it may be.

Hair tonics are useful, as containing antiseptics where needed, or alcohol to stimulate the nerve ends, or oil to lubricate the scalp as necessities require, but massage, required to rub hair tonics into the scalp, is the chief agency in quickening the blood circulation about the roots of the hair, and is more salutary than the tonic itself. By referring to chapters on "Hair Tonics and Massage" their virtues will be noted.

Necessity of Prompt Action It must be remembered that it is much easier to prevent hair from falling out or from turning gray than to correct the difficulty once it has developed. Everything depends upon early treatment, before a disease has gone too far, and let me remind you here that dandruff, which is so common an affection of the scalp, is an actual disease and that most causes of premature gray hair or baldness may be traced to it.

The healthy condition of the scalp should be attended to from childhood, if one is to reach old age with an abundant growth of healthy scalp tissue and glossy hair. Many bald heads date from improper treatment of the scalp in the cradle.

Color of Hair Climate and difference in the character of food seem to have much to do with the shade of the hair. The farther north we go, such as Norway and Sweden, the lighter the hair, while in tropical climate, dark hair prevails.

The black or brown color of hair is due to the melanin which is distributed throughout the cortex. There seems to be several varieties of this pigment, that of the human hair containing less nitrogen and more sulphur than that of some others.

The chemical constituents of the hair differ. Under ordinary conditions it is composed of about 50 parts carbon, $6\frac{1}{2}$ parts hydrogen, $17\frac{1}{2}$ parts nitrogen, 5 parts sulphur and about 20 parts oxygen. Of course this varies with certain conditions and with certain climates.

Red or auburn hair contains a reddish oil, a goodly proportion of sulphur and a small quantity of iron. Dark hair, as a rule, contains more iron than blond hair. Blond hair contains a whitish oil

and sulphate of magnesia. Silver white or gray hair contains sulphate of lime in large proportion.

A rather interesting investigation upon the relation of the color of the hair to character and temperament has recently come to my attention: Some man, (presumably a brunette) took exception to artists and writers always portraying angels as blonds. To disprove the truth of their inference, he investigated a number of jails and prisons and, to his gratification, learned from statistics and observation, that a very large proportion of the inmates were blonds. He states that the crimes committed by blonds are the petty smaller crimes and he infers that they are less able to combat the trials of life and resort to crime in their efforts to keep up. He states also, that the real dastardly, murderous acts, requiring dogged courage, are committed by brunettes of a decided type.

Whether further investigation would bear out this character test, or not, the facts are interesting.

Being a non-conductor of heat, the hair protects the head from exposure to cold in the winter and from the rays of the sun in summer. Placed as it is at the entrance to the various openings of the body, it protects against bacteria, dust, insects and other foreign matter, which if taken into the system would work injury, as is illustrated by the small hairs about the nostrils, which filter the air before it passes into the lungs.

Hair is very elastic and may be stretched to about one-third of its length.

The ideal quantity of hair in woman is from four to five ounces and from twenty-five to thirty inches in length. Its average life is

from two to six years, the growth varying from four to six inches a year.

The hair consists of (1) the Marrow or Medulla, which is absent in wooly hair or in the hairs found during the first year of life; (2) the Cortex, which surrounds the medulla and consists of rigid, horny, fibrous cells,—in and between these cells are the pigment granules, which give the hair its color; (3) the Cuticle, or the covering, which consists of horny layers somewhat resembling fish scales, sloping from the root of the hair downward to its end. In brushing the hair from the roots downward, these horny layers are stroked and the dirt removed; thus the brushing of the hair lends a gloss to the scales. In brushing upwards towards the roots, as in matting the hair, the tiny scales are fluffed and broken, the cortex of the hair is injured, the matting of the hair consequently causes it to break off.

Figure A shows a section of the skin through
Manner of Growth which the hair grows diagonally.

Hair grows, not along the shaft, but from an increase of the cells in the root upon the surface of the papilla (see cut); these cells represent the matrix of the hair. The hair root grows from a sac-like pouch in the corium of the skin known as the follicle. The hair follicle embraces the lower two-thirds of the portion of the hair imbedded in the skin. As layer after layer is formed, the hair is raised higher within its follicle. When it reaches its full growth, it is gradually lifted up from the papilla and falls out, a new hair forming from the same papilla.

The hair follicle, when in good health, is firmly fixed within the papilla and the hair will not come out unless it has reached its full growth, or unless some disease, lack of nourishment or unnatural

condition about the papilla prevents its growth; therefore, one need not refrain from brushing the hair for fear of loosening it from the root, because unless the hair be ready to fall, by reason of undernourishment of the blood, or an unnatural or diseased condition here, the brushing of the hair will not bring it out.

Force used to pull out hairs is, however, unnatural and bruises the flesh about the root of the hair.

There is no physiological basis for the statement that the pulling out of one gray hair will cause more to grow.

As long as the hair follicle is in a healthy state, it will produce more hair bulbs and new hairs will grow from old roots, but the activity of the bulb is weakened by impoverished blood and weakened nerves, just as every other part of the skin is weakened.

Care of Scalp
at Birth

When removing the fatty substance, which adheres to the scalp at birth, great care must be exercised.

Saturate well with olive or sweet almond oil and wrap a piece of soft linen around the child's head, allowing it to remain awhile; then wash the head thoroughly but gently with castile soap and warm water, being very careful as to the purity of the soap. If the scalp does not clear with one application of the oil, it should be repeated daily until clean. Always wash the head with warm water before putting on another application.

In case of crusty formation on the scalp the use of glycozone and warm water, one half ounce each, is advisable. This should be applied with a sponge morning and evening and allowed to remain a few minutes; then rinse off with warm soft water and dry with a piece of old linen, after which dust with talcum powder.

Do not, under any circumstances, use a fine comb for removal

of the little scales from the scalp of a child, as it tears the delicate skin and starts irritation, just as a scab re-forms if torn away. If it is kept clean and allowed to fall away in the time allowed for its natural shedding, it will not re-form. The oiling, as above described, is a much better plan to adopt.

Use a little brush with very soft bristles about an inch long for the young baby's hair.

Always brush with the "set" of the hair, as explained on page 51, and thoroughly cleanse the comb and the brush once or twice a week.

Under no condition allow the nurse, or others, to put the child's brush near their own heads, as dandruff may thus be communicated to the child. Every mother will readily recognize the danger of this.

**Children's
Hair** The care of children's hair is a subject of great importance. Unless the proper foundation is laid in childhood, it is difficult and sometimes impossible to correct defects. A healthy scalp must be promoted in order to insure a growth of fine, luxuriant hair.

After the nursing period, the child must be given the kind of diet, which food scientists have found best for the making of bone, tissue and sinew, adding to the list from year to year as the child grows. He must have sufficient exercise to keep the blood flowing freely through every part of his body and his skin kept sweet and clean by daily baths. If this is done, his skin and hair will glow with health and life.

The rubbing of the scalp of the little child should be most regularly but gently done and the daily shampoo and bath not neglected.

Children should be allowed to go without head covering unless the sun is too hot. A hot sun will fade the hair.

Gentle massage of the scalp and a weekly shampoo, will promote a good growth of hair providing the circulation be perfect. An out-door, active life, with simple, free clothing and plenty of sleep and of good nourishing food are advisable. Many children are allowed to play in the house with dolls much of the time and are thus deprived of active, out-of-door sports, which stimulate a good circulation; the result is often anaemia or a weak condition of the blood.

The child who leads an active, out-door life will need a more frequent shampoo than the adult.

Many a mother owes the foundation of health in her children to their habit of playing with lively collie dogs, or with some animals which encourage out-door activity.

Whether the hair of children be cut or not, depends upon their physical condition. If the child is vigorous and his hair can have the proper amount of care, there is no need of cutting it. If, on the other hand, the child is inclined to be at all delicate, the hair should be kept quite short until the age of seven or eight so that no extra drain may be made upon the child's vitality.

Under no circumstances use artificial means for curling a young girl's hair. If kept clean, well brushed and dressed simply, nature will take care of the rest. Do not draw it too tightly back from the face. Remember that the hair is set in the scalp diagonally forward; if pulled back it is contrary to this direction and strains the roots.

Follow the directions for shampoo given in a later chapter. The egg shampoo is preferable. If the soap shampoo be used, make a lather as suggested under "Soap Shampoo."

Cleanliness No amount of theorizing nor faddism could convince the intelligent American woman that it is not necessary to wash the skin of the body regularly and systematically.

Surrounded by dirt, dust, microbes, etc., as we are, the skin constantly being loosened and thrown off, and the pores eliminating a certain amount of waste matter, a daily bath is absolutely necessary for bodily cleanliness. The regular shampoo, massage and brushing of the hair is just as necessary to remove the shed skin, the oil, the dust and foreign particles.

The mass of hair over the head, however, protects the scalp, so that fallen particles do not lodge upon it as freely as upon the face; but the skin of the scalp is constantly throwing off dead scales and the perspiration and oil from the glands are pouring out of the skin constantly, just as the poisons and oil are being thrown from the skin of any other part of the body. This must be removed systematically by thorough washing. If the oil and toxic matter be not removed, they very quickly clog the pores about the hair follicles interfering with their natural functioning.

It must be borne in mind, also, that the organisms of an infected scalp may be conveyed to a perfectly healthy one, just as small-pox may be transmitted, and that ordinary baldness is the result of infection. This being the case, the importance of each person using his own comb and brush and never, under any condition, using that of another, and especially the comb and brush at any public place, is of the greatest importance. Whenever possible, keep your own comb and brush at the barber-shop or hair-dressing parlor.

It is important also that one's own brush be kept clean, because the infectious organisms may be conveyed from your own brush back to your scalp, thus preventing the cure of the difficulty. Every brush and comb should be disinfected by an antiseptic solution, as per direction on page 52 at least once a week.

It is scarcely worth while to attempt to cure baldness or dandruff if the patient continually endanger his scalp by the use of an infected brush or comb. Without doubt, there are barbers and hair-dressers who thoroughly cleanse their brushes after each use, but I fear they are few.

Shampooing As it is a noticeable fact that there is less liability of hair to fall after it has been shampooed, a good reason is furnished for doing it regularly.

On account of the exposure to cold and the length of time required to go to a hair-dresser, every woman would, doubtless, prefer to have this work of her toilet done in her own home. If she is so situated that it is not convenient for her to have someone at home to do the work for her, she can do it successfully herself, though this is tiring if the hair be heavy.

Whether one be her own operator or not, she understands her own hair best and should be sufficiently intelligent in regard to its care, as observed by careful study of results of experience, to direct its treatment.

One may be amenable to suggestions from a shampooer, but it must be borne in mind that operators are not all educated. Many of them have not even a high school education and there are too many who have little real scientific knowledge.

If you go to a massage parlor, knowing your own condition and requirements best, the operator will readily carry out your desires for treatment. You supply the knowledge and the operator the work. It is not wise to experiment with one's hair according to the whims of this operator and that one. Learn the best treatment for *you* and stick to it.

It must be borne in mind also in shampooing, as well as in brushing and, in fact, in all treatment of the hair, that it must be handled gently and deftly. Many professional shampooers treat the hair altogether too harshly, especially in brushing and combing. They are either ignorant, in a hurry, or extremely careless, and such an operator *should be assiduously avoided*. Many tactless operators would make a woman believe she had a dreadful scalp disease when she discovers a few flakes of loose skin,—simply to get permission to give some “extra treatment” or to apply some so-called tonic, so that when the complicated process is finished, her nerves are all on edge and her scalp over-worked, instead of feeling rested and pleased. Too great vigor is not desirable.

In large shampooing parlors, the time of the operators is rigidly regulated by the management, and an operator definitely understands that she is allowed just so much time and no more, no matter what the individual case. Many scalp diseases, falling, uneven and brittle hair may be attributed to this hurry and to a lack of intelligent attention to individual condition in giving the shampoo. When the scalp is treated firmly and deftly, the shampoo is a luxury and will give a happy, restful hour.

A shampoo properly done takes at least an hour, because it should always be accompanied with massage of the scalp. If it lasts only about half an hour, it will, in most cases, leave the hair dry and lusterless, because, to save the time of more careful work, soap containing too much alkali is used to more quickly remove the oil, or the hair is not properly rinsed, or electricity is substituted for proper massage, or the hair is dried too quickly. If your hair is not soft and

glossy after a shampoo, it has not had the treatment adapted to its condition.

Whenever you see a load of abundant, glossy, soft hair, you are safe in assuming that that person has had the hair treated with respect and intelligence and that it has regular, systematic care.

The idea that washing causes the falling of the hair is a mistake. Any hairs that will come out in the process of the shampoo, as per the following directions, would be loose hairs and would come out in the brushing, a little later, if not washed. The loose, dead hair is better removed from the scalp, so as to make room for the fresh to grow.

On account of the ease with which the dirt may
Frequency of Shampoo sift through short hair, a man's hair should be shampooed about once a week; if dandruff exist, it may be washed every three or four days. However, with either men or women, there can be no fixed rule for the frequency of the shampoo, as it depends upon the conditions about one,—also upon the frequency with which the dust is brushed from the hair. It may be kept moderately clean with regular, light brushing each day; but the foreign particles of dirt and dust, if allowed to collect, will stop up the hair follicles and may cause an irritation of the scalp. If the hair is not brushed thoroughly, it needs shampooing more frequently.

If a woman lives in the country, where the air is free from dust, once in five or six weeks may be frequent enough, unless the hair becomes too oily,—then it must be washed more frequently. On the other hand, if one lives in a smoky atmosphere, once a week is not too frequent. Whenever the hair looks stringy or oily, clings to the scalp and looks dusty and dull, it should be cleansed.

You need not be afraid of making the hair too dry by frequent shampooing, if you do not use soap containing free alkali. The massage accompanying the shampoo stimulates the flow of oil from the roots.

Remember, also, that the massage, which thoroughly loosens the scalp and loosens the skin, is just as important a factor in the shampoo as the water.

If the hair is washed, rinsed and dried properly, it will look refreshingly clean, glossy and healthy and the scalp will feel clean, warm and wholesome,—but care must be used in the selection of materials for shampooing and in the thorough rinsing of the hair afterward.

Do not allow your hair dresser to use a liquid shampoo, or a shampoo powder, which she may buy or prepare. These prepared shampoos contain too much borax, potash, soda or ammonia, to which alcohol has been added to preserve it. They are drying in their nature and will leave your hair brittle. Operators like to use these because they cut the oil and the shampoo requires less time.

Many operators will tell you that there is no alkali in the shampoo used, but few operators know the composition of the shampoo liquid. This is a secret, which the manufacturer holds. He could not afford to make it public. This secret is his capital.

Use nothing on your hair or face, which you do not understand. Simple ingredients are best.

On account of the delicate scales, which form the covering of the hair, all movements of the hands in the work with the hair shafts must be downward, so that the delicate scales, which slope downward, referred to on page 33, be not ruffled.

Soft Water
To be Preferred Make every effort to get soft water for washing the hair, for there is no skin tonic or hair lotion equal to it. If you live in the country this is easy.

If you live in a steam-heated house, and your heater has an exhaust valve, you can, in winter, draw off the condensed steam from the radiator. This is nothing more nor less than distilled water. Melted natural ice or snow may be used when a supply of soft water cannot be had. The melted ice from the refrigerator is soft water and excellent for the skin and the hair. This, however, does not apply to manufactured ice, unless the manufactured ice is made from distilled water.

If it is impossible to get rain water, distilled water or melted ice, see that the water, if hard, is boiled before using. This causes the lime to settle; it is the lime in hard water which dries and injures the hair.

Many add a little borax or soda to the hard water, but boiled water is best, for if too much borax or soda be used, it will make the hair harsh and it will give brown or black hair a faded look. Do not use more than $\frac{1}{2}$ level teaspoonful of soda or borax to one quart of water, if you use it at all.

Comb the hair out before washing, and braid it loosely to prevent it from snarling.

Egg Shampoo The best cleanser and nourisher for the hair is egg. The iron and sulphur of the yolk nourish the scalp and invigorate the hair, while the milk alkali of the white unites with the fluid from the sebaceous glands, forming a saponaceous lather. Any woman can get eggs and not run the risk of

impure soap or soap containing too much alkali. Eggs and soft water are your best cleansers.

Beat two eggs, until the whites and yolks have mixed; to the mixture, add a cup of hot water, as hot as you can use it without cooking the eggs. Cold eggs or cold water poured upon the scalp closes the pores and it is not desirable to close them until cleansed. If the hair be very heavy, use four to six eggs and a proportionate amount of hot water.

If the hair be too dry, a teaspoonful of oil of sweet almond or olive oil should be beaten with the egg and thoroughly massaged into the scalp.

A good way to get the egg on the scalp thoroughly, is to pour it from a bottle with a small neck or from a narrow necked pitcher.

Pour the egg upon the scalp, a little at a time, until it is wet and then thoroughly rub the scalp until you are sure you have loosened all of the dirt, oil and loose cuticle about the roots of the hair. Do this with the fleshy part of the finger tips. Do not touch the scalp with the nails. Be very thorough in rubbing this about the roots of the hair.

Rinse the hair well and apply more of the egg mixture, thoroughly saturating both the hair and the scalp; next take the hair between the palms of the hands and gently manipulate it with the hands as you would wash a handkerchief, so the dirt in the hair may be loosened by the mixture. Be sure to work the hair gently from the roots downward to avoid rubbing the tiny scales, which form the covering of the hair, the wrong way.

For drying the hair see page 48. When nearly dry, saturate the scalp with witch-hazel, Eau de Cologne or Pond's extract, and

give it a thorough massage for from eight to ten minutes. Observe the directions for massaging the scalp on p. 53.

If you do not wish to use the witch-hazel, etc., for the massage, plan to leave some of the egg for the massage and thoroughly work the scalp with the egg after the hair has been rinsed, for from eight to ten minutes, then rinse again.

Remember that the massage is of as great value as the tonic. The virtues of witch-hazel, Pond's extract, etc., are explained under the chapter on "Tonics." These tonics are for dry or oily hair, blond or dark. If preferred, another tonic may be used according to the condition. If the hair is dry, a tonic containing oil should be used. If the scalp contains dandruff, rub in a tonic containing resorcin.

For black or brown hair, a half cup of vinegar may be heated with a half cup of water and used after the egg shampoo. The tannin in the vinegar, as well as the sulphur in the egg, stimulates the scalp and hair follicles.

If you wish to brighten blond hair, use the juice of a lemon in your last rinsing water once in four or five weeks, or use a few drops of ammonia or $\frac{1}{2}$ teaspoon of soda in your shampoo mixture. The lemon is better, however, as it will not dry the hair as do the soda and ammonia.

If the hair is too dry or brittle after a shampoo, learn the reason. It may be that the soap or other preparation used contains too much alkali; that you have used soda, borax or ammonia; that you have used too great heat in drying the hair; or that it has been dried too rapidly. If it is at all stiff or sticky, it is because the soap and oil have not been thoroughly removed by warm rinsing.

Next to the egg shampoo, a pure soap shampoo
Soap Shampoo is best, preferably the soap made of olive oil.

An excellent shampoo is made of two parts green soap and one part alcohol scented with a little spirits of lavender. Green soap is oil combined with potash. The hard soaps are oil and soda.

Bagoe's prepared olive oil soap is potash and olive oil and is supposedly more pure than the *sapo viridis* (green soap) of the drug stores.

If the green soap is not at hand, a white castile soap or Ivory soap may be used. Either makes an excellent lather and neither contains free alkali. Be careful to get the purest castile obtainable. That made of olive oil is best.

Do not rub the cake of soap directly upon the head. Make a liquid soap by taking a pint of soft water shaving half a bar of soap into it, boiling and stirring until the soap is dissolved. When cooled to blood heat, pour over the head and follow the order of directions under "Egg Shampoo," page 42.

Sufficient soap liquid may be made at one time for several shampoos, bottled and used as needed; but if this is done it should be heated before applying to the scalp.

Where it is impractical to shampoo the hair with
Dry Shampoo water, because of illness, cold in the head, or neuralgia, or because of lack of convenience, it should be shaken out and the scalp ventilated in the sunshine to invigorate the roots and make it more fluffy. Shake it loose and then wipe down the hair shafts with clean towels and brush thoroughly with a clean bristle brush or with a piece of velvet or plush. Careful stroking

of the hair with a brush does much toward keeping it in condition. It cleanses, distributes the oil to the ends and smoothes down the scales which cover the hair shaft. Note the effect of the gloss on a horse's hair as a result of brushing.

Hair can be thoroughly cleansed and loose dandruff removed with Indian corn meal. Sprinkle the meal thoroughly through the hair and on the scalp. A shaker top bottle or a spice box is a good thing to use for this. Rub the scalp very gently, yet thoroughly, until the particles of meal have taken up the surplus oil and dust from the scalp; then cleanse the hair by rolling the meal about the strands between the palms of your hands, being careful to move the hands always from the scalp downward. Next shake out the meal from the hair, strand by strand, brushing with a soft brush from root to end. Orris root and boracic acid are also used in place of the corn meal.

Another shampoo which is a tonic and scalp wash is a lotion of two parts witch-hazel (or hamamelis), one part Eau de Cologne and a few drops of chloroform.

Cleanse the scalp with this mixture by applying with a sponge. Massage it thoroughly into the scalp for eight to ten minutes and then brush the hair with a bristle brush slowly but firmly, as directed on page 50.

Shampoo of Grey Hair To keep the hair white, or to remove the yellow tinge to white or grey hair, pare off all of the rind from a lemon; squeeze the juice into a cup and fill the cup with boiling water. When cooled to blood heat, saturate the hair and scalp with this and tie the head up in a towel for ten to fifteen minutes, thus giving time for bleaching out the yellow tint. Be sure

not to get any of the rind into the cup or the oil from the rind will turn the hair yellow.

Then wash the hair with the egg or with the pure soap liquid suggested above, massaging for eight to ten minutes. Rinse thoroughly and to the last warm rinsing water add a very little indigo blue to keep the pure white tone; or when the hair is dry, spray water containing a very little indigo, over the hair with an atomizer. Care must be taken not to have the water too blue. When the right depth of blue is determined, sufficient mixture may be made for a number of treatments, bottled and used in the atomizer at successive shampoos. The bluing gives the hair the silvery white tinge so beautiful about the face.

After using the atomizer, the hair will be damp. It should be shaken lightly with the fingers until thoroughly dry and the scalp manipulated with the fingers to incite the flow of natural oil.

Never use colored soap, yellow vaseline or dark oil on white hair. They turn it yellow.

Rinse the hair *thoroughly* in quite warm water, sufficiently warm to soften the oil, using several waters, until the last water is clear and free from soap or dirt.

A bath spray is the best thing to use for giving the hair a thorough rinsing. The expense is not great and it is very easily handled.

If you have no water works in your home, the water may be poured upon the head and through the hair with a dipper, or pitcher.

You cannot remove the sticky oil of the hair by rinsing in cold water, because the egg or soap will not mix with the oil and dirt, if cold. If the egg, dirt and soap are not thoroughly removed, the hair will not take on a gloss and will be sticky and stiff.

Let me impress upon you the fact that *the thoroughness of the rinsing is one of the most important factors in the shampoo.*

Do not use cold water on the head, as it drives the blood from the scalp and cools the skull and the brain too suddenly. If used, the water must be cooled very gradually and the reaction must immediately be created by a thorough massage to bring a good circulation of warm blood to the scalp. The temptation to use it for the last rinsing, particularly in summer, is great, but should be avoided for the reasons above stated. The temperature of the rinsing water should be kept at about that of the body. The hair will dry more rapidly if the last rinsing water be quite warm.

How to Dry the Hair Dry with warm towels, wrapping a towel about the hair and gently wringing it; then press the hair between folds of a dry, warm towel. (Do not push the towel upward with the hair shaft, but downward with the scales.) Towels are better than a fan or artificial heat. Let one towel be drying while you are using the other, alternating till the hair is almost dry.

Be gentle, do not pull, strain or tangle, so as to put an undue strain upon the hair, or the roots.

To assist in drying the scalp, manipulate the scalp and hair with the finger tips, lifting the hair from the scalp and shaking lightly with the fingers, so as to let the air pass freely through it.

If a fan be used, do not sit in air which is too much heated, or the hair will dry too rapidly. If dried too rapidly, either by too great heat or by too rapid fanning, the hair is apt to be stiff, brittle and lusterless. The electric hot air fans used by hairdressers should be avoided. They save the time of the operator, but leave the hair

brittle. If used, do not sit close to the machine. Another objection to a fan is that it often invites a "cold in the head."

By all means, when possible, dry the hair in the sunshine, or sit in the sun after it is dried, letting the rays of the sun penetrate to the scalp as you lightly lift and shake out the hair. The sun gives the hair a sheen and life, which are obtained in no other way. This may be done before a window, or, if the physical condition and the weather permit, in the open air. It is better not to sit in both sun and wind because of the too rapid drying.

The physical condition and previous habits of exposure must be considered and judgment used before unduly exposing oneself with the hair wet. One who is delicate, can usually arrange to sit in the sun before a closed window while the hair is drying,—especially in the winter, but if the system be strong, the open sunshine is far better than warm towels.

Do not comb the hair while wet. It is more elastic
Combing when wet and if combed then, it strains it too much.

Separate the hair into small strands before combing and begin to comb at the extreme ends first, progressing upward, keeping the ends always free. Many entangle the hair by beginning to comb near the scalp, thus combing a tangle above into one below; then becoming impatient at the tangle, they are apt to be too vigorous and strain or break the hair in their effort to loosen it.

A uniformly coarse comb is the best to use,—not half coarse and half fine. Try to get one which has rounded, curved spaces between the teeth, where they join the band, that the hair may not be injured by sharp edges.

Remember that the comb is merely to untangle or straighten

out the hair and should never be allowed to scratch the scalp nor to bruise the delicate skin.

If your operator tries to comb out a large cluster of hair at one time and gets it in a tangle, instruct her how to do it, or avoid her in the future. Do not allow an operator to break *one hair*.

As has been pointed out elsewhere in these pages,
Brushing proper massage is the only dependable means of improving the condition of the scalp and the hair, by bringing nourishment to the hair roots through the little arteries and veins of the scalp, but brushing is the best of all aids to the massage; it increases the blood supply and loosens the cells about the hair shaft.

If you wish the gloss of silk upon your hair you must brush with even, steady strokes. As well try to shine a shoe with lazy, haphazard strokes as to shine the hair with spasmodic whisks. To bring the gloss to the hair, brush it down upon the scalp. Cleanliness and "elbow grease" are as necessary for polishing the hair as for polishing a piano;—but with all firmness, be gentle.

Much is said, pro and con, in regard to brushing the hair and there is no doubt that many strain the hair or dig down to the scalp and thus injure both scalp and hair by too vigorous work. The purpose of brushing is *to gently stroke it*, to remove the dirt on the hair shaft, to gently invigorate the roots, to distribute the oil the entire length of the hair and to stroke and smooth down the hair scales. Thus brushing keeps the hair glossy. The invigoration of the nerves and the better blood supply about the roots gives the soothing effect resulting from brushing when one is tired.

Brushing should be done carefully and confined to the hair itself.

It should not be brushed while wet. Sharp bristles, either of hair or steel, should not be allowed to scratch the scalp.

Divide the hair into about six strands and gently brush one strand at a time, always from the crown of the head forward toward the forehead and from the crown downward to the neck, as this conforms with the "set" of the hair. (See page 56.) Hair does not grow outward from the scalp at right angles, but diagonally from the skin, slanting from the center or crown to the circumference of the scalp.

Brushing against the natural set of the hair, especially in the case of children, is a mistake which many mothers make. They often brush, and brush vigorously, from the forehead back, instead of from the crown of the head forward.

Use a bristle brush, with bristles about $\frac{3}{4}$ of
Kind of Brush an inch long. See that the bristles are not too coarse, nor yet too flexible. An expensive brush is not necessary. Avoid wire and so-called "electric" ones; the tendency to brush deep and scratch the scalp with them is too great.

If the bristles be set in an air cushion, there is less resistance and the stroking of the hair will be soft and yielding.

From ten to twenty strokes of a bristle brush, given to the hair each night and morning, will keep the hair soft and glossy.

The tendency of brush makers in the past few years, has been to make bristles of too stiff pigs' hair, or to use wire. This is probably due to the fact that the public is awakening to the idea that the scalp must be massaged, and not having given sufficient thought to the matter to realize that the fingers and hands are Nature's massage instruments, they attempt to scratch the scalp with the brush and

the stiffer the wire prongs or bristles, the harder they can scratch. As shown elsewhere, this is a mistake.

A piece of velvet is often used in place of a brush. From this velvet the real purpose of brushing or stroking is readily inferred and the velvet answers the purpose; however, it cannot be cleansed without laying the nap and for this reason it will not be popular

Brushing the hair toward the scalp to fluff it and make the pompadour is one of the most injurious things you can do. (See p. 33.) The scales are thus brushed backward and the hair is sure to break in consequence.

Have a small eyelash brush on your dressing table and brush the eyelashes and the eyebrows when you brush the hair.

**How to Cleanse
Comb and Brush** The comb and brush should be thoroughly cleansed at least once a week. A good antiseptic to use is a few drops of carbolic acid in a pint of boiling water. If, however, the bristles of the brush, or the material of which the comb be made will not stand the heat of boiling water, then let the water be as hot as the brush will stand. If one has a metal comb, it may be sterilized by simply immersing it in boiling water. The teeth of the comb should be carefully wiped.

In shaking the brush through the water, hold it parallel to the water, bristles down.

If the bristles are wiped when they are wet they will dry soft.

After rinsing, dry in the sun, laying it on its side or with the bristles down, else the water will soak into the back and injure it.

The wire rolls which permit the hair to be brushed over them for the pompadour, allow a free ventilation of the scalp and as long

as the pompadour is in vogue, they save many women from utterly ruining their hair by roughing it.

The distenders made of hair or sea-weed overheat the scalp.

The best and only reliable tonic for the hair, is

Scalp Massage a thorough circulation of good blood through the tiny blood vessels and capillaries of the scalp. The best means of promoting this circulation is proper massage, which invigorates the capillary action and loosens the scalp. This massage is best done with the fingers.

If the hair and scalp have not had proper care, the outer skin becomes tense and strained, pressing upon the scalp and cramping the blood vessels and delicate little hair roots; the cells of the skin also become torpid.

A dry, tight scalp is often caused by nerve tension or it may be from indigestion, constipation, or any ailment which interferes with proper nourishment, or relief of the waste of the system.

The purposes of scalp massage are:

First:—The loosening of tissues in which capillaries and veins are imbedded, thus quickening the circulation, that the hair and scalp tissues may receive sufficient nourishing blood. It is from the blood that the hair receives its life.

Second:—Freedom and quickened circulation through lymphatics and veins, that the waste may be carried away. If the veins are emptied, the arteries will quickly refill them with a fresh supply of blood.

Third:—Stimulation of the tiny nerve ends, which control the capillary circulation. These nerves encircle each hair follicle and form a perfect network through the scalp.

Fourth:—Freedom of the sebaceous glands that the hair may receive the natural amount of oil needed to lubricate the hair shaft, so it will not become brittle and break.

Fifth:—Manipulation of the muscles of the scalp to make them soft and pliable.

Sixth:—Loosening of the scales and dirt about the roots of the hair.

Seventh:—Release of toxic matter which is carried away through the veins and lymph channels.

No amount of electricity or chemical action of hair lotions is as salutary and effective as the bringing of nourishing blood by the yielding flesh of the fingers in contact with the flesh of the head.

The scalp should receive a light massage daily. The first step is to instruct a woman how to do it correctly. One who has the time and money to have expert, daily, scientific treatment of the scalp by an experienced maid is fortunate, but there is no reason in the world why the busy woman and mother cannot cultivate her hair and massage her own scalp with gratifying success at home; or she may have some one to do the work for her at home, under her direction.

The movements and directions given here are not intended to interfere with the hair specialist, who does her work scientifically and conscientiously, but as stated above, the scalp should receive a light massage daily and I am anxious to help the women who prefer to attend to these matters at home.

By about three minutes' massage once a day and about twenty minutes when your hair is shampooed, you will be abundantly rewarded, for the scalp responds with wonderful rapidity. In fact

all hair specialists and even the sellers of hair tonics, will tell you that the massage required to rub the tonic in, to stimulate the nerves and to cleanse the pores, is of more value than the tonic itself, for the nourishment comes from the blood and not from the tonic.

In treating the scalp, care must be taken not only to massage regularly, but the duration of the treatment must be varied. When you feel a glow of warmth to the scalp, the treatment is sufficient: just a few moments each day will suffice.

Heroic treatment is not desirable. Do not massage until the scalp is sore. This is another argument in favor of daily, home treatment. When one relies upon massage at the hair dresser's once a fortnight, the inclination is to permit the operator to be too thorough and in some cases to "get your money's worth," and often the treatment is too prolonged. A moment or two morning and night is far better.

Much is written by hair specialists or the manufacturers of hair tonics, etc., in cautioning against so-called unscientific massage, but unfortunately almost all people who write upon this subject are trying to exploit some special tonic, or a hair dresser is trying to convince you that women should go to a hair dressing parlor for this work and not attempt it at home. It will be interesting to my readers to know that several of the best authorities upon this subject each declares his or her own method to be the only correct, scientific one and if not done accordingly will result disastrously, yet their methods are often entirely antagonistic. One must use her own judgment and, with scientific principles fully understood, draw her own conclusions.

The Set of the Hair However, one important point in the massage movements is not to injure the roots of the hair by rubbing them too vigorously in the opposite direction to the set of the hair, especially the delicate hairs about the hair line.

The hair root grows from the scalp diagonally and not directly outward. The point in the middle of the crown of the head, where the hair, if it is allowed to remain short, naturally begins to part, shows the direction of the set of the hair,—the hair of the head slanting from the crown to the circumference in all directions; therefore, to follow the direction of the set of the hair, the manipulative movements of the scalp should be from the crown of the head to the forehead, to the ears and to the base of the neck,—or from the crown to the periphery. The diagonal set of the hair in the skin is shown in Fig. A.

In massaging in a rotary movement, if the greatest pressure be from the crown toward the circumference, it has a soothing effect; if the pressure be applied toward the crown, opposite the set of the hair, it irritates.

Lines to Follow Operators will tell you that manipulative movements must follow the lines of the veins, arteries, and nerves. The large trunk arteries run *upward* in front of the ear and upward at the sides of the neck about midway between the ears and the center of the back of the neck. About an inch above the ear in front and at the base of the skull in the back, they begin to divide, diverging until they make a perfect network over the skull.

Figures D and E show the direction of the larger arteries and veins.

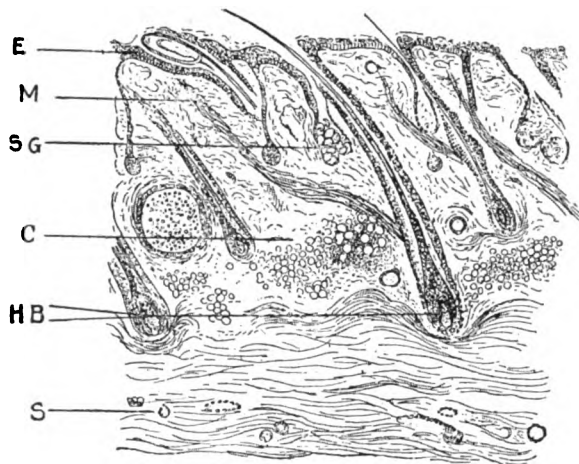


Fig. A

Figure A—Section of the skin, showing the manner in which the hair grows from the skin, its lubrication by the sebaceous glands, etc. Note that the hair is set diagonally in the skin, not directly outward. E, Epidermis; M, Arrector muscle of hair; S G, Sebaceous gland; C, Corium; H B, Hair bulb; S, Subcutaneous tissue with blood vessels, nerves, etc.

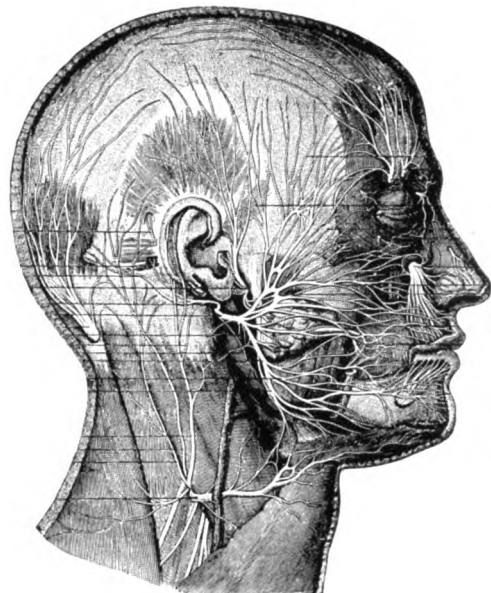


Fig. B

Figure B illustrates the direction of the branching of the largest nerve trunks of the head and neck.



Lymphatics of the head and neck.

Fig. C

Figure C shows the direction of the lymphatic channels. For the importance in following these in scalp massage, see pages 35 to 42.



Fig. D



Fig. E

Figures D and E show the larger veins and arteries of the head. The white lines are the arteries and the dark lines the veins. Note that they follow almost the same course, intertwining, the arteries branching and the veins converging at about the same points. The direction of this is important in scalp massage. See pages 35 to 42.

By permission of Rebman Company, New York.

THE
JOHN CRERAR
LIBRARY

The nerves, veins and lymphatics form a network converging *downward*. If then, following about the same direction as the arteries, as shown in Figs. D and E, the massage movement be upward, it exhilarates, slightly, the movement in the arteries and the latter being filled, force a stronger movement through the veins; while if the massage movement be from the forehead toward the ears, and from the top of the head downward, the venous and lymphatic circulations are exhilarated and the blood through the arteries flows more freely to fill the emptied veins and lymphatics. Movements upward, or toward the extremities soothe the nerves, and downward, or toward the base of the brain, stimulate them, so both movements are right. (See Fig. B, which illustrates the larger nerve trunks.)

The veins and lymphatics lie nearer the surface, however, and their walls being more yielding, permit the circulation through them to be more definitely controlled. Thus by the downward stroke the toxic matter, which must be carried away by the veins and lymphatics, is regularly forced from the head.

The nerves also form a perfect network over the skull. A tiny nerve twines itself about each hair root, and one important purpose of massage movements is to stimulate the tiny nerve ends, because, when quickened, they bring more blood to the capillaries. It is scarcely possible to pierce the scalp with the finest needle without touching one of these fine nerves or without puncturing a capillary.

It will be noted by reference to the hair tonics, that the chief ingredient in these is alcohol,—the purpose of the tonic being to stimulate the nerve ends, and thus stimulate capillary circulation.

The following of nerve trunks, arteries or veins is not important in the regular manipulative movements but the veins and lymph

channels should be regularly emptied. It is the nerve extremities which are stimulated and, as stated, these form a network through the scalp.

The effort, therefore, must be first, to create a looseness of the scalp so that all veins, arteries and nerves may be perfectly free and then to manipulate every particle of the scalp with the fingers, to free all of the capillaries and the nerve extremities; if the scalp is warmed by these manipulative movements, you know you have called a better circulation of blood to it and the nourishment received must then depend upon the nutritious elements in the blood.

Let me caution you, however, to empty the veins and lymph spaces frequently during the process of massage that you may remove all the waste and bring fresh nourishment to the hair roots.

The following is a formula for a good general hair tonic, which your druggist should be able to put up for you:

Tincture of jaborandi.....1 dram

Pilocarpine nitrate1 grain

Vaseline1 dram

Add sufficient alcohol to make one ounce.

Part the hair and apply this tonic to the roots with a tonic comb, a piece of absorbent cotton, or a small tooth brush.

When the scalp has been thoroughly massaged, part the hair and brush it, according to directions under "Brushing."

Dandruff or Seborrhea Dandruff is one of the chief causes of falling hair and of baldness. In the beginning, it is a combination of dried oil with the dead cuticle, which collects about the openings of the oil glands. This is a natural process and is not disastrous, if not allowed to remain too long; but if it

does remain, it becomes infected by bacteria, expresses itself in irritation and becomes an actual disease. No single micro-organism has been identified as the cause of seborrhea.

The scalp is constantly shedding the loose cuticle; but, when this is done in such quantities as to be noticeable, it is a sure sign that the scalp has become infected and that bacteria are at work.

Any neglect of the scalp or the circulation invites the development of dandruff.

Anaemia, or a low vitality, seems to favor the development of this disease; therefore the blood should be kept in good condition and made to circulate freely. Physical conditions should never be allowed to get so low that it requires months to build up, because the system is susceptible to diseases of all kinds under such circumstances.

Dandruff is very infectious. Many get the germ from brushes and combs used in barber shops or hair-dressing establishments, or it is communicated from the head of one member of a family to another.

Many conditions of gray hair, dry scalp or falling hair, which run among different members of a family, may be traced to the infection passed from one member to another, by the use of the same comb and brush.

If your own scalp, therefore, is infected with dandruff, take good care that no one else uses your comb and brush.

Dandruff may appear on the scalp of an infant in a yellow crust known as the "cradle cap" and if not scientifically treated, it may exist there for many years, and may result in rashes of various kinds in other parts of the body, while the hair will remain thin and the head scurvy, followed by early grayness and baldness.

As previously stated, do not use a fine comb or stiff brush to remove any form of dandruff, as both irritate the scalp and aggravate the condition.

Military brushes, as a rule, are used so injudiciously and with such unnecessary vigor by men, as to strain the hair and to scrape and injure the scalp. In view of the above fact and of the over-strenuousness of most barbers, it is not to be wondered at that so many men are bald.

Seborrhea was formerly spoken of as of two kinds, but since, if allowed to continue, the dry dandruff becomes oily the distinction in the two kinds of disease is not held.

Dry dandruff shows dry, white scales which loosen readily from the scalp but will cease after a better condition of the scalp is built up by means of better circulation, proper massage and simple tonics.

Oily dandruff is more troublesome; therefore, steps should be taken at once for its cure, otherwise it will prove very obstinate.

The scales in this kind of dandruff are mixed with an oily matter, which remains on the scalp until removed. The hair becomes very oily and the odor very disagreeable. The sebaceous glands of the scalp, also, become involved, causing the hair to drop on account of improper nourishment, and new hair is prevented from growing.

Oily dandruff is very contagious and requires long and patient treatment to overcome.

Removal of Dandruff In order to remove dandruff, look first to the general state of the health, relieve indigestion, constipation, anaemia, rheumatism, nervousness, gout, or any other condition which indicates a faulty elimination of the waste of

the system. This can be done by attention to diet, to regular, systematic, daily exercise for the vital organs and to deep breathing. Attention to the health is as necessary as the application of remedies to the scalp.

Next to attention to the health the best preventative and cure of dandruff is a perfectly clean scalp. The scalp should never be allowed to go longer than two weeks, at the most, without a thorough shampoo. In extreme or chronic cases it should be oiled, shampooed and massaged every two or three days.

Many women, who wash their scalps regularly, often leave layers of skin and oil about the oil glands, because of the failure to thoroughly massage the scalp during the shampoo.

To remove dandruff, oil the scalp thoroughly with any pure, sweet oil. White vaseline, oil of sweet almonds or olive oil are good. Soak the scalp with the oil thoroughly a few hours before the shampoo; this will loosen the dandruff. Then shampoo and massage according to directions. In either the egg or soap shampoo, use water that is not hot, but thoroughly warm, and put a half teaspoonful of sulphur into the water as an antiseptic.

After the shampoo, apply a good dandruff tonic, rubbing it thoroughly upon the scalp.

Do not be alarmed, if, when you first begin the treatment, much of the hair comes out. This would drop out of its own accord just a little later, and many of the harmful bacteria are removed by the removal of the hair.

As explained previously, however, the tonic does not cure,—that can only be accomplished by eliminating the cause. These prep-

Elsewhere in this volume are given directions for the treatment of dandruff.

arations do help to stimulate the nerves, however, and act as a germ killer.

**Eczema,
Seborrhea** Eczema and dandruff are the most common scalp difficulties. Eczema of the scalp is caused by an inactive condition of some of the vital organs, so that the work of these organs is forced upon the pores of the skin, the skin tissue becoming poisoned.

External treatments will relieve the eczema, but not cure it, cleanliness of the scalp as well as internal cleanliness and activity of the organs of elimination are all necessary in the treatment for a permanent cure of the eczema.

The symptoms of eczema of the scalp are expressed differently, according to the age of the individual. In children, the eruption is generally of a pustular nature, while in adults, it is scaly.

It often originates in seborrhoea, when the scalp has been irritated by scratching. The eruptions form in symmetrical patches or in a single, crusty patch, fairly well defined in outline. Many times, when the scalp is severely irritated, as in the case of nervousness, which leads one to constantly scratch the scalp with the finger nails, it will cause small circular and slightly crusted or oozing patches. When the crusts are of a reddish, friable nature (easily crumbled or broken) they indicate a traumatic condition (such as follows a wound); the color is due to the blood that exudes from the irritated surface.

This form of eczema is usually limited to the scalp, although it sometimes extends to the ears, temples, forehead and neck.

The scaly form is the most common; there may be a scanty or an abundant formation of fine, bran-like scales, with little change

from the normal, except that the skin may be slightly reddened or present a yellowish color, characteristic of the disease.

Sometimes the scales are large and abundant; when formed into adherent masses, they are usually of a somewhat fatty nature, scaling and crusting. The lesions are sometimes moist and, when there is a discharge, it is of a greasy nature.

The progress of the disease is insidious, sometimes the thinning of the hair being the first noticeable symptom.

The difference between ordinary seborrhoea and eczema is readily distinguished. In eczema there are diffusions of outside matters into the tissues which produce a mechanical action and destroy proper functioning, evidencing itself in itching, while in seborrhoea neither of these conditions exists.

In seborrhoea the scales are greater in number, are freely shed and are more greasy than those of eczema. In the latter the scales are dry and scanty, but more firmly attached to the underlying tissue.

There is little doubt but that seborrhoeal eczema is parasitic in origin, and that irritation and direct contagion figure largely among the external causes of the disease, while digestive disturbances often act as predisposing influences.

The internal treatment is similar to that of eczema and seborrhoea, exercises and diet being needed to put the stomach and digestive organs in a healthy, active condition.

The care of the scalp is most important, so that the disease may be held in check and not spread to other parts of the body.

In case of eczema of the scalp, follow the directions for the removal of dandruff, employing the dry shampoo. Lotions are better

than salves. After any soap and water washing, an oily application is always advisable.

Scalp lotions will be given when needed.

**Falling Hair
or Baldness** With the falling of the leaves in the autumn, there is a natural falling of the hair, and if the hair comes out more at this time, unless the falling be abnormal, there is no reason for alarm. It is Nature's way of discarding the old and putting on the new.

If the hair in the winter time is inclined to be more brittle and fall more, it should have special care at this time. It is often necessary to use tonics containing oil more frequently in winter than in summer. The hair grows much more in summer than in winter, and it may be that this is due somewhat to atmospheric conditions;—in the winter time there is more electricity in the scalp, and this greater electricity has a tendency to dry it. It may be the period of rest as with vegetation.

However, falling of the hair, dry, thin or gray hair, if excessive and not due to sheer weight of years, are symptoms of a diseased process. The majority of cases of falling hair are the result of seborrheal bacteria, or of some poisonous product, and one must look deeper than the scalp for the trouble. The general vitality must be built up and the blood be put in good condition and be made to circulate freely both through the body and through the scalp.

When the hair is inclined to fall it should be allowed to do so. This is Nature's effort to get rid of the bacteria which have damaged and diseased the shaft, and any hair lotion or hair tonic advertised to stop the hair from falling, is like a "cure-all" treatment,—unless the condition which caused the hair to fall or the poison in the blood,

be regulated first. In most cases, *daily massage of the scalp*, with a mild, invigorating tonic containing a little oil will relieve it, if the circulation be forceful.

Perspiration of the scalp, and, in fact, moist heat or extreme cold in any form, tend to promote the growth of hair.

Do not dress the hair tightly or use too much false hair or heating "rats" or too many combs or hair pins, as undue strain must not be put upon the scalp or the hair. All such points must be guarded if falling hair is to be avoided.

The loss of hair, either in whole or in part, is such a serious matter that it behooves every woman to look to her physical condition first and foremost. If this is all that could be desired then make up your mind to give a few minutes every day to the gentle massage of your scalp that the blood may keep it well nourished and a good head of hair may be assured.

Fleshy people are in greater danger than thin people of losing their hair as the fatty matter in their scalps is acrid as well as oily.

High living will also lead to white hair and baldness.

Two things are imperatively necessary in arresting the loss of hair,—utter cleanliness and stimulation of the blood circulation . through which alone the hairs can be fed with fresh hair-substance.

Where the root of the hair has become detached and the follicle itself has closed, no hair will ever again grow in that place. If that has occurred over the whole scalp, it means baldness for life. There are such cases, and wigs are the only refuge.

Women are by no means exempt from baldness, but they are less liable to it than men, and usually when it occurs, the woman

has herself to blame for it. There are several reasons why women are less subject than men to complete loss of the hair. They do not wear their hats as much as men do, and the hats themselves are neither so heavy nor so unventilated as those worn by men.

When it is remembered that the arteries, which
Effect of Hats supply blood to the skin and tissues of the upper
Upon the Hair part of the scalp are located on each side of the head, in front of and behind the ears, it will be understood why head covers of any kind should not be allowed to press upon these arteries and deprive the scalp of its source of nourishment.

There is no question but that there would be less premature baldness among men if they would go without their hats more of the time, and when obliged to wear them, would be careful about pressing them too closely upon their heads, thus preventing ventilation of the scalp and restricting the blood supply by pressing upon the arteries, veins, lymphatics and nerves. See Figures B, C, D and E.

Baldness does not attack the scalp at the back, but near the temples and crown, where the nourishment is insufficient, on account of too much pressure upon the supplying arteries.

Hats for both men and women should be as light in weight and as well ventilated as possible.

The custom of going without hats, whenever practicable, during the day or evening, is a thoroughly sensible one and should be encouraged; no better prescription for preventing falling hair or premature whitening could be prescribed. The hair is ventilated and the scalp cooled. This is not possible with a hat tightly pinned down and

veiled over. For this reason a veil alone would be preferable when riding in a strong wind. When the sunlight is too strong, use an umbrella.

Baldness is practically unknown among savages living in a state of nature and there is no doubt but that the fact that the savages wear no hats, worry less, live more simple lives and subsist upon plain foods has much to do with this.

There are two forms of baldness, senile and pre-mature. The former is due to old age and it may be the result of a poor circulation, lowered vitality or the hardening of the arteries. However, the fact that many people reach old age with luxuriant hair would seem to indicate that this is not of necessity a natural result of age, but that the slower circulation and the lessened vitality may enable the seborrheal organism, with which the scalp has been afflicted for some time, to make greater headway. It is safe to say that if the dandruff be corrected, and not allowed to continue during middle life, one may live to a ripe old age with a healthy head of hair.

The fact that baldness is so much more common among men than women, is due to the fact, doubtless, that the micro-organism can more readily reach the scalp of a man with short hair than of a woman with long hair. The mat of thick, long hair protects a woman's scalp. It is also due to the fact that men patronize barber-shops, and allow promiscuous brushes of the barber to be used upon their hair more than do women. Men should insist also upon the barber not being too zealous. Environment and the manner of living have much to do with this, also.

Baldness There is no question but that baldness can be arrested
Arrested if taken at an early stage, but the chances of the correction of this after the age of forty are slight, yet cases are on record, where a considerable growth of hair has been regained on a man as old as seventy years. However, a full growth of hair is seldom regained after middle life.

In all cases of baldness or thinness of the hair, resulting from fevers, such as scarlatina, measles, etc., the condition of the hair is corrected, as the system builds up, by appropriate local and constitutional treatment. If attention be not given to this, however, the transient shedding of hair may drift into permanent baldness. Often, cases of premature baldness are traced back to some acute disease occurring years previous, the condition not having been properly treated at that time.

A specialist in a skin hospital states that in severe attacks of baldness, rheumatism, anaemia, consumption or some other malady is almost invariably found in the personal history of the patient. Dyspepsia and neuritis are constantly associated with baldness, while many cases of dry skin and falling hair are definitely traced to constipation.

In fact, any poisonous condition of the blood, acute or chronic, may lead to falling of the hair. This may result from the action of the poisons on the nutrition of the hair bulb, or from the effects of the local inflammation of the scalp.

In advanced consumption, the hair suffers from lack of nutrition, yet in early consumption it is interesting to note that there is often a tendency to overgrowth of the hair. It may be that night

sweats and the increased hair growth, are both due to the irritation of the tuberculin thrown off by the skin.

Premature baldness is due to prolonged and unnatural nerve strain, over-work, excesses of all kinds, or to constitutional or scalp disease. It is more common among men than women and, strange to say, is more prevalent among the wealthy and educated than among the middle or poorer classes.

The lesson to be adduced from these facts is the value of a normal, well-regulated and a more calm life. Nerves soon rebel if too much strain is put upon them, such as is necessary to keep up with present-day social and business exactions. It is not surprising that, under such circumstances, the nerves frequently fail to respond. The same holds true in regard to vital organs.

One way to know whether baldness, or thin hair, is curable is to apply the following test: Pick up the scalp between the fingers and thumb; if when so picked up, it shows the opening of the hair channel, having depressions on the surface like an orange peel, then the chances are that the hair root is not dead and will respond to proper massage. With perseverance in correcting the condition of the nerves and the quality of the blood, or in relieving the seborrheal condition, the vigor may be established, and the growth of hair regained. If there are fine, soft, downy hairs on the scalp, they can unquestionably be made to grow; but when the scalp is smooth and shiny, there is not one chance in a hundred of correcting it, because the hair is dead and cannot be restored.

When the head skin loses its glandular appearance and takes on a shiny look, this means that the hair roots and glands are all dead, and that there is no hope of building new ones. All the tonics

and massage of the most skillful specialist would avail nothing in such cases. In order to avoid such results, a circulation of good blood must be kept up through the scalp.

Do not use cold water upon the head. The shock to the nerves and to the brain is too great. When taking a cold shower, after a warm bath, do not let the water strike the head.

For the stimulation of the growth of the hair after **Treatment** the scalp has become bald, first remove all scurf or dandruff, as directed under "Dandruff." Remember that the dandruff may have caused the baldness. A good tonic may then be massaged upon the scalp. Be sure to massage every day, systematically, so as to nurture the roots with a copious supply of blood.

Give the hair a thorough egg shampoo once a week.

Keep the scalp thoroughly clean, and softened with oil or a tonic containing oil.

Most of the preparations on the market for "growing hair on bald heads" consist of thin paraffin oil. Tonics, in scalp diseases, are useful where they contain a germicide, which acts upon the bacteria, or a cantharis, which stimulates the nerves.

It is chiefly through the stimulation of good blood to the roots that baldness is corrected. The massage necessary to rub the tonic into the scalp creates a better activity about the hair follicles and consequently the waste and poisonous matter are more readily picked up and carried away by the stronger circulation. With proper treatment new, fresh hairs will often grow from the old roots, and, because of the better nutrition, the scalp is able to resist the bacteria.

It must be remembered that the condition causing baldness has been existing for a long time, and it will require months of patience before appreciable results will be noted.

It must also be borne in mind, that many of the lotions on sale for the betterment of the hair may of themselves be full of bacteria, and the safest process for the stopping of falling hair is attention to the general health, to regular massage of the scalp and to thorough cleanliness.

If the scalp be loose and massaged regularly, so as **Dry Hair** to keep the oil glands, capillaries and muscles free, the hair will seldom be too dry in summer, but because of more electricity, which results in a natural dryness of the hair in winter, it is often necessary to apply a little oil, sometimes to the scalp, and sometimes only to the ends of the hair. Where this is desirable, a very little oil of sweet almonds, olive oil, or, in fact, any pure sweet oil is all that is necessary; the cream from your milk will do. A little sweet almond oil, mixed with the egg in the shampoo, is one of the best methods of applying oil.

It should be borne in mind that a very little oil will soften the shaft, and it should only be applied when the hair shaft is too dry. To much oil upon the scalp fills up the oil cells and interferes with the excretion of the natural oils.

A dry, tight scalp is frequently caused by constipation, indigestion or nerve strain, but even if these are at the base of the trouble, it will be materially helped by massage and the application of a little oil, though not corrected until the cause is removed.

Where a little oil seems desirable on the ends of the hair and not on the scalp—though this will seldom be true if the hair be brushed

so as to distribute the oil properly—the best way to apply it is to rub a drop or two into the palm of the hand,—then rub the brush over the hand until the oil is distributed over the bristles, and brush the hair as far up the shaft as needed. Two or three drops is sufficient. Brilliantine (odorless castor oil) is used by hair dressers to lend a gloss to the hair. (See page 116.)

Excessive oil is caused by too great activity of the oil glands or a torpid condition of the muscles and glands of the face or scalp, which will not permit the oil glands to hold the oil in reserve. The above condition does not permit of sufficient freedom of the oil cells and, instead of remaining in the skin, more of it passes out into the hair shaft. Often the scalp is massaged to keep a flexible activity of the muscles and oil cells.

The oily hair of the majority of people is, however, due to the fact that the hair is not washed often enough to remove the oil from the hair shaft, and to cleanse the pores.

If, then, the hair be too oily, shampoo it at least every two weeks, as per directions under “Shampoo,” and follow directions for “Daily Care of the Hair,” page 91; see that the scalp is massaged once a week. In some cases once a week is not too often for shampooing.

Where the hair is oily, alkali substances are altogether too freely used by the average operator. These alkalis cut the oil and dirt but they leave the hair dry and brittle, so that it breaks off. The chemical reaction of alkali changes the color of the hair, making it faded and lifeless, according to the chemical properties in the hair at the time they are used. They react differently with different conditions and with different individuals.

Dry and brittle hair is much more liable to turn gray, because the air more readily enters the hair shaft.

Whether you shampoo your own hair, or have someone do it for you, insist upon using simple ingredients and if soap be used, let it be nearly neutral in its reaction.

Do not buy shampoo mixtures unless you are sure of the ingredients composing them. Remember your shampooer, in nine cases out of ten, does not know the constituents of the prepared mixture. Eggs and pure castile soap are preferable.

Unless split hairs be caused by illness, as sometimes, though rarely occurs, they are almost always caused by extreme dryness of the scalp or by harsh treatment.

Some women and some operators brush or comb the hair with more vigor than a horseman would allow to be used upon the tail of a favorite horse. In this way, they overstrain the hair and break it, especially if it be brushed or combed harshly while wet. The result is uneven hair and split ends.

The hair must be handled with a view to preserving each individual hair as long as possible; it is much easier to preserve than to replace it. Be patient and gentle in combing and brushing; *coax* the tangles out gently with the comb. The purpose of the brush is to gently stroke and not to brush out the tangles or to roughly strain or split the hair.

Very long hair is not now considered the crown of beauty. If a woman possesses moderately long, thick hair, she is fortunate. Length can well be sacrificed so that the short and new hairs may receive more of the nourishment given out by the roots.

Uneven and
Split Hair

Cutting and
Singeing

The advisability of cutting the hair for the purpose of encouraging better growth, even in cases of fever, is questioned by eminent authorities; but the balance of opinion is that cutting the ends of the hair, regularly, stimulates its growth.

With the scalp properly nourished by good circulation, a new hair will form shortly after an old one falls out.

If it seems advisable to cut the hair, clip off as much as is desirable from the ends, then separate the hair into small strands. Twisting a strand tightly and holding the end with left hand, pass the first finger and thumb of right hand lightly along the strand from the bottom upward. This will cause the short ends to spring out from the coil. Then go over the entire coil, clipping off all these ends or singeing them with a lighted taper. One can do the clipping herself, but the singeing should be done by another, as the taper must be handled very rapidly to prevent burning the hair too much. New hairs are constantly growing so that all heads, if in a healthy state, must have short hairs.

Operators, who have not studied scientifically into the formation of the hair, caution one against clipping the ends of the hair, and argue in favor of singeing it, stating that the hair bleeds when clipped. The hair shaft is a compact mass of cells and cannot bleed; but singeing the hair does curl up the ends slightly and prevents its re-splitting. If the hair be thoroughly nurtured at the scalp, and sufficient oil be secreted by the sebaceous glands to make the hair soft and flexible, it will not split, unless handled very harshly.

The indiscriminate use of the electric brush, or
Electricity electricity applied to the scalp in any way, is unadvisable. Many hair parlors are equipped with the electric

brush, and apply this brush to every head of hair treated, while many heads of hair are already too strongly electrified.

Every massage of the scalp will produce a natural electric current, by friction. As a rule, the massage parlors give this electric treatment in place of giving sufficient massage, simply because it is more quickly done, but the electric brush, in no manner takes the place of the natural electricity, resulting from ten to fifteen minutes' thorough massage.

By regular manipulative movements, once a day, of one's own scalp, a little electricity is excited daily and is far more effective than the electric brush once a week. If the hair is inclined to be dry, a too strong current of electricity will dry it still further. On the whole, the safest way is to apply no current except that naturally incited through massage.

Effect of Sea Bathing When bathing in salt water, the hair should not be allowed to get wet, as the brine slightly bleaches it, and causes it to fall out. For this reason, rubber caps are provided. In case the hair becomes wet, it should be thoroughly shampooed as soon after a sea bath as possible. Do not let the salt water dry into the hair or be exposed to the sun a moment longer than necessary.

The particles of foreign matter must be washed from the hair and scalp, in case the cap falls off, else trouble may result and the scalp become irritated.

If irritated, attend closely to cleanliness, massage and the application of a little oil. Avoid a stimulating tonic at this time.

Fresh Water Bathing Bathing in fresh water, lakes, or rivers, is not injurious to the hair. I would suggest that you tie or braid it securely, about half way down the length

of the hair, to prevent it snarling before going into the water; then loosen it, shake it out and give it a good sunning and ventilating while resting on the beach. Run the fingers through it as directed under "Daily Care," and give it a good brushing upon returning to your room.

Grey Hair
(Canities) There is nothing prettier nor more pleasing to the eye, than a well-groomed head of white hair. It lends a softness to the face and features, which is admired by almost all people and one fails to understand why a hair dye should be applied to this softer, more beautiful setting. Being more delicate than during its natural coloring, it requires more careful handling.

On account of its tendency to turn yellowish it should be shampooed at least every one, two or three weeks, and the directions followed for "Gray Hair" under "Shampooing."

One important method for achieving pretty gray hair is by the use of a long soft bristle brush. For, by applying it—even though the hair is inclined to come out easily—the fall is not increased and the brushing will accomplish much by way of taking out the dust and strengthening the roots. The brush should be used, not by drawing close down against the scalp, as would be done were one trying to bring lustre to the surface, but as a clothes brush might be applied, lifting the hair in strands and bringing the bristles through in short, sharp strokes that will raise the dust and take it out. In this point lies the value of the treatment, and unless the brush is wielded in such a way as to dust rather than brush, the whole object has failed.

There are two kinds of gray hair; premature, which occurs before the age of forty; and senile, occurring after that period. The former can be materially checked by the right kind of treatment, but

the latter must be accepted as a natural heritage of maturing age; yet it can be retarded, not making its appearance until a ripe old age, if the scalp has been kept well nourished by good blood and the nerves not subjected to severe strain.

Authorities do not agree as to just why the hair turns, but there are three theories: first, that it is due to diminution or absence of coloring pigment in the blood; second, that because of nerve tension, the coloring matter at the roots is diminished; third, that the air enters the cortex or middle layer of the hair shaft, causing a separation between the pigment cells. Just what causes the air to enter the cortex is not known, but the failure of the hair to be kept soft by its natural oil would make the shaft more brittle.

When due to lack of pigment, the hair has a slight yellowish tint; when due to the presence of air in the shaft, it is snow-white.

Dry hair, as a rule, turns gray more quickly than that which has a normal amount of oil. It may be because the air more readily enters the cortex of a dry hair shaft and by capillary attraction causes the hair to become gray the entire length of the hair shaft as soon, or almost as soon, as it turns gray at the root, and it may be that the condition, which restricts the coloring matter about the root, also restricts the oil.

Neglect of the scalp will cause grey hair. In cases where the secretions of the scalp are acrid, a fungus grows to the hair-shaft, in the follicle and is firmly attached to it, living upon the follicle and its surroundings, very much as some forms of moss live upon trees. There are four kinds of these fungi, all of them of the lowest vegetable order. They furnish lime to the color-cells, and this is carried

by the color-cells into the cavity of the hair-shaft, where it kills the original color.

In grey hair resulting from age, the coloring process dies out, and the color cells, in the tube of the hair, are replaced by a kind of pith, having wide air-spaces between its particles. Hair in that condition may remain in full growth, and perfect health and vigor.

Women often turn grey on the top of the head, where the hair is coiled, before any other spot. This may be due to lack of stimulation of the scalp, because of the heat, the imperfect circulation and a consequent accumulation of dandruff.

As previously mentioned, the pulling of one grey hair does not cause two to grow. It would seem more reasonable that the pulling of a grey hair, and then the bringing of plenty of nourishment to the root through massage, would bring more pigment and nourishment to the root, causing a natural-colored hair to grow from the root from which the grey hair was pulled.

Neither is it true that too frequent washing, if properly done, turns the hair. If, however, too strong alkali be used in the soap or shampoo preparations, this, by drying the scalp and the hair shaft, making it more brittle, may have its effect. Too strong soaps used on the face, the alkalis drying the roots of the hair, may be one reason for the early blanching about the hair line.

It is probable that the early blanching at the temples may be due to the large temporal nerves lying close to the surface here. The fact that the early blanching is often about the branching of these nerves on the top of the head seems to bear out this theory.

It is indisputably true that the nerves, by their control of capillary circulation, play a most important part in the blanching of the

hair, as illustrated by the fact that a large number of cases of grey-ness are aggravated by worry, trouble or excessive nerve strain.

It would seem as though the tendency to defective pigment, or coloring matter, may be inherited, as it seems to run in some families. Where this tendency exists, like other inherited tendencies, every care should be taken to correct it. It may be that many so-called inherited tendencies are the result of infection of dandruff, communicated from the scalp of one member of a family to another. If dandruff exists it should be immediately corrected.

Premature greyness is traceable to any one of the following causes:

Premature Grey Hair Dandruff, depleted nervous system, or diseases of the nerves, severe headaches, undue exposure to either heat or cold, excessive mental work, or, in fact, excesses of all kinds. Sickness, such as neuralgia, which affects the nerves of the head and the blood supply, and consequently the nourishment of the hair, is also responsible for this change.

When grey hair comes in spots or patches, the color can usually be restored by regular stimulation with tonics and massage. This condition is known as Alopecia Areata.

If taken in time, premature blanching can be made to remain partial, if the physical condition is put right. As the change in the color of the hair takes place at its root, it is evident that it is with the latter we must work if new life and activity are to be promoted. Regular scalp massage, which frees all sebaceous glands and brings nourishment to the roots, is the best remedy. A little vaseline or any pure oil may be applied to the scalp in the massage to aid in loosening contracted glands and tissues.

The darker the hair, the more likely it is to grow grey, hence we see more prematurely grey brunettes than blonds.

Premature grey hair is drier and somewhat coarser and in every way shows lack of vitality; it is then apparent that the prevention lies in keeping up the general vitality, thus nourishing the roots, which prevents it getting too dry.

Numerous cases have been recorded where the hair turns grey as a result of extreme nerve strain, severe illness, neuritis or neuralgic headaches and in a short time, if the strain is removed, and proper attention given the scalp, the hair resumes its natural color.

Often where the hair has started to grow grey, a new growth of hair of a natural color will come in around the grey hairs, by regular stimulation and nourishment of the roots, gained through daily massage. The writer has personally watched these dark hairs appear, where previously the new hairs had been coming in grey. Whether the massage awakened vitality in dormant roots, or whether roots, which had previously been growing grey hairs, were awakened to stronger life is not known, but certain it is that grey hairs were arrested, the roots awakened to more vigor and a new supply of dark growth appeared.

If the hair of a moustache or beard, or the hair of any other part of the body is turning grey, the chances of restoring the coloring on the head are very slight.

Since there seems to be no means known to science, in the majority of cases, for the natural turning of grey hair to its normal color, every care should be given to arrest the change in the beginning by renewing the vitality through regular exercise, that a good circulation be promoted, especially through the vital organs, so that the

impurities be eliminated through the kidneys, intestines, lungs and skin; to proper food; to rested nerves; to fresh air; to cleanliness of the scalp and to regular scalp massage, which causes a free action of the capillaries about the hair roots. Regular, daily scalp massage is of the utmost importance if grey hair is to be arrested.

For cleaning grey hair see chapter under "Shampoo."

Bleaching and Dyeing As a rule, I do not approve of bleaching or dyeing the hair, as it tends to change the individuality of the woman and to give her a more or less frivolous appearance.

I do not see why a woman who has beautiful brown, black or auburn hair should want to bleach it. She thus puts upon herself the task of keeping it from showing its natural color as it comes in and of caring for the hair line where the difference is most perceptible, besides subjecting herself to unfavorable comment, because of the lack of harmony between her "newly made" hair and her complexion, eyes and brows.

If, however, one is determined to have her hair bleached, it should be done by a specialist and should be attended to regularly at least once a week, for the new hair always comes in in its natural color and it is necessary to doctor it regularly.

Bleaching Hair on Arms To bleach the hair on the hands, the arms or any part of the body, wash them thoroughly with soap and then in a clean, warm water and dry thoroughly; then apply peroxide of hydrogen mixed with one-third ammonia, using a brush. This is perfectly harmless and is one of the best antiseptic cleansers. Apply for three or four days in succession being careful to thoroughly clean the parts before applying. Peroxide

is usually sold by druggists in a "ten volume" solution. Ask your druggist for pure, fresh peroxide of this strength.

Permanganate of potash, a half dram to an ounce of water, applied with a brush, is also used to bleach the hair of the head.

There would seem to be more reason in a
Hair Restorers woman's wishing to keep the natural color of her
and Dyes hair, when it begins to turn grey, and there are many hair dyes and "hair restorers" which are harmless. All "hair restorers" contain dyes, and dyed or restored hair, no matter how expertly done, can be detected. It never has the same soft gloss and luster as before, and the dye must be applied along the hair line at least once a week, or the hair will come in grey, as formerly.

There are many hair bleaches and hair restorers and dyes on the market, and yet I feel that if one is determined to resort to the dyeing process, she should go to a first-class hair specialist.

However, if a woman desires to conceal the coming greyness and at the same time give to her hair an auburn tinge, in a perfectly harmless way, she may use the following treatment: For dark hair get the dried henna *leaves*; take three tablespoons, pour on a quart of boiling water and steep. Wash the hair thoroughly, taking care to remove all grease, and rinse thoroughly. Pour the henna tea into a small wash basin and apply thoroughly to every strand of hair. Run the hair through the henna water several times, taking care that the hair roots are treated. Now fold the hair about the head and hold it there either under a towel or with a few hair pins for half an hour; rinse in cold water and dry. Remove stain on the scalp with alcohol and protect the hands with a pair of old gloves. During the last rinsing some of the henna may

rinse off, but enough will remain to give the desired tinge. If the hair is not dark enough, when dry, repeat the process.

This color will wash out when the hair is shampooed again, but may be restored as before and in the same manner. There is danger, however, of not getting it exactly the same shade each time it is washed.

Unlike metallic dyes, henna does not irritate the scalp or impair the texture of the hair.

For blond hair, the powdered brown henna must be used. Make a paste with a little water, apply evenly and thoroughly to the hair, after washing and rinsing. Allow it to remain on a few moments, then rinse off the paste and the desired color should remain. If not deep enough, repeat. A little experiment will produce the tone desired.

Hair restorers upon the market, and which one sees advertised, are slow-acting dyes and where they are applied they should be used twice a day, one day a week, and the hair should be dried in the sun or in a bright light. Every hair should be thoroughly gone over so as not to leave in streaked. To keep this up twice a day, one day a week, and not to lapse for a few weeks, surely requires patience, for if at any time one lapses the hair looks faded and the new hair at the roots is grey.

Some hair restorers contain lead and sulphur. Many cases are on record where the use of the lead preparations has resulted in lead poisoning, and artists, or others, who work with lead preparations should be careful of them. On account of this danger, the manufacture of lead dyes or restorers has been forbidden in Germany and in some American states.

In all cases where a restorer or dye is used, the hair should be thoroughly washed and dried before the preparation is applied.

They are best applied by a small brush.

All dyes and hair restorers act by fixing their coloring matter into the substance of the hair.

Many restorers turn cloudy when exposed to the light, and are therefore put up in colored glass bottles. They should be kept securely corked.

Walnut shells which are gathered when the fruit is about ready for picking, or the green fleshy shuck about the nut, pounded in a mortar, stewed in water and then strained, form a harmless dye, which gives a brown tint to gray hair.

If this is needed at a season when the green shells are not procurable, the chopped walnut leaves may be used.

If it is desired to keep this for any length of time, olive or sweet almond oil or odorless castor oil should be added to it. It should be allowed to remain in a warm place until the coloring matter has permeated the oil, then turned into a jar while hot and tightly sealed.

Metallic dyes, as a rule, contain two different solutions, which are applied successively: nitrate of silver, the actual dye material in the solution, and hyposulphate of soda the fixing bath.

I am not giving hair dye formulas here, for under no conditions should one attempt this process for one's self. It should be applied only by the most careful expert.

Hair restorers will fade out a sickly hue, going through this process for months before the hair comes back to its normal coloring; but hair once dyed, whether it suits the complexion, or whether it shows its lustreless dye or not, can never be brought back. One

must endure the humiliation of the distinctive line between the dyed part and the original color as the new hair comes in. Since the hair grows only four to six inches a year, one can readily see how long the mortifying period would last. Often as the hair near the roots grows out, and the dye is applied week by week, it overlaps the edges last dyed, making it darker and there is a streak around the head a half inch to an inch from the scalp which is darker than the rest.

Hair dyeing is a very unsatisfactory process and we wonder how many would repeat the process, if it were possible to have their original brown, black or blond locks once more, even though they were sprinkled with a beautiful white.

The only true restorer is sometimes gained by thorough massaging of the scalp, daily, to keep a good circulation of Nature's tonic and restorer—Pure Blood.

The causes of superfluous hair upon the faces of women is not fully determined—sometimes no cause can be traced; but one skin specialist states that in fully one-third of the cases some female weakness exists—most frequently amenorrhea. The menstrual function certainly seems to exert some influence, as shown in the more frequent development after the meno-pause.

Exposure to X-Rays, as in acne, is sometimes followed by superfluous hair. The continued use of sulphur on the face may also cause these—therefore, the importance, as elsewhere stated, of not using creams, powders, etc., of which the ingredients are unknown.

As the life of the root must be destroyed, if the hair is to be gotten rid of, it necessarily follows that the only reliable method of

permanently removing superfluous hair is electrolysis, which causes a current of electricity to pass through the root of the hair, killing it effectually. The process is an American invention and has been proven a great success, but it is absolutely necessary that it be done by an expert operator, who understands the degree of electrical current needed for perfect results and who knows, also, the set of the hair in its bulb, so that the electric needle can be guided accordingly. The after treatment is also of essential importance or the scars may be permanent. It is not safe to undertake this treatment for one's self.

It sometimes occurs that the fine hairs interspersed between the ones operated upon are stimulated to stronger growth, but of this we are not sure. It is true that other superfluous hairs come, where at one time they were all removed.

Do not let a mere downy growth worry you, if it is apparent to but the most critical eye, but if you are troubled with any superfluous hair on the lip, chin or neck, which is really disfiguring, I would advise you to consult a first-class operator in electrolysis and depend upon her skill and judgment.

A depilatory for hair on the arms, or other parts of the body, may be made of one-third corn starch and two-thirds barium sulphate. Mix with water until the consistency of cream and rub the paste on the affected parts. Leave until it begins to smart and then scrape off with a knife.

Let me remind you again that the best and only reliable hair tonic is a good supply of pure blood, rich in nourishment. Blood is Nature's building material and can always be relied upon, if pure. Let me say here, again, also, most

emphatically, that the most effective stimulus to the nerves and to the circulation, which brings the blood to the roots of the hair, is the electricity caused by the friction of scalp massage. All the tonics in the drug stores cannot equal this stimulus.

If my directions for "Daily Care of the Hair" be followed regularly, tonics will not be needed. They are, however, often an aid in more quickly bringing abused scalps to a normal condition. Remember to massage the tonic thoroughly into the scalp, because the greatest virtue of the tonic is the good blood brought to the scalp by the massage required to rub it in.

All tonics should be rubbed into the scalp once a day until the hair is growing nicely and one should be careful, in massaging, to use the fleshy part of the fingers and not to allow the nails to scratch the scalp.

The best way to apply a tonic is to pour a small quantity into a saucer, part the hair with a comb, dip a small sponge or tooth brush into your saucer, then press it upon the scalp. Part the hair again, an inch from first parting, and go over the entire scalp in this way, the object being to apply the tonic only to the roots and not to the hair. A tonic comb with hollow rubber teeth has recently been put on the market. It saves many times its price by applying the tonic to the scalp—where it should be applied—without wasting it on the hair shaft.

Tonics, as a rule, are composed of three kinds of ingredients:

1. Oils which are needed for lubrication, when the sebaceous glands are inactive (it will be noted that your tonic should not contain oil if your hair is too oily). Oil of sweet almonds, vaseline, olive oil or, in fact, any pure oil will do.

2. Germicides—Resorcin or sulphur is almost always used for this. A tonic containing resorcin or sulphur is used more particularly when dandruff exists.

3. Cantharides, or rubefacients, which irritate the ends of the nerve filaments of the skin, causing a contraction and then a distention of the capillaries; they fill with blood and thus bring more nourishment to the hair roots. Alcohol is a well-known example, witch hazel, Eau de Cologne and Pond's Extract, which are largely alcohol, are the most common rubefacients.

When all that is desirable is to bring a free supply of blood to the scalp, by stimulating capillary activity, a little witch hazel, Eau de Cologne or Pond's Extract, which is a preparation of witch hazel and is supposed always to contain pure alcohol, is as good as any prepared formula.

Eau de Cologne (water of Cologne) is simply rectified commercial alcohol, perfumed, and acts as a stimulus to the nerves. It will be noted that Eau de Cologne or witch hazel is used in nearly all tonics and they, as well as Pond's Extract, are often used as tonics without other ingredients.

While alcohol, or spirits in any form, dry the scalp, they also stimulate the nerves and, if applied with thorough manipulation of the scalp, the flow of natural oil is increased, which more than compensates for the dryness. Care should be taken to keep the spirits from the hair, as much as possible, or they will dry it too much, and the object of all tonics is to affect the roots and not the hair shaft.

Alcohol also preserves the other ingredients in the tonics.

Witch hazel, or Hamamelis, is made from the leaves of the Hamamelidis Virginica and alcohol. The properties of this drug

are not fully known. It is thought to be tonic, astringent and sedative and affects the circulation in a manner similar to aconite. It is a rubefacient, causing primarily a strong contraction of the capillaries, which rapidly react, causing a distention and a freer blood supply. The effect of witch hazel or Pond's Extract, in creating capillary activity, is readily shown by applying it to the face. The capillaries distend and the skin is aglow.

If you are not sure of the purity and kind of alcohol in witch hazel, use Pond's Extract. Pure witch hazel, or Pond's Extract, may be used upon the skin freely; but witch hazel made of wood alcohol is injurious to the eyes. Hamamelis, or witch hazel, and Pond's Extract are practically the same.

Resorcin and Sulphur are antiseptic. They are germ killers and used in hair tonics, because of this characteristic. A tonic containing resorcin should not be used more than two or three times in succession. Soap, soda, potash or ammonia should not be used after using resorcin as the tint of the hair may be altered.

Chloral Hydrate acts as a depressant to the cerebral, medullary and spinal nerves and is also an anesthetic.

Chloroform is a rubefacient and is obtained by the action of chlorated lime in methyl alcohol. It is used as an irritant for the ends of the nerve filaments, causing a distention of the capillaries and thus a freer blood supply.

The bay rum sprayed into the hair by the barber after the shampoo has no particular tonic effect. It does not reach the scalp. It moistens the hair slightly and has a pleasant odor.

Jaborandi is especially valuable for stimulating the ends of nerves affecting the secretions, thus increasing the perspiration.

Hair creams are mostly made of oil of sweet almonds and lime water, scented with a few drops of perfume.

Sweet Almond Oil, Lanoline, Vaseline, Cocoanut and Brilliantine, which is odorless Castor Oil, supply the oil when it is lacking in the sebaceous glands and act as lubricants when the natural oil is wanting.

Pomade, which is seldom used now, is simply another name for scented oil.

It must be remembered that any one particular tonic wears itself out in time, and a tonic should be changed at least once a month. It is sometimes well to apply one tonic for a week and then another tonic for the next week, etc.

On page 38 is given one of the best formulas for a general hair tonic. The following is an excellent formula for dandruff:

Extract of jamborandi.....	1 oz.
Extract of hamamelis, or witch hazel.....	2 oz.
Cocoanut oil	¼ oz.
Resorcin	30 gr.
Eau de Cologne.....	6 oz.

Not all druggists keep in stock the materials for making the best tonics.

DAILY CARE OF THE HAIR IN HEALTH

Upon first arising, before combing, run the fingers
Morning through the hair, shaking it free from the scalp.

Then massage the scalp gently, so as to loosen it and bring a good circulation to the roots of the hair. If done regularly, three minutes a day will be sufficient, and will be more effective than an hour's treatment weekly by an expert masseuse.

Then separate the hair into at least six strands and brush each strand thoroughly, ten to fifteen times.

If possible, stand or sit in the sunshine while attending to your hair. The best tonic for the scalp, as for the skin on other parts of the body, is fresh air and light, and particularly the sunlight.

For those who have time and convenience during the
Evening day, it is a good plan to let the hair down in the sunshine.

Shake it loose and let the rays of the sun reach the scalp.

Always let the hair down at night.

Comb the snarls out with a coarse comb.

Separate into strands and brush each gently ten to fifteen times.

Then run the fingers through the hair, a few inches from the scalp and shake the hair loose so as to ventilate the scalp.

Either braid it very loosely or else let it lay spread out over the pillow.

If braided, do not let the first plaiting come within six inches of the scalp and so adjust the braid after retiring, as to leave the hair about the scalp loose and free.

Japanese women, who perhaps have the most luxuriant hair of any nationality, are very particular to spread the hair over the pillow at night so as to thoroughly ventilate both the hair and the scalp.

If the hair be let loose over the pillow and combed and brushed before retiring and ventilated, combed and brushed in the morning, with one scalp massage of three minutes either in the evening, morning or during the day, your hair will respond in health and tone as the body responds to hygienic care and treatment. If, with the above advice it does not, then attention should be given to the physical condition, particularly to the circulation, the condition of the nerves, the building up of pure blood, the free breathing and perfect elimination of the waste of the system through its natural channels, the kidneys, lungs, intestines and skin. These results are often attained through regular exercise, deep breathing and proper diet.

If any special treatment is required for dandruff, for dry scalp, too oily hair, or to preserve the hair line, or to strengthen the eyebrows or eye-lashes, these things are best attended to just before retiring.

DON'TS AND WHYS

Don't brush, comb or shampoo the hair too strenuously, the delicate filaments and roots will not stand it. Be gentle.

Don't remove a hair by force, the process is an unnatural one.

Don't use a fine-tooth comb,—as it injures the scalp.

Don't "rough" the hair,—the layers of the outer cuticle extend toward the end and become broken, if combed in the opposite direction.

Don't overheat the scalp by wearing too heavy a hat, or too much false hair, or by allowing the hair to remain dressed instead

of loose over night, or by wrapping the head to keep the hair in curl.

Don't use strong alkalis to lighten the color of the hair,—they may cause early grey hair.

Don't let the hair get wet when sea bathing,—the salt water slightly bleaches it and often causes it to fall out.

Don't hold the head too near an artificial light, or fire for any length of time,—the overheating of the scalp is injurious.

Don't use a comb or hair brush belonging to any one else,—scalp diseases are communicable.

Don't pull or strain the hair in drying, brushing or combing—be gentle with it.

Don't neglect to have the scalp thoroughly washed just as often as it is dirty. Under average conditions this will be about every two weeks.

Don't forget that falling hair, baldness and premature grey hair are most often caused by seborrhea or other diseased conditions.

Don't comb or brush the hair when wet. It strains it too much.

Don't experiment with hair lotions, shampoo mixtures, tonics, etc., with the ingredients of which you are not at all familiar.

Don't neglect to have your comb or brush washed or disinfected at least once a week.

Don't neglect to take your own comb and brush when you go to the hair dresser's.

Don't forget that oily and greasy applications to the scalp, especially if the oil be rancid, may be charged with bacteria.

Don't use a wire hair brush or wire comb. A single bristled brush of not too hard bristles is preferable.

HAIR DRESSING

There is no one thing that more greatly adds to or detracts from a woman's appearance and facial expression than the manner in which she arranges her hair.

Let her hair be becomingly arranged and she is bound to be called a woman of some charm, whatever her form or feature.

Softness and becoming lines in arrangement help greatly in preserving a youthful expression of the face.

Neatness goes far toward counteracting shabbiness of costume, while the most costly gown will not prevent a woman from looking actually untidy if her hair be neglected.

This does not mean that a woman's hair need be "spatted to slickness"; on the contrary, most women should avoid severity, especially after the first youthful lines begin to disappear. But fluffiness may be kept "within bounds," may partake of *order* and *symmetry*.

The manner of dressing the hair becomes a habit—and all habits are easy because they require no conscious direction of the will. It takes no more time to dress the hair becomingly, than otherwise, though it takes a little time in experimenting, at first, to determine the most becoming mode, but when fixed upon, it is easy.

It is not the amount of time spent in arranging one's hair that counts. The woman who has found just the right spot on her head where the coil should go; has learned just how fluffy or how flat the hair around her face should be, can often arrange her hair in a few moments with better effect than the woman can who spends hours each day over the operation.

Dark hair, especially, usually looks best in some arrangement that is neatly symmetrical; while the blond may sometimes let her

"O wad some Power the giftie gie us
To see oursel's as ithers see us!
It wad frae mony a blunder free us
An' foolish notion.

—ROBERT BURNS.



1



2



3

THE
JOHN CHERAR
LIBRARY

golden curls blow free without being in danger of looking untidy. But rare indeed—and fortunate, too—is the woman who can give her hair a “twist and a pin” and still look charming.

There is no denying that a woman’s hair requires care and time; but care and time thus spent are abundantly rewarded. Even the so-called “careless” arrangement, if charming, is almost invariably the result of *careful* carelessness; a carelessness that is the result of close study of effect, that the apparent looseness may mean “security” and that each “stray” lock may be exactly where it is, because it lends particular charm just in that particular place and position.

The manner of dressing the hair cannot be fixed by any set rule or style, as the outline of the face and the shape of the head must be considered. Too many women dress the hair according to the dictates of fashion, regardless of the contour of the head, or the face, or the arch and sweep of the hair line. Faces, features, heads and even personalities differ so materially in women, that all of these things must be considered if one would preserve her natural appearance, when dressing the hair.

As the hair is such an important agency in changing the expression of the face, the frame it forms must be right, to enhance the features and to throw into shadow those which it is not desirable to emphasize, as explicitly illustrated later.

Whether for a matron or a young girl, the simple and effective dressing of her own hair undorned is always more pleasing and more attractive because genuine. The tendency of young girls and young women

**Simplicity
Most Effective**

to load the head with wire or hair rolls, braids, puffs or curls, until their hair dressing overshadows every other feature, is not only poor taste, but grotesque. It not only suggests falsity, rather than the open frankness of nature which is so much admired in a young woman, but must also have its reflex effect upon the character of the girl, in her effort to seem to be something which she is not.

Heavily stuffed and elaborately "upholstered" effects are seldom becoming. Heads padded out in this abnormal fashion look disproportionately large and cause one to speculate as to how often this foundation is taken down for ventilation of the scalp. The thought that one "sleeps in it" is unpleasantly suggestive and is liable to give rise to unfavorable criticism, besides being unhealthful.

While we may admire an elaborate coiffure, worn by a matron, we admire more, simplicity in dressing one's own abundant tresses. Styles in head-dress may come and go, but one's own, abundant, well-cared-for, glossy hair, arranged becomingly never is out of style. Add a flower for evening wear, or a handsome comb if you wish, but strictly avoid overloading, for by so doing you detract from the refinement and intelligence of your face. The office of true art is to bring out the best in nature, not to cover it up and the mission of these lessons will have been fulfilled if they enable my pupils to realize the best possible for themselves.

Surely the elaborate head-dress of Figure 5 is not to be compared in art, beauty or attractiveness, to the natural simplicity of Nos. 1, 2, 3, 13 and 14.

Some patient experimenting will naturally
 How to Find the Style Best for You be necessary before you can determine the coiffure best adapted to your own style of beauty, the shape of your head, your features, etc. I have given in these



4



5



6



7

THE
J. M. CRERAR
LIBRARY

pages, directions for doing the hair in various ways, but you may find it desirable to vary the arrangement.

Do not hesitate to make any modifications which your style may require or your own ingenuity invent, taking one detail from one style and another from another so you may discover the style best adapted for you, and may create an arrangement which will be to some extent original, thus giving you an individuality. This is always preferable to the slavish following of some prevailing fad. Be your own true self, always, but not so rigidly wedded to an old fashion that you cannot adopt a new and becoming one. The method of doing one's hair bespeaks the character as forcefully as any feature or manner. It, therefore, behooves us to see to it that our coiffure does not misrepresent us; to see that its neat, becoming, softening arrangement expresses the beauty of character and the culture we desire to live and to express from day to day.

Do not forget, however, to study each and every view-point,—the back, the top, and both sides, for the sides of the face and head are seldom alike and the hair will often grow differently on the sides. Also bear in mind all the questions on page 117, and, in the final result, see that the arrangement is neat, artistic and becoming from every angle, and that your friends, as well as you, yourself, approve.

You can ascertain the style best for you more readily than anyone else. You have the best possible guides,—your own judgment and the verdicts of your family and friends.

The members of one's family are not always unprejudiced judges.

Remember that unfavorable criticism from your friends may be due to their not being accustomed to seeing you with your hair

*Thy heart's desire, God give it thee
As comes the sap to thrill the tree;
As comes the seed-life to the clod,
God give thee, dear, the thoughts of God.*
—MARGARET SANGSTER.

dressed in the new way. Ask them to study carefully and impartially the *effect*, from different points of view, giving you a sincere opinion as to its becoming or unbecoming points.

When you have once found a style that wins approval, then cling to it, perfect it, make it a part of your very personality, adopting only such features of a prevailing mode as suit your style, only changing for morning comfort, for full dress or for some special occasion, to another style, equally becoming.

It is often necessary to dress the hair differently for evening or for certain gowns or hats. Especially is this true of evening dress, when the lower neck may entirely change the effect of the hair line and the general outline of the head as related to the lines of the neck and shoulders.

A woman who dresses her hair plainly can seldom wear a low-necked gown with good effect. Fluffiness gives softness around the neck and makes the evening gown more becoming. A study of classic ideal heads shows that for centuries the need has been appreciated for softness about the neck, especially for evening dress. This is illustrated by Figures 5, 8, 13 and 14.

When the "year stone" of forty has been passed, the lines should, in nearly all cases, be carried from the face upward. If the hair be carried straight back at the sides, as in Figure 6, or allowed to droop as in Figure 4, thus accentuating the drooping lines in the face, the effect will almost invariably be to add years, making the face look older than the years justify.

How many plain faces, with hair drawn tight from the forehead or downward in a direction which emphasizes long lines of the face, could be made to look young, handsome and attractive by the mere



8



9



10



11



12

THE
MINCER'S
LIBRARY

loosening of the hair and a change in the direction of its lines which would soften and dispel all harshness. A little time given to studying becoming lines in hair dressing is well spent.

Study carefully what you think your face needs,—then try out your theories. The comments of a sincere friend of good taste will soon prove whether you are working in the right direction. Whatever the verdict, do not be discouraged, study your own features, and the faces and heads of others, also the various methods of dressing the hair, as suggested in accompanying illustrations. These very changes will benefit your hair; in fact it is desirable to form the habit of dressing the hair one way in the morning and another way for the afternoon or evening. It is a rest to the head and helps to keep the circulation of the scalp vigorous, by changing the pressure from the hair, hairpins, combs and hat.

But when you have determined the two or three styles best for you, do not make the great mistake of changing with every fad, except to modify your *own* styles, or to freshen your coiffure by a new comb or pin, unless the “new style” happens to be one that suits your own type of beauty. On the other hand, one should not be “set” about dressing the hair in one way. A woman should not be averse to adopting the prevailing mode if it becomes her. Being abreast of the times, even in matters of hair dressing, helps a woman to feel herself in touch with the throb of progress, stimulates her to activity and advancement in matters pertaining to her whole life and her home, to the benefit of herself and her family. These desirable changes are also beneficial to the life and growth of the hair itself.

Nothing more quickly changes a woman's appearance than a change in the style of her hair dressing,—hence the importance of dressing it becomingly and hence, too, the importance of *not* changing it, except as she may improve or favorably change her appearance.

Happily, most women understand themselves too well to make serious blunders in changing the manner of dressing the hair. While some will follow the fashion, regardless of whether it is becoming, there are large numbers of sensible, refined women who will not take up a mode too quickly and who study a style to know if it is becoming before they adopt it.

The most correctly groomed and best dressed women of the day are individual, adopting only such modification of a style as suits and modernizes their contour. They never go to extremes; but, on the other hand there are many who rigidly adhere to one style of dressing without any effort to adopt such accessories of the style as are becoming and up-to-date. They are rigidly old-fashioned.

Once the proper lines which conform with the face are understood, it is an easy matter to follow them. Habit is ease and it is as easy to dress the hair becomingly as unbecomingly when the habit of such dressing is formed.

Careful attention should be given to the direction in
Ornaments and Pins which pins and combs are put in. Pins put in straight up and down usually add length; if thrust from the sides toward the center, they add breadth. Of combs, the reverse would probably be true, but much depends upon the shape of the ornaments themselves and the position and angle given them. Watch, in your mirror, the effect of each ornament or comb, as you put it in, and adjust it to give the best effect. Note the absence of combs and



13



14



15



16

THE
MACRERAR
LIBRARY

ornaments in the beautiful examples shown in Figures 1, 2, 3, 8 and 19.

Right arrangement of your mirror will greatly aid
Your Mirror in arranging the hair. If possible, have your dresser at right angles to your window, near one side of it. In the casing, at the other side of the window, put up a mirror that will show you the back of your head, as you sit or stand in front of your dresser or mirror. The second mirror can easily be arranged by putting up one of the swinging mirrors made for this purpose, or a triplicate mirror, or you can put a pair of hinges upon the wood frame of any ordinary mirror, attaching the hinges to the casing at the height desired.

**Effect of Hair Dressing
Upon Facial Expression** The entire expression of the face is modified, for better or worse, by the manner in which the hair is dressed. A face that has been hardened and aged by care and worry may be wonderfully softened and years "subtracted" by an arrangement of the hair which so frames the face as to soften the lines. See Figure 4 as contrasted with Figure 9. If the dear old face of Figure 4 had the hair dressed with softened waves, a few of the lines of both hair and cap curving upward, the features would have been wonderfully softened. As it is, every line of both hair and cap emphasize the sorrowful, long lines of the face.

On the other hand, however lovely the character, an expression of hardness, even of boldness, and premature age, may be produced by indifferently dressed hair. (See Illustrations 15, 18 and 19.) Few women's faces can stand the hair drawn back from the forehead especially after they have passed the age of forty. The face then

needs the softening shadows of the hair. It is a mistake to imagine that it takes a great deal of time and bother to have the hair always becomingly arranged about the face.

To demonstrate how few people dress the hair becomingly, or in keeping with the contour of face and head, study any group of photographs, or the illustrations of women in almost any magazine.

Patronizing the professional hairdresser may be
Expert
Hairdressing a convenience at times, but it is seldom necessary. Indeed, a woman is often more expert at doing her own hair than any professional hairdresser can be. There are some of the latter who study the art of expression and whose judgment one may safely trust, but there are more who are simply shampooers and have not the refinement nor taste of the woman herself. They do not know your individuality as you know it, nor will they, nor can they, as a rule, study to know the styles best adapted to your features, as well as you yourself know from years of self-study.

Most women who study to make the most of their particular charms prefer to dress their own hair, realizing that a woman can be her own best artist when it comes to self-improvement.

Most professional hairdressers will invariably dress the hair in the prevailing mode, but it takes a finished artist to dress a woman's hair in a prevailing style and not make it look stiff and conventional at the expense of its being becoming. This stiffness detracts from the softness of the face and destroys the individuality of the woman, who becomes more an advertisement of the hairdresser's art than an expression of good taste and refinement. Note Figures 20, 25 and 26 as an example of the hairdresser's art, and Figures 1, 2, 3, 11, 12, 17 and 23 as illustrations of good home dressing.



17



18



19



21



20

THE
SECRETARY
LIBRARY

If a woman can have the luxury of a maid or a hairdresser regularly employed, she can train such an assistant to make a careful study of her personality, that her individuality of style may be maintained as consistently as though she dressed her own hair.

**High Lights
and Shadows** Just as a photographer or an artist scrutinizes, with utmost care, the effect of light and shadow upon the face of his "sitter," so should every woman study the effect of lights and shadows upon her own face and she should learn to regulate them, as she can do, to a very great extent, by the aid of her hats and the manner of dressing her hair.

Very frequently, if you analyze face and feature, you will find that the softening effect of the pompadour is largely due to the shadows it casts upon the face. This is equally true of a becoming hat. Unless you have a beautifully smooth skin, study to let the pompadour or the hat, cast a partial shadow over the face. Prominent features and rough or irregular skin may be wonderfully "toned down" in this way. Study the photographs in your collection and note how a high, full forehead is softened by the shadow from pompadour or hat; then experiment with your own features by modifying the arrangement of your own pompadour, pulling it down here, pushing it up there, until you have the most becoming effect.

For definite illustration of this point, compare Figure 15 with Figure 13, also 4 with 9. Especially in the first two, note the wonderful change in the softness of the features, produced by the softer arrangement of the hair. Note also the boldness of the faces of Figures 5, 6 and 15. These features would be wonderfully softened by tempering the light upon the faces. To illustrate this the artist

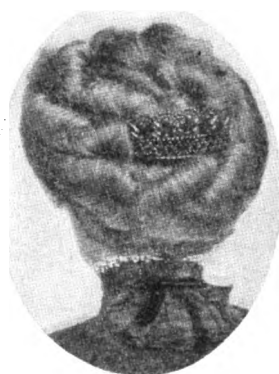
has drawn some hair over the forehead of Figure 5, as illustrated by Figure 7. Note the softened expression lent by a few hairs over the forehead.

The much abused pompadour has proved a good friend to womankind, but if the hair is not sufficiently heavy or electrical to sustain a moderate height and contour without artificial support, do not pompadour it by "roughing," that is, brushing or combing it toward the scalp. This rubs the tiny scales composing the hair shaft backward, (see page 33), breaks the hair, and makes it look dry and bushy and causes it to lose its gloss, in fact it is a very "cruel" manner of treating such a beautiful, natural ornament as the hair. I have known many heads of beautiful hair to be utterly ruined in this way. If the hair, by being combed over the face and then turned backward, will not stand up sufficiently, it is far better to coil it over a wire pompadour as this is light and allows perfect ventilation. Because of this ventilation it is far more desirable than hair rats, or even rolls made from one's own hair. If the wire is inclined to show, cover it with a thin wave or fringe of natural hair, preferably from your own head. This may be woven to a narrow selvedge for convenience and arranged around the wire, a much better method than using loose combings. The latter mat, fill with dust, collect bacteria and look untidy; they are exceedingly unwholesome, while the woven hair piece can be brushed out and kept clean.

The hair rat of commerce, made from bacteria-laden weeds, or of the hair of the Chinese or Japanese—often clipped from dead bodies,—is too revolting to consider.



22



23



24



25



26

THE
JOHN CRERAR
LIBRARY

In dressing the hair with a pompadour do not have the outline too regular. Any becoming variation lends softness to the face. The stiff, symmetrical pompadour is extremely trying to everyone. Especially lacking in grace is the pompadour which extends, in an unbroken circle, entirely around the head.

**Judicious Use
of False Hair** The arrangement of the modern coiffure is rather a complicated art, and nature's crowning and most alluring gift of natural, glossy, daintily dressed tresses, bids fair to be submerged and lost under the billows of these false hirsute adornments. (See Figures 25 and 26.)

False hair is never to be recommended, except in cases of deficiency, and never to excess. With care in arrangement, the elaborate coiffure can nearly always be realized with one's own tresses, while the most "simple" effect may be a "delusion." (See Fig. 19.)

It is true that some women lack the abundant, or even sufficient growth of hair necessary for an attractive or becoming arrangement of it, and in such cases, the judicious use of an extra puff or curl, to fill out a spot that nature has neglected, is pardonable, but the exaggerated amount of false hair, so often seen, is a detriment to the scalp and injures and retards the natural growth of the hair, while it also lends an air of falseness to the expression of the entire figure. These exaggerations also often give wrong contour and abnormal proportion to the head. (See Figures 21, 25 and 26.)

Yet it is certainly a consolation to the woman whose hair is limited in quantity to know that she can make up for the deficiency by puffs, braids, rolls or curls made of her own hair, or by purchasing them to match. The former is, of course, much preferred,—but it

*Thou wouldst be loved, if so,
Then from thy present pathway part not.
Be everything that thou art,
Be nothing that thou art not;
So with the world, thy gentle ways,
Thy grace and more than beauty,
Will be an endless theme of praise,
And love a simple duty.*

—POPE.

never really replaces live hair, for when cut from the head, all hair loses its luster and looks lifeless.

Almost all false hair is brought from Japan or China in car-loads. It is usually black when it reaches this country but is bleached to the varying shades desired. It is not a pleasant thing to know that nearly all false hair is cut from dead bodies of Japanese or Chinese. It is bleached and refined by putting through different solutions of peroxide and acids, then through an indigo blue to give it the bluish cast. Some of the best of human hair on the market is grown for the purpose by European peasant girls, who wear it hanging and braided. The weight of the braids helps to stimulate growth. There is very little naturally curly hair on the market. Almost all false hair is straight and must be kept in curl artificially.

It is difficult to obtain white human hair in good quality, hence dealers have been obliged to resort to the hair of the kashmir goat of Syria. This resembles human hair very closely and is used in very large quantities nowadays. It grows from six to twelve inches in length and is slightly wavy. Commercially it is known as "Asiatic Hair."

False hair was first regularly worn in England by Queen Elizabeth. She had upwards of fifty wigs for her private use.

Wigs were originally adopted, not as a remedy for baldness, but in the interest of personal cleanliness. The laws of ancient Egypt compelled all males to shave the head and beard. This explains why turbans were not worn by the Egyptians, the bushy, artificial hair being considered as a sufficient protection against the heat of the sun. The Romans, on the contrary, wore wigs because they were naturally bald.

Care should be taken not to overheat the scalp by piling on too many false pieces. If desirable to use any one or more of these accessories, be sure and remove them as soon as possible, when you reach the privacy of your room, so that the natural hair may have a chance to ventilate and the scalp be relieved of its strain and extra weight. One can imagine the heating and weight occasioned by the "upholstered, sausage" effect produced by the hair in Figs. 21, 25 and 26.

Rather than use false hair, increase the abundance of your own.

If you properly care for your scalp and hair, as per suggestions upon accompanying pages, false hair will seldom be needed. It is far easier to avoid growing old than it is to be rejuvenated. If we are to be young at sixty, we must begin preparations in youth, and never desist. Care expended in the twenties, tells mightily in the forties. It is never too early to begin prevention, that we may avoid the necessity of tedious mending.

While I do not advocate or advise artificial hair or artificial coloring of the hair, the following incident is told to show that with care and discretion, a woman may even use an artificial touch to her advantage, as shown by Figs. 22 and 23.

To illustrate the latter point, one woman, regarded as especially charming, was complimented upon the simplicity with which her hair was arranged.

"A woman with hair as naturally beautiful as yours does not need to resort to costly gold ornaments and expensive combs," said her admirer.

The admired smiled her sweetest thanks—and later showed a trustworthy "sister" the secret of that simplicity. It was something like this:

“First see that the other woman’s rat is nicely waved—that the other woman’s switch is likewise waved and beautifully braided,—oh, don’t be silly, my dear,” she laughed, “it is lots easier to wave the other woman’s hair than it is your own.”

“Now when I have waved my own a little, I divide it across, from ear to ear, separating the front pompadour from the back. Then I divide the back into three parts and fold each one nicely over this rat of natural hair, you see, exactly like mine. After bringing the three divisions of the back hair up over the rat, I tuck the ends in neatly,—mine is not very long,—then I divide the front into three parts and arrange that in a pompadour. After this all around pompadour looks nice and symmetrical, I take the other madam’s switch, such a nice fluffy braid, and lay it around my crown, concealing where my pompadour is tucked under and with the full part of the switch to the front, giving me more breadth! Now I tuck this ‘simple’ twenty-seven dollar shell pin in at the back, to cover where madam’s switch gets smaller at the ends—and there is your ‘simple’ coiffure, which is simple, after all.

“You admire the golden glint as the sun shines through? Well, I don’t mind telling you I have henna leaves to thank for that.”

The woman above mentioned was complimented, remember, for the *simplicity* with which she did her hair. She had transformed herself from the plain and unattractive to a handsome woman, yet had retained her natural simplicity and refinement because she had not overdone her “improvements,” yet this false switch, and rat must have been heating to the scalp, and the application of henna a nuisance,—and to the critical eye, she must have given an expression of falseness. Had she put the same amount of time upon the

care of her own scalp, upon breathing, exposure to sunshine and making pure blood, "madam's" hair would not be needed.

You can have the most satisfactory switch, puffs and curls possible if you will save your own combings and then have them made up as desired. Keep the combings in a box, free from dust, and tangle them as little as possible. Do *not* wind them around the finger.

The hair makes the most beautiful frame image. The Hair Line inable for the human face and the hair line must not be allowed to lose its beautiful shaping, fullness and softness above the forehead, at the temples, in front of the ears or at the base of the neck. Any defect along these lines changes the expression of the face.

Unfortunately, one rarely realizes how much of her youthful expression is due to the hair line until she suddenly awakens to find that the expression has become harsher—she is looking older.

Unhappy day! Look to the growth of delicate downy hairs forming the frame to your face. Is your hair line receding or growing ragged? By gently coaxing you may bring it back.

If you wish to experiment with the change in expression given by different lines, draw your hair straight back from the face, next part it and smooth it toward the ears, then loosen and pompadour it—then comb some of the short ends down about the face and note how this softens. (See Fig. 5 as contrasted with 7, Fig. 6 as contrasted with 10, and 18 as contrasted with 24.) *Even the angle at which the hair is combed from the face entirely changes its expression.* If the hairs are combed downward they lend one expression, upward another. A break in the fullness of the hair line changes it

quite as much as the direction of the hair. Drawing the hair down so as to hide the corners of the temples, where the hair line is apt to recede first, may keep the general contour, but it never replaces the natural curve. (The above points are illustrated by many of accompanying illustrations, especially 4, 5, 6 and 15.)

One must be patient in watching for results, but unless the roots are entirely dead, in almost every case the hair line can be regained in from two to three months, but the entire capillary circulation must be renewed, the scalp tissue strengthened and the blood be in good condition. It is not sufficient to treat only the line about the face.

Should the hair line be destroyed at any point, new hair can generally be grown by gently massaging a very little white vaseline about the roots of the hair. This should be rubbed thoroughly into the scalp every day, if good results are to follow:

Place the grouped fingers at the top of the forehead and, with a gentle, rotary movement of the finger tips, work the scalp towards the ears five or six times,—or until warm.

I have frequently known an abundant fringe of hair, an inch in length, to be restored around the face in two months time. These results require merely patience and faithfulness, and are not uncommon.

Do not comb or brush the hair too tightly back from the forehead for you strain the delicate roots in pulling them back, opposite the set of the hair (see page 56). Many mothers comb or brush their children's hair tightly back from the face, and tie it there. This not only changes the entire expression and appearance of the child, but by pulling upon these roots about the hair line daily, the roots may

be destroyed and the hair line made ragged and unbecoming, changing the entire facial expression for life. When a child's hair is arranged straight back from the face it should be fastened loosely.

**High Hair Line
at the Neck** A woman whose hair does not grow well down upon the neck deserves sympathy, as there are few ways in which she can dress her hair becomingly.

This defect is especially unfortunate if the chin be long. The only way to counteract it is to dress the hair low, whether by so doing a woman produces the most favorable results, in other respects, or not. The effect of the hair line at this point is often unbecomingly elevated by the use of barettes and pins which also too sharply define the line at the neck, as illustrated by Figure 10. If these pins press at the base of the brain they retard circulation and injure the delicate nerves, there. When the chin is especially sharp, its sharpness is softened by leaving the hair loose at the back of the neck, or by dressing it low as in Fig. 24.

**Effect of Soap
on the Hair Line** Care must be exercised in the selection of toilet soaps, as the strong alkali of many soaps used upon the face has a very bad effect upon the roots of the hair about the face. Strong soaps used about the hair line by the drying effect of alkali upon the roots may partly account for the hair turning gray there, first,—particularly if the soap is not carefully rinsed off each time.

The short hairs along the hair line should not be rubbed backward when drying the face. Many people scrub the hair line, when washing, thus destroying the delicate hair so much needed about the face.

Face cream should not be put near the hair line. If allowed to remain there it fills and clogs the glands with fatty matter, preventing the flow of natural oil from the sebaceous glands.

The hair along the edge is finer in quality and a little more delicate in coloring; hence, the need of exercising this greater care in its daily treatment.

Hot curling irons should not be used in the hair line and in using kids or curlers at night, be sure there is not too great a strain upon these delicate hairs at the edge. They are often broken or the roots injured in turning in sleep, if the hair be rolled too tightly. If kids and similar curlers are to be used, it is better, whenever possible, to put the hair up for a half hour, or an hour, upon arising, or during the day.

It would seem almost needless to state that the hair should be softly coiled, waved, pompadoured, or braided as desired, but loosely dressed to allow a good circulation of air about its roots and that hair pins should be so arranged as not to irritate the scalp.

**Must Not Strain
the Scalp**

When selecting your hair pins or combs, see that the edges are smooth, as rough edges are often the cause of many short, broken hairs. Run your combs and hairpins through your fingers occasionally to detect any imperfections.

Blest, indeed, is she who possesses naturally curly hair. Straight hair is cylindrical, curly hair is oval, the structure of the shaft being uneven, due to an uneven distribution of the cells.

The effect of the curling iron is to contract the cells more on one side of the hair,—the side to which the greatest heat is applied,

—but just as soon as moisture is applied, this contraction is relaxed and the hair straightened. If these cells be too strongly contracted, by too great heat, the hair shaft breaks. This constitutes a serious objection to the constant curling of the hair by too hot irons, but if a warm iron be used, not sufficiently warm to contract the hair cells too greatly, no especial injury is done. The tendency of this hurried age, however, is to use the irons too hot.

In curling, the temperature should be such as can be borne by the bare finger on the iron. This means that the iron must be held upon the hair for a longer time; but the average person will not spend the time necessary to thus dry the hair slowly, and disaster results.

“Kids,” paper, rags, or any articles, which have “Kids,” etc. no sharp edge, around which the hair may be curled, are in no way injurious, if they can be adjusted in such a way as not to pull the hairs, especially about the hair line.

In the selection of any curling appliances upon the market, be sure that the edges are smooth so as not to break the hair.

A simple method of curling the hair is to take a small strand and twist it as you would a thread about to be put in the eye of a needle, then wind it around so as to make a little wheel of the hair and pin it to the hair or fasten in a rag or paper. If the hair be slightly moistened and left for an hour it will curl nicely, and, if care be taken to twist it the same way each morning, the cells of the hair will gradually accustom themselves to this position. After it has become accustomed to one treatment, unless the weather be rainy or damp, the curl will stay in for a number of days.

Perhaps the next least injurious method of curling is to wind it around kids, rags or soft paper.

In selecting any manner of curling the hair be sure, as stated above, that any article selected has smooth rounded edges and that too great heat be avoided.

In the case of the marcel wave so great heat is required that ultimate breaking of the hair is certain. I have never known anyone who followed this style for any length of time whose hair was not uneven, both in color and length.

You can get an effect similar to the marcel by the use of combs. This plan should be adopted during the day as the combs would be uncomfortable and would be displaced upon the pillow. Two ordinary side combs will answer the purpose.

Brush the hair with a brush slightly damp, but not wet, and fasten loosely on the top of the head; then beginning at the bottom of the head and base of the neck, put the first comb in with teeth pointing upward, use a circular comb for this purpose; put the next row of combs in with the teeth pointing downward and let them lock with those on the row below. Let the hair puff out enough between the rows of combs to form the wave desired. Follow this in even rows around the entire circle of the head, seeing that the combs are the same distance apart so that each wave line will be even, but let the row above be placed slightly to the right or left of the one below, so as to give the diagonal curl which characterizes the marcel wave. Leave the combs in place until the hair is thoroughly dry, then remove and the hair will be in natural waves similar to a marcel.

The following solution will make the hair retain its curl:

Dampen the hair with the white of an egg, with which has been mixed an equal amount of rose water and a few drops of some dainty perfume. While still wet, wrap around curlers and leave until thoroughly dry. The wavy effect will remain through rain, dampness or fog.

Or, the hair may be made to stay in curl longer and stand up from the head better by applying the following:

$\frac{1}{4}$ oz. of gum tragacanth
1 pint of orange flower water,
 $\frac{1}{2}$ dram of almond oil.

Crush the tragacanth and put into the orange flower water, allowing it to stand on the back of the stove, or in some warm place, until it dissolves. Stir occasionally until the gum grows soft. Then strain, first through a coarse strainer and then a fine, being sure the gum all goes through. Then add the oil and a few drops of perfume.

Our grandmothers used a bandoline made from boiled quince seeds which was as effective as anything. The quince seeds were boiled until they broke and jellied, and then strained.

The use of any bandoline has a tendency to make the hair stiffer, —this, of course, is the purpose, so that it may stand up. Its use is much preferable to matting the hair and breaking it. In fact, as previously stated, the present effort to make the hair stand up by bushing or roughing it is ruining the hair, making it dry, uneven, lusterless and coarse looking.

Brilliantine used by hair dressers after the hair has been curled, —more particularly after the marcel wave,—merely replaces the oil which has been dried out of the hair shaft by the iron. It gives the hair a soft lustre. As a rule it is made of equal parts of odorless

castor oil and rectified spirits, perfumed, or of castor oil and Eau de Cologne. If put on the hair before it is curled, instead of after, it will retain the curl longer and keep the gloss.

One drop of brilliantine rubbed upon the brush bristles by the palm of the hand, and then brushed lightly once or twice over the hair, is sufficient to give it a beautiful gloss. If, however, much of the oil be put on it will take out the curl.

One reason for using odorless castor oil is because it is the only non-volatile oil which is soluble in alcohol and, as elsewhere explained, Eau de Cologne is pure, perfumed alcohol.

Brilliantine should be well shaken before using.

After all, it is largely a matter of *knowing how*.

We need not be "plain Janes" and we should not be. We should be cheerful company for ourselves as well as for others, and what woman of us would not rather see a sweet and winning face smile back from her own mirror than to look, day after day, at a severe, careworn, perhaps forlorn countenance. Or, granted that "plain Jane" is sunny and smiles her sweetest, just let her try smiling at Jane with her hair becomingly dressed and see how much more cheerful she will feel—how much more like "getting things done" and bringing sunshine to others.

It does us good to be at our best and it does our friends still more good. Let us be as beautiful as we can, else we are not at our best; but remember we cannot possess the full measure of either charm or beauty until we have given careful thought and study to the contour of our own heads.

**How to Analyze
Your Own Features**

Observing the manner of another woman's hairdressing may or may not help you. You must, first of all, make a careful, conscientious, unprejudiced analysis of the shape of your head as related to your face and features.

To do this, let down your hair and brush it smoothly back. Then, with the aid of an extra mirror, study the shape of your head, from every point of view. Hold the hair in, about the neck, or tie a ribbon over the hair, around your back, to hold the hair close. Then study the side view, the top, the back, the front. Note carefully the following points:

Is your head wide or narrow above the ears?

Is it full or inclined to be flat and low just back of the hair line, that is, on top, near the front?

Is it full or flat on top at a point which would be in line with the ears?

Is it high or flat at the crown, that is, the point where the hair radiates from the top of the head?

Is your head very full at the back; is it straight up from the neck, or nearly so; or is it medium full?

Is it wide between the ears, as you look at the back, or narrow?

Is your chin prominent, receding, or medium?

Is your nose long or short; straight or crooked; does it turn up or down?

Is your face wide or narrow; oval in outline, round or more square in shape?

Is your face plump or thin?

Is your forehead high or low; does your hair grow low upon your forehead, or does the hair-line recede, leaving your temples bare?

Is the hair line straight or ragged?

When you part your hair, is the parting a close, delicate line, or is it wide and white, making the hair look thin and the face long?

As you look at the side of your face, with your hair combed back, does your forehead extend forward from the hair line, and then down, or does it slope directly down from the hair? Does it recede?

Is your head high, from the top of the ear to the top of the head, or low, or medium?

As you stand in a strong light, is your skin smooth and fine or is it coarse, needing to be thrown into shadow? Remember that shadows soften. Nearly everyone is at a disadvantage with a strong light upon the face.

All these and many more points, which will suggest themselves as you carefully study your head in your mirror, have something to do with the way you should dress your hair. If your head is very full on top, for instance, it is not likely that your appearance will be improved by making that fullness decidedly greater, as you would do if you piled your hair high.

One of the most common of unfortunate errors is made by the woman who is high at the crown of the head, (strong self-esteem) and also has a prominent chin, (usually denoting strength). These two points are quite apt to go together, and the woman who has them is quite liable to think "Handsome is that handsome does" and consequently pays very little attention to the way she does her hair. As she can most quickly comb it straight back and twist it

into a snug knot right on the crown, she is likely to do just that,—the very worst thing she could do. (See Figure 15 as contrasted with Figure 19.)

Such women are usually intellectual and have strong executive ability, and this harsh method of doing the hair accentuates the oblique line from the chin to the crown of the head, makes very strong features seem stronger,—makes every mortal man feel like running to the farthest corner, when he sees this austere individual coming in his direction.

By which I mean only to emphasize that the greatest, the first strength of woman, as of man, lies in the power to attract,—not in the power to over-awe and repel.

If we would influence others, or meet with success in society, in the home, in the school-room or in business, we must first attract those about us. Of all the natural features, which can aid us in this direction, truly the hair speaks strongly, because of its direct influence upon the facial expression.

The stern, forceful woman needs to “tone down” the strong lines and soften the features, and no better aid for accomplishing this result could be employed than the hair.

If your hair is the “bane of your existence” you have not yet found the right way of caring for it, or “*your*” way of arranging it. When you do, its care and arrangement will afford you pleasure.

When you come home from the hairdresser, or when you have been experimenting yourself, and someone, perhaps your husband, says:

“Oh, how nice your hair looks; you should never do it any other way!” then it is that you understand the satisfaction, which is found in making yourself attractive to others.

Each woman can best apply these tests for
Applying the Tests herself. It is impossible to describe every variation which will present itself, for no two faces are alike. I can only give the types and in the following pages I have given suggestions as to the styles a woman should adopt or avoid, according to her type. These establish general principles which any woman can apply and further carry out for herself. You may, or may not, be classified under any one type. You will probably find that you have characteristics, some of which are found in one type and some in another. Then, study each of these characteristics, under whichever type you find it, note carefully the influence of hair-dressing as related to each one, and from the observations you make, you can construct the analysis of your own type and will evolve the style of hairdressing best for you.

When the hair is fully dressed, your test must be that you have brought out a good contour of the entire head; have produced an effect that is pleasing and well balanced from every point of view.

A thin face will look more round and plump if
Long, Narrow, the hair be fluffed out well at the sides. (See Figs.
Thin Face 7, 9 and 16 as contrasted with 10.) It may be parted and combed to the sides, then waved and fluffed, giving a broad effect. The back hair may be dressed broad and low (see Figure 19), or high and the fullness carried across the front, a little back of the hair line. Be careful not to draw the hair up tightly from the back of the neck, when dressing it high.

For some oval types, if the hair be long and thick enough, it may be waved and parted in the center, or pompadoured. Then

draw the hair to the top of the head, plait it rather loosely in two braids, cross them and arrange around the head in crown fashion. This arrangement will be somewhat improved if the hair be waved all around, at the front, sides and neck.

Almost any style that lends breadth to the head can be worn by the woman with long or oval face, but in determining the parts of the head at which additional breadth is to be given, one should closely regard the contour of the chin.

If the features are long, that is, long nose, long or prominent chin, face as a whole long and thin, etc., do not wear the hair piled high on top of the head, or on the crown, as this accentuates the length. Court fluffy, soft styles that add breadth. Wide, low combs may be used to good advantage by the thin featured woman, unless she be short, when she may wear them both wide and high. Remember that horizontal effects lend width and detract from height. For a long face and a long chin, never draw the hair straight up from the nape of the neck. There should be some softness, or fullness and breadth in the back, for such types. Note the contrast between Figures 18 and 24 and observe the effect of carrying softness down to the neck.

If a woman be very tall and at the same time thin or long featured, she may affect almost any style that gives breadth at the sides, front and back.

If the head be long, the hair may be dressed high, if more becoming in style, but it must be spread and kept flat and thus avoid adding to actual height or long effect.

The same suggestions as to breadth and height, in hairdressing, also apply to the selection of hats. Note the emphasis of the pointed

chin in Figure 10, by the long diagonal line from chin to top of hat. The hat for this style of face should be broader and lower.

Parting usually adds length to the face, especially if the line be wide and white (see Figure 3).
Effect of Parting

A long featured woman should never comb the hair straight down, to either side, from a parting, as this decidedly makes the face look longer and thinner (see Figures 4 and 15).

If the hair is worn parted and the features are long, there should be fluffiness at the sides to add breadth, and the hair can be trained to take an outward instead of a downward direction, or can be turned upward a short distance from the parting. Such arrangements add breadth.

Parting the hair on the side does not usually add length, especially if the hair be fluffed across the forehead; and the parting may not add length, if it be close, not showing the white of the scalp.

The long, as well as the round featured woman needs to carefully consider the effect of parting, if she likes this style, combining with it such direction of lines, fluffiness, etc., as will counteract rather than add length to her face, if she be long featured; or using it to give an effect of length, if she has a round face.

In all cases, however, avoid brushing the hair flat from a parting down toward the ears, as this is unnecessarily old fashioned and very trying to nearly all faces. (See Figures 4 and 15.) This style also emphasizes downward wrinkles which may appear in the face as it begins to lose firmness. It should be especially avoided after forty.

A women with a round face, a fat
 Round Face, Wide Jaw, face, a wide jaw, who is wide between the
 Wide Between the Eyes; eyes or who has any or all of these tend-
 Fat Face, Etc. encies, will probably find that dressing her

hair on top of her head helps to diminish the effect of breadth, adding a becoming height and length. If she be short, she may be able to comb her hair straight up in the back, giving the long line from the nape of the neck to the crown, though combing the hair thus, unless it be left loose and allowed to curve outward slightly, is very trying to most women. (See Figure 18.) The upward lines may be given, however, and the hair slightly loosened. (Note the softer effect of the loose arrangement at the back, in Figure 24.)

In combing the hair high, care must also be taken not to train it too abruptly from the face. If the face is broad, combing the hair tightly back, exposing the actual line, tends, in some cases, to give too masculine a look; in others, it may make a woman look bold. If the hair is dropped softly over the forehead just a bit, however, and then trained back into a pompadour, or slightly fluffed, it will soften the features. (See Figures 1 and 2.)

A woman with breadth of features may arrange her pompadour higher in the center-front, but while she may keep a symmetrical curved outline for it, or may "break" the curve carelessly, as most becomes her, perhaps letting a few stray curls escape upon the forehead, yet she should not fluff it wide at the sides. A full face is exaggerated by too many curls or too much fluffiness. A higher, plainer coiffure is better adapted to this style of face.

Let the hair be kept soft, not severe, over the sides, but not fluffed out. The effect will be most deluding, giving the appearance

of fluffiness without increasing the breadth, while puffing the hair high on top detracts from the breadth and lends needed length to the face. A pompadour also tends to make a large face look smaller, while a woman with a small face should guard against a large pompadour.

If the head be broad in the back, avoid
Breadth in the Back wide arrangements for the back hair, and do
 not use wide combs.

The psyche knot (see Fig. 8), or any style which conceals or counteracts the width may be used, while combs and pins should be long, high designs, if the woman be short.

If a woman is tall and also wide-featured, she may wear a slightly pointed knot on the top of the head, but she should avoid actually adding height by piling the hair high or by using high ornaments. A psyche knot, if not too pointed, but kept soft, should suit this type of head well. Add to this a puff at each side of the knot and a comb with low points and the effect is excellent.

A woman with a long nose, or a prom-
Long Nose, Prominent inent chin, should avoid dressing her hair
Chin and High Crown high on the crown; that is, at the point
 from which the hair radiates at the top of the back of the head, as this makes the conspicuous feature appear still more conspicuous by seeming to lengthen the oblique side line noticeable in such faces. A little experimenting and scrutiny of different effects, with the aid of the extra mirror, will demonstrate the truth of this. If inclined to the features above mentioned, or if you have a very prominent chin, arrange the hair a little high in front, if you choose, carrying the fluffiness well forward, and arrange it with fullness low down in

the back (see Figure 24), or you may carry a coil or soft braid around the crown, but do not add one iota to the fullness of the crown itself. Or, the hair may be dressed on the crown, but the prominence counteracted and concealed by arranging it in a long or a wide coil or "eight," avoiding height on the crown and by leaving the hair fluffy at the nape of the neck.

These same instructions should also be followed if the crown itself be rather high, that is, if you have what is called a "large bump of self-esteem."

The prominent chin is also usually counteracted with pleasing effect by arrangements that carry the hair low at the nape of the neck, either in a full knot or a softly braided or coiled "loop." (See Figure 22.)

If the crown be flat, seeming to be "chopped off," leaving the head high in front, you can arrange a soft, fluffy knot right on the crown, thus entirely concealing this defect of physiognomy. A head unusually high in front, just over the forehead, or unusually full at the back, may have the effect of making the crown *look* deficient, even when the latter is normal. In such cases, a modification of arrangements for flat crown will lend softness and a pretty shape. Never fluff the hair, or coil it prominently over "bumps" or dimensions that are emphatic. Let "shallow softness" and flat coils conceal prominence, and fluffs and puffs fill out and counteract hollows and thinness.

A receding chin is usually accompanied
For a Receding Chin by a crown none too full. This is the little woman who can wear a high knot right on the crown of her head. For such a type, too, a fluffy figure eight,

pulled out well at the top (right at the crown) is often charming. With this arrangement, the hair may be parted in front and fluffed at the sides, while a high comb of shell or etched old silver at the top of the figure eight completes the charm of this quaint, pretty style.

If the chin recedes and the crown of the head be full, try fluffing the hair well at the sides and piling it well forward on the top of the head. Note the emphasis of receding chin and forehead and high crown in the severe, ungainly arrangement in Figure 6.

If the forehead be low an effect of height can be given by modifying the contour of the pompadour, so the hair line of the forehead shows at its highest point only. For such a condition, drop the hair slightly, except at this high point, but do not drop it too low at any point.

Some persons with low forehead can wear the hair parted, waved and carried back, softly to the nape of the neck, where it may be arranged in a loose knot. (See Figures 1 and 2.)

When the forehead is straight and the line from upper lip to chin is straight and nose prominent, the hair should be kept rather close to the back of the head, the front hair carried back and raised from the forehead, as in Figure 8, and the top hair done high in a round coil, or with puffs on top of the head. Figure 17 shows this tendency.

If the forehead be straight, nose moderate and chin prominent, the hair may be worn low or in the center of the back of the head, with front hair arranged moderately high, drooping somewhat on the forehead, as in Figures 19 and 23.

If the forehead recedes, that is, slants backward, from the top of the nose to the hair line, **Receding Forehead** care must be used not to exaggerate this tendency. A straight, receding forehead (see Figure 8) is classic and often a point of beauty if well handled. For such a forehead, avoid brushing the hair directly back from the face, and avoid dressing it high on the crown. The hair raised and drooped over the forehead is best, if the latter recedes, but do not wear a pompadour that slopes back and upward, as this would only increase the tendency you are endeavoring to counteract.

If the chin as well as the forehead recedes and the nose is prominent, the above points must be regarded, and great care should be used in the selection of hats. For this condition see Figure 9 in which the hair could hardly have been dressed in a more unbecoming manner. In such cases, avoid hats that slope or roll back from the face.

If the forehead is high and bulging, avoid any arrangement which carries the hair straight back at the top and sides, as in Figure 5. Many intellectual women are made to look bold and masculine by overlooking the importance of softening the forehead, as they could easily do by allowing the hair to fall over it. (See Figures 5 and 7.)

A young girl with a smooth, high forehead, if the latter does not bulge, can well wear the hair carried back from the face, as in Figure 14.

It requires both skill and patience to arrange **Arrangement for Scant, Thin Hair** becomingly and satisfactorily, hair which is short, thin and scant. If one has little hair, let it be kept as fluffy as possible.

If it is necessary to wear an extra coil or switch, be sure that it matches the hair exactly and have the strands divided or made on three separate strands (with foundation stems not too long), so they can be utilized to better advantage, either in puffs, a braid or a coil.

Hair Scant on Temples If the hair grows very scant or high on the temples, it sometimes gives the face and forehead a bare appearance (see Figure 6), which can be remedied by keeping a few short hairs waved slightly to droop over the temple, as in Figures 5 and 7. To promote growth of hair on the temples, see pages 109 to 112.

Hair Dressing for the Mature Woman "Styles in hair dressing for elderly women do not change as often nor as radically as the modes for young matrons and girls. Indeed, when a new coiffure for middle-aged women does appear, frequently months elapse before it is generally adopted.

"The coronet fashion of dressing (Fig. 33) is one of the models that, when becoming, may be worn irrespective of age. It does not, however, suit every type of fat, full face which will look more moon-like when framed with the coronet braid, but a woman possessing a long or an oval face may have her hair so dressed and find it suits her perfectly.

"The short woman, especially if she is also stout, should not wear the coronet unless it is modified, for the reason that its flat arrangement will detract from the body's height. An individual of this type should take all the hair to the crown of the head, drawing the front portion softly back from the face and arranging the back part in a loose mass from the nape of the neck to the top of head.

“At the crown the locks should be tied and the hair braided. A circle should then be formed with the braid directly on top of the head. For the necessary effect the braid should stand on edge, not lie flat, and the end should be pulled gently around the face until it gives the desired appearance to the features. Any loose hairs at the back should be confined with a small barette that matches the comb. This makes a dignified arrangement.

“For evening wear, shell hairpins mounted with handsome heads may be substituted for the comb. These pins are placed where they are considered the most effective, that is at the front, back or any point on the sides.

“The majority of middle-aged women prefer the hair dressed on the crown of the head, the front half taken back in a soft pompadour.

“In this mode of dressing where the hair is very scant, after being arranged on the crown of the head it may be pinned flatly down and three little false roll puffs arranged on a heart-shaped ground work, attached to conceal the real hair.

The pompadour will never go out of fashion while there are middle aged women to wear it, for it is a dressing that almost every type can wear successfully.”—(*The American Hairdresser.*)

The elderly woman should *never* draw the hair tightly back from the face.

Happily, the woeful days have passed in which women as they pass middle life must wear their hair combed straight down from the face and must dress in chilling black.

Why should not mature women be attractive? There is nothing sweeter in all life than a sweetly radiant face framed by the beau-

tiful, soft snow of winter. Make the most of the snow—it is as beautiful as the flowers of spring. Fluff the whiteness about the face.

We can but admire Whistler's art in Fig. 4, but we would like to have had some one dress the hair becomingly and thus lend a softness to the dear old face. A woman with long features, and especially where the long lines appear in the face, should counteract this length by short, horizontal, or outward and slightly upward lines of hair about the face and head.

Surely, there is no less of strength nor dignity to the dear sweet face of Figure 9, with the soft white fluffs of snow about it.

We love to see the dear old faces look soft and well cared for and, as previously stated, it is just as easy to dress the hair becomingly as unbecomingly.

CHAPTER III

THE EYES

It is surprising how much of one's life and character can be read through the expression about the eyes and the nose.

The eye has been well named the "window of the soul," because of its delicate susceptibility to emotional impulse. This is the natural result of the controlling muscles being interwoven with a perfect network of nerves, which respond to the most subtle change of thought. Because of the delicacy of nerve and muscle here, the eye responds more quickly to thoughts than any other part of the face; particularly does it express ill health, fatigue or suffering. As the eye quickly responds to thought, so do the muscles and nerves here yield to treatment.

When it is realized that the ball of the eye, itself, has no expression, but that the difference is almost entirely due to the expression of muscle, resulting from habitual thoughts, it is interesting to study the particular curve of muscle, which brings out one idea as contrasted with the curve expressing another predominant thought; the muscles have been played upon by the thoughts in the same direction so many times that they have made lines,—sometimes so deepened as to become wrinkles.

Unfortunately photographers take away many of these lines, but a study of the characters of the individuals, upon the accompanying illustrations, will show how much life is read through the poise of muscles in the middle section of the face.

If the skin about the eyes becomes inelastic, wrinkles form in the deepest lines of expression, and the face becomes an index of the past life, rather than a free expression of present thought. As our ideas broaden and expand, it is well to keep up daily massage and to develop a well-nourished skin, that the old lines may be removed and the skin become elastic.

How intense has been the life, how vindictive the thoughts of the character illustrated by Figure 1! There is hatred here. There is deep-seated revenge. Life, with her, has been a continual combat. She needs to relax her struggles, so that the sunshine of love and sweetness may enter her soul; then she will look for goodness, and truth in those about her,—and she will find, in others, just what she is looking for in herself.

On the other hand, how restful and whole-hearted the thoughts of Figure 2! She may be a little too lenient for her own good, and she may express the predominance of physical appetite over the mental and spiritual being, but her atmosphere is warm, jovial and restful.

How judicious and well poised the life of Figure 3! Trust the affairs of family or state to her discretion. Mind and heart are well balanced. Her children will be reared to be upright, useful citizens.

Figure 4, expresses hauteur and arrogance, just by the direction of the muscles of eyelid and brow.

Figure 5 expresses stormy, fiery hatred,—not tenaciously held, until it has sunk into the woof of life, as in Figure 1,—but violent and short lived.

It is hard to realize that the eyes of Figure 6, expressing the joy of mere living, are the same as Figures 4 and 5, but it is true, and this is an excellent illustration of the flexibility of the eye muscles and their ready response to change of thought. The complete response to nerve impulse, instigated by thought, is due to the daily care given to the flexibility of the muscles of the face.

Figure 7 is a disagreeable old grouch. Wicked, because she arouses disagreeable, despondent discouragement in the minds of all who meet her. She is selfish, thinking of others, only as they may be of advantage to her.

Yet Figure 8 with the open, frank, motherly, ready-to-help eye, is the same as Figure 7, dominated by better thoughts.

Figure 9, expressing an insipid character, mental weakness and lack of will-power, is the same as Figures 7 and 8; as in Figures 4, 5 and 6, they illustrate the ready response of the eye muscles to the thought.

Under what a nerve strain has Figure 10 lived! Her desires have exceeded her capacity; in her intense effort to reach her goal, she has held her nerves so tense that mind and body have not been allowed to expand, or relax, sufficiently to accomplish her fullness of purpose, and she is in danger of becoming contracted by nature, as her nerves have from habit.

Nerve weakness, which must result in effecting the vital functions, is expressed in Figure 11. Exhaustion, shallow breathing and incorrect physical poise are indicated here.

The eye of Figure 12! Trust it not. It indicates sharpness, keenness and a self-calculating life of deception, if needs be, to win her point.

Figure 13 is a soulful artist eye, expressing a life receptive to higher emotions.

Ah! how much of the life of the silent hour he who runs may read! We are open books and it were easier to deceive ourselves, than to deceive others. If the habitual thoughts of our lives be narrow, our facial muscles will show it; if the thoughts be broad, generous, uplifting and beautiful, they will radiate through our facial expression and not only affect the lives of all who gaze upon our features in repose, but as we gaze upon our own faces in the mirror, they must inspire us to higher living. The influence of *one* good life is *so far reaching!*

Keep the thoughts pure and the ideals high and every life touched by yours shall respond and be uplifted.

Surely there is an education in the open book of the face as well as on the printed page.

We meet a friend or stranger, and the frown darkening the countenance makes us recoil, or the sorrow calls forth the note of sympathy, or the happiness, joy and brilliance of life sends through us a magnetic thrill, lifting us, as a bright ray of sunshine lifts heart and mind on a dark day.

God bless the women who are carrying to others the sunshine in their faces! The very sight of a sunny face upon our city streets, lifts more lives to the hill-tops than we shall ever know. Think of the uplifting, educational influence which one happy, joyous face can lend for three hundred and sixty-five days a year! One who is inter-



1



5



10



6



2



11



7



3



12



8



4



13



9

THE
HINCHERAN
GRADY

ested in the happiness of those about one will never go into the presence of others, carrying gloom to family and friends.

Care and Treatment In taking up the care and treatment of the eyes, I shall consider only that form of eye difficulty, which can be reached and helped through hygienic care and proper exercises for strengthening and stimulating the nerves and muscles controlling them and the natural cushion upon which the eye rests. To go into details of the anatomy and physiology of the eye, and the refractions of light, with the images produced upon the retina, would require a large volume.

The treatment of defective vision caused by change in the form of the eye, such as astigmatism, hyperopia, or myopia, and diseases of the eye, belong to the oculist. I will, however, take up the causes of these difficulties.

It is needless to state that all glasses should be prescribed by an oculist,—the optician, as a rule like the druggist, being qualified merely to fill prescriptions, but not to diagnose nor prescribe.

The mechanism of the eye is so delicate and its functions so important to the happiness and development of every individual, that too much care cannot be taken to keep the eye strong and thus arrest any weakness or impending danger which may threaten it.

The eyes should be clear and bright. If not abused, and if the system be stored with good vitality and the eyes kept free from inflammation, or weakness, they will respond wonderfully in color and expression.

When working, reading or writing, the head should be erect. Reading while reclining is bad for the eyes. Care should also be taken to protect the eyes from a glaring light. Always arrange the

light so the bright rays shall fall over the left shoulder, a little from behind directly upon the work. The eye is truly the most delicate of optical instruments and its lens, adjusted and focused by tiny muscles, is most susceptible to the varying conditions of light and distance.

If your work has required close application of the eyes during the day, always rest them at night, but if the reverse, and the eyes have had "long distance" work, it will not injure them to read by a good steady light in the evening.

Give the eye complete rest, while the body rests. Be very particular to use opaque shades on the windows of your sleeping room, that all light may be shut out at night. The eyelids are only a partial protection and many wrinkles may be traced to the effort to protect the eye in sleep by drawing the eyebrows together in a scowl. This expression is given by the slightest change of the muscular poise of the eyelids and the muscles about the eye, rather than by any change in the eye itself.

The difficulty with the average person is that he is apt to use little of his own reasoning power and common sense in the treatment of the eye.

If the blood supply be defective by reason of poor circulation or impoverished blood, or because of nervous exhaustion; if the secretions be abnormal; or if there be any functional or organic change in the body, the eye may participate in the evil consequences. In the same way visual defects may influence the entire system.

Except in acute germ diseases, all actual diseases of the eye are due to impoverished blood or to poor circulation, the proper amount of nourishment not being carried through the arteries to maintain

its strength; or they are the result of impurities and deposits that form on account of poor elimination. When the circulation is impeded, there is a great lack of nourishment, and hence a general lowering of the strength of both muscles and nerves.

It will readily be seen that treatment for the eye must always consist partly of bodily exercise for perfect circulation to bring plenty of fresh nourishment and to carry away all waste.

The eyes are intimately connected with the most important nerve centers and their muscles and nerves respond to exercise and hygienic treatment quite as readily as those in other parts of the body.

The nervous system may be compared to
Nervous System like an electric battery, with numerous attach-
an Electric Battery ments. If one of the latter be used too much, or requires too strong a current, there is less electric force for some, or all of the others. Dead or weakened cells, which add more resistance to the current, will also call for more force from the battery.

If persons with abnormal eyes must use their eyes much, an excess of expenditure is the result, and the economy must suffer. The nervous force of the battery in that case is overdrawn, the reserve is forever being used up, and a nervous breakdown is the consequence. It is remarkable how the use of eyes in abnormal condition will often completely deplete the nervous force of an individual. (The nerves controlling the eyes are illustrated by Figure 2.)

The nerve centers of the body may also be likened to the central exchange of a telephone system; they are all connected and if one nerve is affected the whole nerve center may be affected; if this condition continue for any length of time, the other nerve centers

will be thrown out of harmony through sympathy and in an effort to assist the weakened member.

Unless the eyes are kept well and strong by proper attention to the general health and to the development of needed strength in all nerve centers, nervous headaches will result.

It must be borne in mind that the eye has

Influence of the Eyes	a nerve supply other than the optic nerve.
Upon the	
Digestive System	The body is made up of dependent systems,—not separate, free organs, but kindred ones.

These organs are composed of dependent tissues and each secreting cell is supported by the connective tissue-cells around it; both depend upon the different systems,—circulatory and nervous,—for their sustenance.

As shown above, if the circulatory system be abnormal, every tissue and organ suffers, and if one or more organs are so diseased or abnormal as to interfere with the proper functions of this system, all other organs are thereby affected through related nerves.

As this holds true in all the different systems, so the influence of the eyes upon the digestive system, and vice versa, is partly, but not wholly, exerted through the nervous system.

The functions of the digestive organs are under the constant control of the nervous system; the amount of blood to each organ is regulated by the nerves, the secretions excited and controlled, and the movement of the organs regulated. This is especially true of the stomach and intestinal movements.

If too much nerve force has been expended upon other activities, the nervous control of the digestive system is not normal. The other systems,—the blood, lymph, etc., affecting this particular system, are

also not properly regulated. Therefore, eye-strain will often give rise to nausea, loss of appetite, constipation and intestinal and stomach troubles. It often affects the real digestive processes in the manner stated, and, in return, influences nutrition and assimilation. The nerve tissue itself is thereby weakened, because it is undernourished.

It is not, therefore, surprising that a very large proportion of people with weak eyes are troubled with nausea, vomiting and headaches. Many times after the eyes are strengthened by exercise or properly fitted to glasses, the nausea and vomiting will entirely cease.

Constipation is often the underlying cause of eye trouble and on the other hand, it is often relieved, when the eye-strain has been remedied.

A great many other functional digestive disturbances such as flatulency, pyrosis, colic, etc., are caused by eye-strain. It is easy to understand that an exhausted nervous vitality may cause otherwise healthy organs to act imperfectly. Even the memory is often affected by the eyes.

It must not be forgotten that nausea and other symptoms usually attributed to the digestive tract, are most often cerebral in their origin. There may be nothing wrong with the organ to which the sensation is referred; i. e.: the stomach may be perfect, but a look from a dizzy height, or out of the window of a rapidly moving car, is often sufficient to give rise to this nausea. No doubt sea-sickness is greatly due to the disturbance in our sense of equilibrium, and is always aggravated by looking at objects on the shore or on the water, when one is on board a ship.

The digestive system, on the other hand, is often the cause of symptoms attributed to the eyes. The latter may be abnormal, but

still capable of performing their functions without strain or discomfort, if the stomach and other digestive organs are normal.

Poor digestion influences all other systems and processes of the body, such as the blood, lymph and muscular or nervous systems, therefore it must be corrected if such delicate organs as the eyes are to give true service.

There is no doubt but that, if the glands, blood vessels, nerves or tissues of the eye have not been destroyed, Nature, if properly assisted by exercises, diet and hygienic care of the body, as well as of the eyes, can bring them back to a normal condition,—unless their weakness be due to old age.

The arteries and veins surrounding the eye are
Effect of completely net-worked through the tissue of the eye
Circulation and bring the real life, vitality and health to the eye.

The arteries furnish nourishment and energy to the eye nerves and other tissues, while the veins and lymph channels carry off the waste, impurities and deposits from all parts of the eye. It can, therefore, be seen, that if anything clogs the arteries or veins, so that the poisons are not thrown off, the eye may become diseased. Until the circulation is equalized through the arteries and veins, Nature cannot assist in restoring the eye to its normal state and functions.

It may not have occurred to you that sight is the
Abuse of
Eyes only special sense constantly used during the waking hours. It is impossible to strain in tasting, smelling, or touching, and the strain in hearing merely consists in closely concentrating the attention to sounds.

There are two ways of abusing the eyes and destroying the sight; the first is external, and is caused by abuse and lack of protec-

tion, so that the secretions are weakened. The second, or internal causes, are due to overstrain and to improper eating, sleeping, living and poor circulation. In the average case, if the manner of living be corrected, a good circulation of pure, rich blood established, the general health restored, the eyes rested and bathed frequently in hot or cold water, as the condition demands, and all strain removed, Nature will do the rest and restore them to normal health and strength.

Control of the Eyes The eyes are moved in their sockets, turned in different directions and the eyeball contracted or relaxed to see objects at near or short range by muscles and nerves attached to the eyeball, as illustrated by Figs. 1 and 2. The normal vision and accommodation of the eye depends, therefore, upon the strength of these muscles and nerves.

If you wish to look to the left, the mind directs the nerves of the left side of the eye to contract; this contraction shortens the muscles of the left side and draws the eyeball to the left.

The rectus muscles, illustrated by Fig. 1, turn the eyeball in different directions.

If two objects be selected, one near the eye, the other at some distance, it will be noted that when the eye is focused so that the object near at hand is distinct, the one at a distance will be indistinct. Again, direct the thought to the object at a distance and the one near at hand will be indistinct. Clearly the eye has the power of changing the focus as directed by the mind through the muscles. This is done by changing the convexity or curvature of the front surface of the crystalline lens, partly through its own elasticity and partly through the action of the muscles controlling the eyes. The

ciliary muscle, which accommodates the eye to near and far vision, is within the eyeball, hence it is not shown in the illustrations. The nerves controlling it are shown on Fig. 2.

When the eye is to be accommodated for near vision, the ciliary or "reading muscle" contracts and shortens thus drawing the outer sides of the lens together, making it more convex. The more convex it becomes, the closer an object needs to be, to focus the image upon the retina. This may be illustrated by compressing a rubber ball. If the ball be compressed laterally it becomes more convex at the apex. If then the ciliary muscle becomes weakened, by reason of a general run-down condition of the system, by over-strain, as a result of too constant use, or by the general debility of old age, it will fail to contract and cause the curvature; thus the eye is focused only for more distant objects, and one cannot see to read.

The proper tone of the muscles and nerves must be retained or the eye will not be properly directed, and accommodation and convergence will be interfered with. It is not unusual to find the muscle of accommodation larger and more developed in one eye than in the other, but Nature has placed within the eyeball all of the elements and tissues for correcting any slight malformation or defect. The muscles of the eye are like muscles in other parts of the body; if used in a normal way, they develop and grow stronger.

In general debility the lens also loses its elasticity. It is then that glasses containing convex lens, focusing the rays of light upon a near object, are used; but clearly, glasses do not remedy the cause of the weakness. The general health must be built up. If the ciliary muscle can be strengthened by the use of water, hot or cold,—or

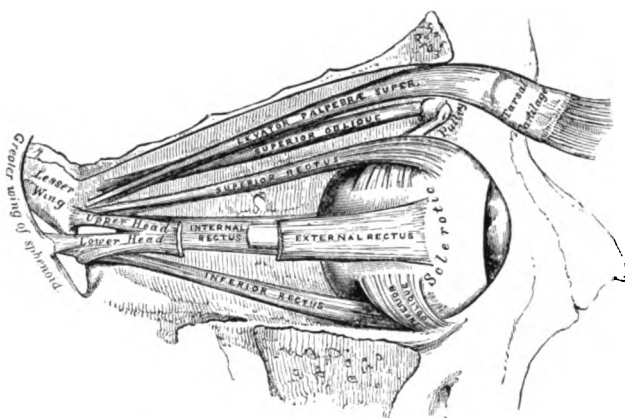


Figure 1—Muscles of the right orbit. (Gray)

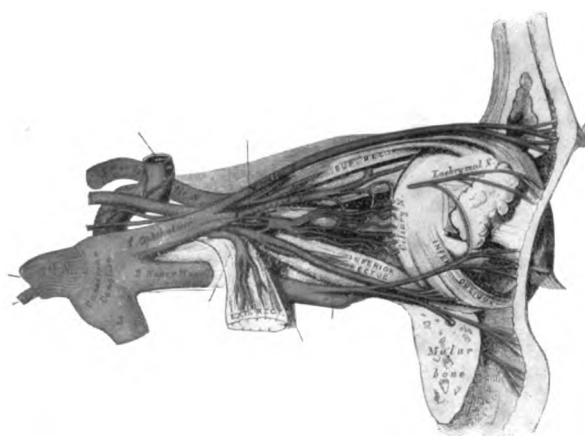


Figure 2—Nerves of the orbit and ophthalmic ganglion. (Gray)

THE
MIN CRERAR
COPY

both, as the occasion demands—, or by resting the eye from the effort to read, or to see things at a near range, or by building up the general vitality, the vision will adjust itself and glasses which may have been prescribed to bring the focus nearer, so that the ciliary muscles may not be overstrained, but given a chance to rest, may be discarded.

The question often arises why so many more people
Glasses wear glasses than formerly. People read and study more, thus straining the eye more, and doubtless the early age at which children enter school, the crowding of the school curriculum, with the attendant nerve strain and its effect upon the general health and development has much to do with this.

The indiscriminate manner in which an optician advises the use of glasses is little short of criminal. In the large number of cases glasses are merely crutches. They do not cure the difficulty and every attention should be given to correction of the cause of the trouble; when the cause is removed the glasses should be discarded just as you would discard crutches when a broken limb is healed. True, if one's eye muscles have become accustomed to the glasses you will experience some difficulty when you first leave them off, until the muscles adjust themselves to the change, just as you experience difficulty in using the muscles of the legs after their long rest when you first discard the crutches. Muscles strengthen by use, if not excessive, and they weaken by disuse.

If glasses are necessary, however, there should be no hesitancy in adopting their use. It may not be necessary to wear them always. If glasses be constantly worn, the muscles, being relieved of their necessity for contraction, will lose their elasticity and power of adjusting the lens.

Glasses to correct general weakness of the eye muscles should be worn long enough to allow the eye to rest and then only when the eye is to be subjected to an unusual strain. If glasses are worn for a time, because of general debility, or because of an undernourishment of the tissues, they can be removed when the cause is relieved.

If there be a structural difficulty in the eyeball, however, the glasses need to be worn continuously.

Astigmatism Astigmatism, which is perhaps one of the most common divergences from the natural development of the form of the eye, occurs when the curvature of the crystalline lens of the eye is not uniform; in consequence, the rays of light, which pass through each portion of the lens, will not be brought to a focus at the same point and the eye is termed astigmatic. In such cases the cornea is much more curved vertically than horizontally. It can be corrected by glasses fitted with cylindrical lenses. The difficulty is common, but often outgrown, unless glasses be constantly worn, which makes it chronic.

According to Helmholtz a small degree of astigmatism is present in almost all normal eyes. I believe it is a safe estimate to state that 99% of eye difficulties are diagnosed by physicians as astigmatism.

Near-Sightedness or Myopia The cause of myopia (short-sightedness) usually depends upon the congenital and frequently hereditary elongation of the eyeball; the lens of the eye is more convex, as seen from the front. The relief is in a concave lens, which causes the rays of the light to converge so they can be brought to focus upon the retina. An over-tense condition of the nerves may too strongly contract the sides of the eye,

causing the lens to converge for a time. If this is true, glasses may be discarded when the nerves are relaxed.

Long-Sightedness or Hyperopia The cause of hyperopia (long-sightedness) is generally due to imperfect development of the eye.

The hypermetropic eye is elongated vertically, so that the lens of the eye, as seen from the front, is flattened and the relief is in a convex lens, as parallel rays would otherwise come to a focus behind the retina.

Old sight or Presbyopia The mechanism of the eye is marvelous. The lens is most delicately elastic but in age becomes harder, less elastic, less easily adjusted, and the power to increase its curvature is lost. In a word, the function of accommodation begins to fail and the eye, for near sight, must be fitted with the convex lens.

Shape of Eye Changed There is no doubt that the shape of the eye is changed by the habits of the childhood. Care should be taken not to frequently hold objects too close to the young babe, or the lens may become too convex, resulting in near-sightedness. Children should not be given too close work, but allowed to play out of doors much of the time where the range of vision is long.

Too close application of the eye of the child to desk work at school is to be guarded against, and herein lies one grave danger in sending the child to school too early. Eight to ten years of age is young enough for a child to enter school. Work in the early grades should be done from charts at a distance and every care should be taken to have the school-room properly lighted. The

children should be so seated that the light falls upon their books from the back. They should not face the light and both children and adults should have opaque shades, closely drawn over the windows at night, that the sleeping room may be dark.

It is a common occurrence for children's eyes to give out and show signs of weakness and disease, between the ages of twelve to fifteen. School children's eyes give out so frequently that they should be taught how to use and not to abuse them. The perfect health of the child means much more than the finishing of a given number of studies at a certain age. The cramming process and the goaded ambition of so many public school children is a dangerous menace to health.

Granulated Lids There are many varieties of granulated lids, depending upon the part of the membrane affected, the kind of poison that gets into the eye, the size of the swelling in the affected glands, etc. It is a contagious affection. The germs can collect and the disease be transmitted to others by neglect of hygienic rules in such matters. Care should be taken that the difficulty be not conveyed through the careless use of wash cloths, towels or the eye cup.

The symptoms of granulated lids vary with different people, the most common symptoms being a roughness of the lids, a scratching irritation of the eyeball, similar to particles of sand in the eyes, often accompanied by a sticky secretion from the eyes.

The mucous membrane of the lids becomes thick and rough, owing to the little granular lumps that form on them, and the under side of the lid will be red, swollen and the glands much enlarged. This enlargement is caused by poisonous matter being located in the

under part of the upper lid; this burrows into the glands of the lining membranes, causing inflammation and other conditions resulting in what is called granulated lids.

In all cases of this kind, give attention to the general health first, keep the bowels open and the vital organs active. Let the diet be plain, consisting of good nourishing food, meat (not fat), vegetables and fruits in reasonable quantities. Tea, coffee, alcohol in any form, greases and fats must be eliminated. Fresh air, exercise, and plenty of sleep are very essential. If the lids do not respond to mild and hygienic treatment, the oculist should take the case in hand.

The boric acid wash given on page 157, is excellent for the relief of granulated lids, and may be used in the eye cup night and morning.

Ninety per cent of eye diseases originate from **Eye Diseases** weakness, neglect, or from eye-strain. Eye diseases should be treated only by specialists. A large number of eye difficulties are symptoms of other diseases, and the greater majority should be first treated through their causes. Iritis may, for example, be associated with rheumatism, diabetes, syphilis, gonorrhea, etc., and it is useless to attempt to correct the inflammation of the iris, without correcting its cause.

Diseases of the liver accompanied by jaundice sometimes cause yellow vision (xanthopsia) and it is claimed that retinal hemorrhages sometimes occur in these cases. All eye weaknesses are helped more through exercise of the eye muscles and special exercises for strengthening the vital organs than by local treatment, because through this treatment the blood and circulation are built up and all bodily functions are aided.

A cataract is not a growth on or in the eye, as is Cataracts commonly supposed, but is the result of the lens of the eye turning white. Cataracts usually form slowly, but in some cases appear suddenly in a week or even a few hours. When only one eye is affected it is but a matter of time when the other will also be affected. This condition should be treated most carefully by the best oculist obtainable. The condition is most serious.

In eczema of the eyelids, the free edges of the Eczema of the Eyelids lid, or the skin over the orbital margin of the tarsal cartilage, becomes affected. In such cases the hair follicles become inflamed and there will be a purulent, glutinous discharge, which causes the eyes to stick together. The lids become swollen, with tiny crusts between, or glued to the lashes. In eczema of the face there is usually a swelling and puffiness of the lower lid.

Eczema of the eyelids is due to various constitutional causes. Various soothing lotions are required for this and sometimes it is necessary to extract the eyelashes. When the eyelids are affected by eruptive fevers the case requires tonic treatment.

The scalp, which is in close proximity, must be carefully looked after in all cases and if there are marked symptoms of dandruff, the head must be shampooed *once a week*, and the scalp treated as directed in the chapter on "The Hair."

In treating the eyelids for eczema, cleanse the edges of the lids very carefully with a weak alkaline solution applied with a very soft camel's hair brush. They should then be dried thoroughly, but gently, and anointed with a cold cream salve, made from equal parts of cold cream and zinc salve, or equal parts of cold cream and lanolin.

When the eyelids are closed, as often happens in acute cases,

they may be bathed frequently with a warm solution of boric acid at a strength of one to two drachms of boric acid to a pint of water. This solution may be applied to the eyes by soaking strips of soft lint or cloth in it, and laying them over the closed eye lids for as long periods as possible, several times a day.

Styes are tiny boils caused by inflammation arising in **Styes** the hair follicles from which the eyelashes grow. Hot applications will give relief and the pain will be greatly lessened by bathing the effected eye every hour with hot water and boric acid. Dissolve a tablespoonful of the latter in a pint of water and heat.

If the sty festers or comes to a white head, the hair springing from the boil should be pulled out, so that the retained matter may have an outlet through the little hole where the hair is removed. This can easily be done with a small pair of tweezers.

The common lid-tumors can be lanced by almost **Lid-Tumors** any one of the least surgical skill; they are simply retained cysts. Thorough curetting, to destroy the sac, must follow incision, or they will recur.

These days of automobiling have brought about **Motoring Affects Eyes** eye affections which require new devices for protecting the eyes from serious difficulties attendant upon exposure to wind, dust and strong sunlight. There is always danger of serious inflammation resulting from a swift or long automobile ride, unless the eyes are properly protected. A chiffon veil is a slight protection, but regular automobile glasses, adjusted and fitted closely to the forehead and cheek, so that no dust can sift through, are safer and more satisfactory.

The effort of nature to protect the eyes from dust and strong

light contracts the eyebrows and produces many vertical wrinkles between the eyes.

A strong wind causes irritation, inflammation and a burning and watering of the eyes, and if alkali poisons fill the air at the same time, and are blown into the eye, the irritation is most severe.

Heat and smoke quickly irritate, causing the eyes to water, smart and become inflamed.

Extreme cold will often make the eyes water profusely.

Strong sunlight will tire and blind the eyes.

Some of the symptoms of eye-strain are a twitching
Tired Eyes of the lids, sensitiveness to light, or blurring of letters when reading. All of these symptoms should be sufficient warning to take prompt steps for relief. The use of the eye cup with the cold solution of boric acid and water should be attended to daily.

Never read in a subdued light or in the waning twilight. Hold your book or paper about on a level with the eyes, and from fourteen to twenty inches away; the closer a book is held to the eyes, the greater is the muscular and accommodation strain.

When your work is such that the eyes have close application for any extended length of time, it will be found restful to change the accommodation of the eye from time to time by simply looking out of the window, or away at any distant object. When they are in constant use at close range, the strain will often show in a drawn expression of the face, the forehead will show wrinkles and the eyelids become red and inflamed.

When the eyes are tired or strained from over-use, the only course is to close and rest them.

Great relief may be obtained by lying down with the eyes closed. Have a basin of cold water at hand beside you. Dip a cloth into it, wring fairly dry and place over the eyes, frequently dipping the cloth into the cold water to keep it sufficiently wet.

If the eyes are red and inflamed use hot instead of cold water.

Be sure to sleep in a dark room that the eyes may rest at night.

General exercise to start a forceful circulation and deep breathing exercises will both rest the eyes and tone the nerves. For best effect the exercises should be followed by complete relaxation. The blood feeds the tissues in rest after exercise.

Puffs under Eyes Puffs under the eyes are often an early sign of disease of the kidneys or of the heart. Relief in either case lies in constitutional treatment for the general system and particularly for the strengthening of the kidneys, the circulation and the heart. A good circulation will do more than anything else to remove this defect.

Eye Drops Atropin is an irritant narcotic. It is extensively used by oculists to dilate the pupil and paralyze the nerves of accommodation. By keeping these nerves in this condition a few days, it is always possible to determine whether a headache is caused by the eyes.

A headache, which does not yield to the daily instillation of one per cent atropin solution cannot be an eye headache. Of course, this should not be applied except by a physician or an oculist.

Weeping Eyes Weeping eyes, which cause a constant overflow of tears, are usually due to obstruction of the tear duct.

This is one-half inch long and carries the tears from the upper part of the nasal duct into the passage of the nose. A large

number of cases is caused by some affection of the nose. For such, argyrol renders not only great therapeutic but prognostic service, as it penetrates into the lachrymal sac, passes down the nasal duct, and is blown freely from the nose.

Argyrol is a comparatively new compound and the fact that it is an efficient, harmless antiseptic, though not an active astringent, admirably adapts it for use in the eye and accounts for its general use in the medical profession. It is especially helpful in acute conjunctival inflammation, so much so, that many of these cases no longer find their way to the specialist.

For acute infections, catarrh, or "Pink Eye" as it is called, the instillation of a 10% solution of argyrol, and one-eighth to one-fourth grain to the ounce solution of zinc sulphate on alternate hours, comes as near a specific treatment as possible. The zinc sulphate is an astringent and the argyrol an antiseptic. In purulent cases the argyrol should be instilled every fifteen minutes, or half hour, until all pus has ceased, and then the use of an astringent begun.

As argyrol is the only non-irritating antiseptic which can be used in the eye "ad libitum," it should be used in case of all eye wounds.

Removing Foreign Substances

When, by accident, any foreign substance, such as a particle of dust, or a cinder, has lodged in the eye, pull the lower lid of the affected eye well down and at the same time look up toward the ceiling. This exposes the lower part of the eyeball, and the foreign particle, if visible, may be removed. If it is not on the eyeball, then draw the upper lid well down over the lower and, holding the lid in this position, roll the eye around several times; if on the upper eye-

lid it may thus be wiped off by the lower one. If not on the upper lid draw the lower well up over the upper. If the cinder can be located, take a clean linen handkerchief and, slightly twisting one corner, gently remove it from the eye; then wash the eyes with a solution of boracic acid, using the eye cup as directed on page 157.

If the foreign particle cannot be seen, and the natural flow of tears does not bring it out, pull the lower eyelid down, drop a whole flax seed on the lower lid, and allow it to slide around the entire eye ball. A gelatinous moisture will form on the surface of the seed, so that it will move around the eye safely, and it will usually pick up, on its sticky surface, any small particle, unless it is too deeply lodged in the cornea of the eyeball, in which case it is best to have an oculist remove it and apply a soothing lotion.

As stated above, the nerves about the eyes are most delicate and respond at once to worry and displeasure, occasioned either by outside influences, or by physical ills. A derangement in any part of the body, which in any way affects the nerves, the circulation, or the composition of the blood, so acts upon the fat globules that they almost disappear, both from the eyelids and back of the eye.

If the muscles about the eye become weakened and the cushion of fat upon which the eye rests, disappears, the eye sinks in the socket and dark circles appear, while the pigment in the skin about the eye often increases, making the skin itself darker. No part of the face so quickly expresses the general condition of the physical being and so accurately registers the degree of nerve strength, or poise of brain, and character of thought, as the eyes, and they respond most quickly to the general toning of the system.

No local application will correct dark circles under the eyes. The circulation, general vitality, pelvic organs, nerves and kidneys must be strengthened.

Eye exercises, with the free use of cold water, will correct sunken eyes and keep the muscles about them firm, unless the defect is the result of ill health. In that event, of course, the health must be built up first.

For the removal of wrinkles about the eyes and as an aid in building up the tissues about them, facial massage to build up all of the connecting muscles should be employed and skin food, or face cream, used to keep the skin elastic. It must be remembered that the expression given to the eye depends greatly upon the tone of muscles about it.

HYGIENIC TREATMENT FOR THE EYES

Hot and Cold Applications The use of cold water upon the eyes, or the alternation of hot and cold water, together with exercises and proper attention to diet, bathing and breathing, which insure complete metabolic activity and strength of the system, will improve not only the strength and elasticity of the ciliary muscles, but the elasticity of the lens as well, and by care of the general health the eyesight may be preserved for a much longer time.

It will be remembered that, upon the strength of the ciliary muscles and the nerves controlling them, depends the normal focus and the power of the eye to accommodate itself to change of vision.

The general principle governing the application of hot and cold water must be borne in mind. Hot water is applied when muscles and nerves need immediate relaxation and when the capillaries have been unduly overstrained or distended; that is when the eyes are blood-shot or the eyelids red. Hot milk is even more salutary than hot water in case of inflammation.

Heat should be applied to the eyes by wringing cloths out of hot water or hot milk and laying them over the eyes. Never make the mistake of applying heat with a hot water bottle over this compress.

Applications of hot cloths give relief, in incipient abscess formations and are generally useful in all affections of the eye, save those of conjunctivitis (inflammation of the mucous membrane cover-

ing the anterior portion of the globe of the eye). This inflammation is often catarrhal.

Poultices should never be used about the eyes. Hot ones have been known to entirely destroy the sight.

Cold water is used when it is desirable that a better strength of the metabolic activity be gained, as in the case of a general weakened condition of the eyes, or in case of conjunctivitis.

The use of cold water upon the eyes strengthens the muscles and stimulates the nerves of the eyes just as a cold water bath strengthens the skin.

Cold water, to create a better activity in carrying away waste and assimilating nourishment, may be alternated with hot water for relaxation, with excellent results. The alternation of hot and cold water stimulates the nerves and invigorates the circulation.

Cold water may be applied by wringing a cloth from cold water and laying it over the eyes, by dashing it upon the eyes with the wash cloth morning and night, or by use of the eye cup. The eye cup is the most effective means, as suggested below, but the quickest means is the wash cloth.

Any sudden inflammation of the eye can be retarded and relieved by the application of hot and cold water, alternated. When bathing the face in cold water, dash the cold cloth upon the eyes about fifteen times morning and night, being careful not to press upon the eyeball. This plan should be made a daily habit.

Eye cups may be purchased at any drug store for **Eye Cup** about fifteen cents, and no medicine closet should be without one. They are useful in applying cold water and antiseptic solutions.

**Boracic Acid
Solution**

A mild antiseptic, disinfectant and eye cleanser to assist in allaying inflammation and to insure against danger of microbes in the water, may be made by adding a tablespoonful of boracic acid to one pint of distilled, or pure soft water, which has been boiled. This should be put into a bottle, corked and kept in a cool place.

The proper way to use the eye cup is to fill it half full of the solution; hold the head down, fit the cup to the eye socket, so the contents will be retained; then holding the cup firmly in position, throw the head back, at the same time inverting the cup; then open and shut the eye slowly 10 or 12 times, rolling the eye when open.



How to use the Eye Cup

This will strengthen the eyes and keep the muscles about them firm and vigorous and the nerves toned. Bathe them night and morning, allowing the solution to thoroughly wash the eyeball. Roll the eyes in a circle several times while the solution is about them.

The above solution may be put into the eye twice a day with an eye dropper if preferred, but if the eye be rolled freely, the eye cup

will be found more effective. It should be used regularly each night for an eye cleanser; it is especially good for granulated lids or sore eyes, which so often trouble school children.

For eye weakness alone, glasses should never be put on children, but the boracic acid solution should be used each night faithfully, to cleanse the eyes from all poisonous matter and stimulate the nerves.

Lead washes should be barred.

Another excellent eye wash which may be applied with the eye cup or the eye dropper is made from 2 oz. of camphor water and 2 grains of boracic acid. This is especially good for watery eyes.

If the eyes are inclined to smart and become red when out in the cold, apply the following astringent with the eye cup:

2½ oz (1 wine glass) distilled water

2½ oz (1 wine glass) Pond's Extract

An excellent tonic for the eyes, is made from
Tonic for Eyes 1 oz. of distilled water and 1 grain of alum. Keep bottled in a cool place. Apply with an eye dropper, by holding the head well back and the eyes wide open. Squeeze one drop into each eye, close the eyes and roll them around from side to side two or three times to get the liquid thoroughly under the lids. This will freshen the appearance and feeling of the eyes wonderfully and will not harm them.

If the eyelids are red, sore or inflamed and easily
For Inflamed Eyelids tired, compresses of hot milk or hot water, kept thoroughly hot for fifteen to twenty minutes after retiring, leaving the last compress on the eyes over night, will allay the inflammation. These applications may be used at any time

during the day, but one should avoid exposure for an hour or two afterward. This is one reason why it is well to apply them after retiring.

The cream of sweet milk is very soothing and nourishing, and will be found a splendid wrinkle eradicator, if used daily. It not only soothes, but feeds the tissues, and is especially good for the little wrinkles at the outer corners of the eyes. If the dish that holds the milk, or cream, is set into a basin of hot water long enough to slightly heat the cream, it will soak into the skin more readily. Rubbed over the forehead and temples gently, it gives a soothing effect and helps to remove the lines of worry and care.

If the eyes are "glued together" by dried excretions, which have escaped from them at night, bathe freely in hot milk night and morning.

When the eyes are highly inflamed and sensitive to the light, it is well to stay in a darkened room and apply hot milk, or hot water, as above.

The eyes should be given daily all around exercise for strengthening and stimulating the muscles back of them,—at least they should be opened wide three or four times a day.

EYELIDS, EYEBROWS AND EYELASHES

An abundant, full eyebrow, prettily arched, lends strength and softness to the face, and may be as easily cultivated as hair on any other part of the body.

The eyebrows, as well as the lashes, are a protection, and prevent perspiration and other foreign matter from rolling off the forehead into the eyes. They should be carefully trained and shaped, especially if they are at all shaggy, or inclined to grow the wrong way, as they will do when very heavy. Oftentimes the whole expression of the face is changed by untrained, ill shaped and shaggy brows.

The hairs in the eyebrows grow in two directions; the upper row slants downward, while the lower one slants upward. To train them properly it is a good plan to rub them with the fingers occasionally and also to brush them when making the toilet, with a soft eyebrow brush, kept for this purpose. If the line of the eyebrow is uneven, and there are any long hairs which spoil the curve, these disfiguring hairs may be removed with small forceps or tweezers.

Artists have long appreciated the importance of this feature. It may immeasurably add to or detract from a comely face. It is often the case that one feature, if it is exceptionally good, will divert attention from less attractive features. A woman with one fine feature often will be remembered by it and her homely features be forgotten.

Nothing lends such a bewitching lustrous eye shading, as a full long eyelash, which tantalizes the beholder with the unconscious desire to look into the depths beneath.

The length and luxuriance of eyelashes depend upon the condition of the lids and the amount of care given the eyes themselves, as well as upon the character of the blood and its perfect circulation. There is a diversity of opinion as to whether or not the eyelashes should be cut, but it is now generally conceded that cutting stimulates their growth, thickens them and invigorates their general health.

This trimming or clipping of the eyelashes must be done very carefully and evenly. Use a pair of curved scissors and clip only the very tips. This should not be done oftener than every three months.

To increase the growth of the lashes, bathe the eyes in hot water or milk just before going to bed each night; then apply a very little pure vaseline upon the edges of the lids, using the point of the orange stick as for the eyebrows, allowing it to remain over night.

If the eyelashes are thin and straggling, it not only mars the beauty of the face, but the eyes are apt to become inflamed or weak, because they are not properly protected from particles of dust and dirt. When the lashes grow as they should, they will be in several distinct rows on the edge of the lid, there being sometimes as many as four rows.

The oil glands of the eyelashes are quite large and their secretions prevent the lids from adhering to each other.

Care should be exercised in wearing glasses, that the lashes do not come in contact with the glass, as this will stunt their growth and spoil the shape.

Slitting the Eyelids The practice of slitting the skin at the corners of the eyes to make them appear larger and deeper, is a very risky one, even when the operation is per-

formed by an expert surgeon. It is not necessary for any woman to resort to any such expedient if she will practice simple exercises for keeping the eyes fully open, bright, and wide awake.

Eye Exercises As one approaches the meridian of life, the muscles and nerves about the eyes need daily exercise to keep them firm and strong. On account of their delicacy and the looseness of the skin about them the massage of the surrounding tissue should be done very carefully.

The little lines that come around, below, and at the outer corners of the eyes are not, in all cases, due to age, but to eye-strain, lowered vitality and lack of bodily care generally; in other words they are "tired lines," which nothing but complete rest and proper treatment will eradicate.

Water and exercises for the muscles and nerves about the eyes, help to stimulate a better circulation, so that the toxins and waste matter are carried away through the veins and lymph channels. By removing these toxins, the eyes are relieved and rested; they assume a brighter and more healthy appearance, the muscles take on a new tone and the activity of the skin is increased as the proper elimination of waste, through the right channels, is promoted; the skin is made more elastic by the nourishment brought to it through more blood and more readily shrinks to the size of the tissues beneath.

Massage of the eye should be applied with very great delicacy of touch.

Before attempting any movement for the eyes, see that the hands are clean and that the skin immediately about the eyes is lubricated freely with a cold cream, pure white vaseline, olive oil, or lanolin.

Vaseline is particularly valuable for the massage about the eyes because it stimulates the hair follicles in the lids and lashes.'

**To Promote Growth
of Eyebrows** Very thin eyebrows will often give the face a bare, over-inquisitive or surprised look and if the brows are thin, pencil them with vaseline, applied with the tip of an orange stick.

Study the contour of your eyebrows as related to the expression of your face. If they are too straight, you can arch them by penciling a little vaseline just over the center of each eyebrow, if too arched, "pencil" the vaseline at the outer edges only. Use only a little vaseline, each night, penciling always the same, and do it regularly, *every* night. Your efforts will be rewarded by a soft, silky growth, just where you want it. A gentle, rotary massage of the eyebrows each morning and each night before applying the vaseline, helps to stimulate growth by stimulating circulation; but do not massage after applying the vaseline, else you will widen and destroy the contour you are so carefully cultivating.

An eyebrow brush should be kept upon the toilet table and used as frequently as the hair brush. It will encourage good circulation through the skin of the brows and thus nourish the roots and promote new growth.

**Coloring the
Eyebrows** Nature provides the coloring of the eyebrows best suited to the face and I am not in sympathy with coloring the eyelashes or eyebrows. When one wishes to do so, however, an eyebrow pencil can be bought for that purpose, or a common lead pencil will serve the same purpose if it is of soft lead. Care should be taken, if the brows are darkened, to follow the exact line of the natural eyebrow, also judgment must be

used that the brows be not darkened too much, or they will give the face a grotesque or artificial appearance.

The woman who wishes to make the most of her-
Color Effect self will never neglect to enhance the value of the expression of the eye.

The color of the eyes may be deepened and they may be made to appear larger by wearing colors which bring out the lights and shadows fully; blue eyes will be deepened and the color brought out strongly by wearing a blue gown or a suggestion of blue about the face while a band of black velvet at the throat will often deepen the color of dark eyes.

One can emphasize the color and depth of the eye very materially by selecting a gown or hat with some trimming near the face, which is a little deeper shade of blue, brown, or black than the eye. The blue of a gray eye is brought out decidedly by a gray blue, while light gray makes a gray eye look faded and tired.

A brown eye is made deeper brown and more lustrous by brown of a deeper, more lustrous shade worn near the face, while a light brown gives the eye a faded look.

In the selection of a color to bring out the eye, either emphasize the shade by selecting a color of deeper intensity, or by selecting a contrasting one.

DON'TS FOR THE EYES

Don't read in a dim or flickering light, as it puts extra work on the ciliary muscles in their effort to sharpen the sight.

Don't sit tied up in a "bow knot," with your head bent over, when reading.

Don't read lying down.

Don't read until your eyes ache and blur.

Don't read in street car, or train.

Don't strain the eyes by reading, when recovering from a severe illness.

Do not wear large-dotted veils. They keep the focus of the eyes constantly changing. If veils are worn they should be thin and of large, plain mesh.

Don't leave a cinder in the eye over night, or you may find an ulcer in the morning.

Don't "squint" the eyes, for it develops ugly lines and wrinkles in the forehead.

Don't sleep in a light room.

Don't use poultices on the eyes.

Do not form the habit of rubbing the eyes. If the eyes itch or burn, bathe them in either hot or cold water. Rubbing the eyes many times leads to inflammation and injury of the sight.

CHAPTER IV

THE NOSE

The beauty of the face, as well as the nature it expresses, depends largely upon the profile, and no features so directly affect the facial contour as the nose and the chin. A study of the types of noses is an interesting character study.

Since ancient times, the nose has been considered the "featural index" to the character of its owner. No one knows this better than the artist, who must, to a great degree, portray the character of his subject by the outline of the nose.

The illustrations of character, on the accompanying plates of eyes and noses, give a good idea of the diversity of expression possible. Marvel of marvels! Nature never repeats herself; the study of millions of faces reveals no two features alike.

The shape of the nose depends very much upon the bridge, which is formed by the two small bones placed together, so as to make an angle at the top. If these two bones are placed closer together at their junction with the cheek bones, the angle at the top is more acute and the nose will be thin. If the bones are spread at the base, the angle at the top is blunt and the nose will be broad at the base, hence the broadening or the narrowness of these bones at the base may change the shape of the nose of the young child.

Nose Indicates Temperament Will power, aggressiveness, materialism, weakness and refinement may be expressed by the nose.

Wide or prominent nostrils usually indicate a highly sensitive nature. The aquiline nose indicates refinement and sensitiveness, while an abnormally large or pug nose suggests material and often gross tendencies (see Figures 1 and 2). Yet a pug nose may be the result of a lack of care in childhood, when soft, yielding bones respond so readily to gentle pressure.

A very low bridge denotes a dominance of the physical nature, as shown in semi-civilized and savage races, and a decided lack of artistic temperament, or literary taste. (See Figures 1 and 2.)

Artists, in all ages, have taken the Grecian outline as the type of a perfect profile. In this nose there is but a slight downward curve at the junction of the nose with the forehead, making almost a straight line. This high bridge is commonly considered the expression of an artistic nature, with a literary turn of mind. (See Figs. 10 and 11.)

However, the deep thought of practical men of affairs, who have artistic temperaments, has tended to bring the forehead a little more into prominence, so that the straight, Grecian line of nose and forehead is not so often seen, the forehead projecting so that the bridge of the nose, at the top, may be moderately high, yet the forehead so protrudes as to make a slight concave curve, at the junction of the forehead with the nose.

Voice Culture Upon the shape of the nasal passages depends, to a degree, the quality of voice tone, the nose being a very important factor in tone production. If the nasal passages are not kept free and open, the result is a tone,

ordinarily known as "nasal." The ear of the mother should be alert to detect any stoppages in the nasal passages of the child, which may indicate adenoids, polypi or catarrh. These can be detected through the voice.

The quality of the voice has much to do with the comfort and happiness of those about us and with the impression we make upon others; it also has its reflex action upon ourselves. Voice culture,—the production of tone,—is a subject which should be studied by every woman of culture and refinement,—particularly by the American woman.

The nerve tension under which the American woman lives, as well as the changeable climate, tends to develop voices which are harsh, rasping and shrill. We should learn to modulate the voice and to control the throat and diaphragmatic muscles, so that our voices may not penetrate beyond the necessary limit. Surely, "A soft voice is an excellent thing in woman"; it is a mark of refinement.

It is possible during the growing years to
Shapes of shape and mould the bones of the nose. In later
Noses Changed years, the contour of the muscles may be changed, to a great extent, by proper massage, but not the bones.

In washing the faces of children, mothers and nurses should watch for defects along this line. If there is a slight malformation, it can often be wholly corrected by carefully and gently moulding and massaging with the fingers.

If the bridge of a child's nose be low, while the bones are soft and pliable, it can be slightly raised by gently and regularly pressing the nasal bones together at the base, thus raising the bridge to a more acute angle.

When there is a serious deformity, it should receive surgical attention, while the child is young. If injuries are sustained by a fall or accident the difficulty can usually be remedied by a surgeon.

In the young, the nostrils are easily stretched out of shape, and care should be exercised in so simple a process as the use of the handkerchief or a wash cloth. A nose can be eventually mis-shaped and deformed by the habit of twisting it in wiping with an upward, rough movement. Children should also be cautioned against the removal of any accumulation from the nose by means of the fingers. If care be not exercised, the nostrils will be enlarged and their shape spoiled; besides, it is a very obnoxious habit.

In case of nasal catarrh, blackheads, or pimples, regular massage of the nose is important, as it quickens the circulation and strengthens the nerves and tissues there. I give to each pupil the massage movements suited to the condition.

When there is a tendency for the corners of the nose to settle at the base, in the little creases, the face should be massaged, at the base of the nose, to prevent the lines that are inclined to form from the nose to the corners of the mouth. There is a tendency with some, as years creep on, for the corners of the wings to draw in, if not massaged properly. This would increase and accentuate the line from the nose to the mouth.

If the nostrils are thick or too open, do not massage the wings but shape them carefully by pressing together with the fingers. The use of a nose-clip will help to make the end of a broad nose more shapely; but this must be fitted so that the pressure will not be too great. Sometimes a clothes pin, of the clip variety, is used. All such appliances must be persistently used for some time before sat-

isfactory results will show. When one has an unusually broad nose at the base, the clip may be so adjusted upon the nostrils, at night, as to gently compress the fullness.

Care should be taken to so adjust these clips as not to close the nasal passages to the extent of preventing free breathing. If the nose has a tendency to turn up at the end, as frequently occurs where the base is too large, the clip may be so adjusted as to press the flesh downward. If it has a tendency to hook downward at the end, the clip may be arranged to raise the end slightly upward.

The nose should be thoroughly cleansed with a wash
 Cleansing cloth each morning upon awakening and as a regular routine habit. If there is a tendency toward catarrhal trouble, there will many times be an accumulation of mucus in the throat and nose that gives rise to a gagging sensation, until the toilet of the nose is attended to.

A simple, hygienic treatment for the nose is to dissolve a quarter of a teaspoon of salt in half a tumbler of *cold* water, and spray it well up into the nasal passages with an atomizer. This strengthens the mucous lining. It will relieve any dryness or itching of the mucous lining due to dust, etc., and may be done each morning after the nose has been cleansed, to keep the nostrils and nose passages healthy. It is a valuable aid in the correction and prevention of catarrh. In case the catarrh has affected the ear drum, water should never be sniffed up the nose,—the atomizer should always be used.

If there is a thickening of the bone, or mucous
 Nasal growth, or any obstruction to proper breathing, so that
 Breathing sufficient air does not enter the lungs, the health is sure to suffer, and every effort must be exercised to breathe freely through the nostrils, as this habit tends to keep the passages open.

One who breathes habitually through the mouth, is usually mentally or physically weak and lacking in powers of concentration. The mental powers are weakened because the brain suffers from poor nourishment; the physical powers are weakened, owing to the poor quality of blood, due to insufficient oxygen to purify it before it courses through the body. One should breathe only through the nose and if there are any growths, which narrow or close the nasal passage, they should be removed by absorption, or by a competent surgeon, as soon as possible.

The nose is so formed that the air has considerable distance to travel before it reaches the wind pipe. (See Fig. 1 below.) The cold air, inhaled, is thus warmed during its passage through the nose, before it enters the lungs, thereby preventing irritation or congestion of the lungs.

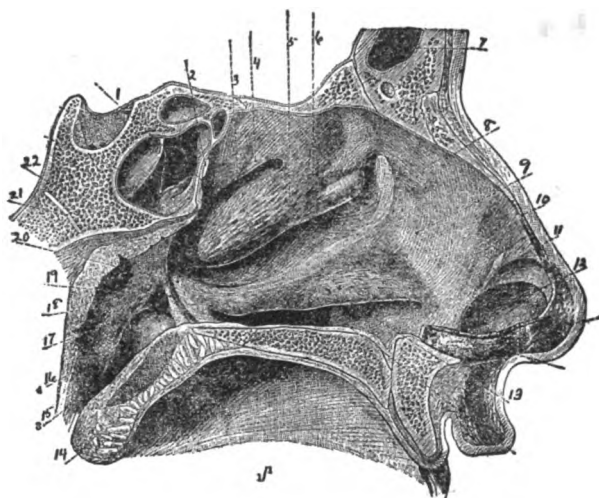


FIGURE 1.

The left lateral wall of the nasal cavity showing the vestibule of the naso-pharynx. (Toldt)

1, Spheno-ethmoidal recess. 2, Sphenoidal foramen. 3, Superior meatus of the nose. 4, Superior turbinal. 5, Middle turbinal. 6, Middle meatus of the nose. 7, Frontal sinus. 8, Agger nasi. 9, Atrium of the middle meatus. 10, Upper lateral cartilage. 11, Limen vestibuli. 12, Vestibule of the nose. 13, Inferior turbinal. 14, Soft palate. 15, Salpingopharyngeal fold. 16, Levator cushion. 17, Pharyngeal orifice of the Eustachian tube. 18, Cushion of the Eustachian tube. 19, Naso-pharyngeal fold. 20, Naso-pharyngeal part of the lateral wall of the nasal fossæ. 21, Occipitospheno-ethmoidal synchondrosis. 22, Arched summit of the pharynx.

By permission of Rebman Company, New York.

The irregular or turbinated bones in the nose are another means of protection.

The nasal passage, lined as it is by a mucous membrane covered with hairs, collects on its surface dirt, bacteria and other organic and inorganic matter, and prevents much irritating matter from reaching the lungs. As the air passes through the nose, it absorbs more or less moisture, which renders it more acceptable to the lungs.

The nose is lined throughout with a delicate mucous membrane, in the upper portion of which the olfactory nerve filaments are distributed. These are the nerves of smell.

When breathing through the mouth, the cold air strikes the throat and the upper air chamber and has a tendency to induce tonsillitis and other throat diseases, as well as difficulties in the upper air chamber, or naso-pharynx, thus aggravating catarrhal affections of the ears, nose and throat and colds in the head.

Nasal breathing induces a stronger, fuller expansion of the entire lung. If you will open the mouth and take a deep breath, you will find that the upper lungs are not fully inflated. When the air in this portion of the lungs is not regularly changed, it opens a path for consumptive germs; for it is usually in the upper lungs that tuberculosis begins. Hence it is most important to form the habit of nose breathing, so that it will become fixed during sleep, as well as during waking hours.

Do not blow the nose too hard; this irritates and affects the Eustachian tube and the ear drum, often injuring them permanently.

It is well to remember that operations on the nose should, whenever possible, be performed in warm weather, since the wounds will heal more readily during that season.

One with a good breathing capacity, is almost always endowed with excellent health and strong power of endurance. While most people admit and realize the importance of a proper method of breathing, few form correct habits of breathing.

The child is taught to walk, to sing, to dance, to use his hands and use his brain, etc., but the all important education of how he should use his lungs to their fullest capacity is often neglected—yet this function is so important that he can live only a few seconds without air.

No one habit is more injurious to the shape and expression of the mouth than mouth breathing.

If natural means, such as the towel and the daily exercises for opening and strengthening the nasal passages, described above, fail, the nose and throat specialist should be consulted, to ascertain if a growth in the nose, or any malformation is causing the difficulty. Enlargement of the turbinated bones in the inner part of the nose, adenoids, or a polypus in the nasal passages, will cause mouth breathing. In such cases, an operation should be resorted to at once, for, as explained elsewhere, free nasal breathing is absolutely essential to good health.

As far back as in the book of Genesis, we are told "He breathed into his nostrils (not his mouth) the breath of life."

EXERCISES FOR NOSE BREATHING

To open the nasal passages and to assist in the formation of the habit of breathing through the nose, take the following exercise three or four times a day, and as much oftener as you can remember.

Put one finger over one nostril at a time, inhaling and exhaling very slowly through the other nostril. As you do so, direct your

thoughts to the muscles and mucous lining of the nose. With the thought so directed, you quicken the nerve impulse to the nose and thus strengthen the nerves. As you inhale the throat (not the mouth) will open; as you exhale,—if you will try to hold the throat open until the air is almost all out of the lungs,—you will learn a valuable lesson in voice culture.

One of the first requisites for nose breathing is a flexibility of the wings of the nose. To gain this, take a full, deep breath with mouth closed and, while breathing, dilate or stretch the nostrils as wide as possible, making a conscious effort to bring about the dilation.

In order to breathe through the nose when the mouth is open, press the tongue against the roof of the hard palate while drawing in the breath.

Snoring results from the vibrations of air upon the soft palate. If one does not breathe through the mouth in sleep, the air will not vibrate the palate and snoring will be impossible.

One is more liable to snore when lying on the back, because in this position, the chin drops and the mouth more easily opens.

In cases of habitual mouth breathing and resultant snoring, the following method has proven an effective cure, at the same time resulting in expanding the nostrils, thus improving the shape of the lower part of the nose, which, in the case of mouth breathers, is usually too narrow at the base:

Pin a towel over the mouth when retiring. Fold it narrowly, so it will not interfere with the nasal breathing, and sufficiently thick to prevent breathing through it; pin it snugly, but not too tight, at the back of the head.

Diseases of the Nasal Passages Catarrh, Hay Fever and Asthma are all more or less affections of the mucous lining of the nasal passages, but when the nerves, muscles and mucous linings or membranes of these passages are strengthened by proper breathing exercises, by thorough circulation of good, pure blood, the difficulty will often be relieved.

Asthmatic as well as hay fever and catarrhal difficulties yield best to the building up of a good circulation and blood supply, to deep breathing and to exercises for freeing the nerve centers about the neck and spine. In this way the nerve centers controlling the nasal passages and bronchial tubes are reached. Special breathing exercises and massage to strengthen the mucous lining of the nasal passages and bronchial tubes, exercises for the freedom of the dorsal muscles, and nerves, freedom of the spine, and exercises to lift the rib cage into position are helpful.

Local treatments alone are not sufficient for asthma, hay fever or catarrh, however. The special exercises must be accompanied by work to build up the entire system. The person whose general health is what it should be is rarely, if ever, attacked by one of these complaints.

Hay Fever is most usual in people of highly super-sensitive, nervous constitutions. It is a disease of the mucous membrane of the nasal and respiratory passages, sometimes involving the eye ball.

Catarrhal inflammation almost always exists and the lachrymal glands are so affected that there is a continual watering of the eye. Well-marked asthmatic attacks and deep depression usually accompany hay fever.

It is due to the pollen of grains and grasses, dusts, odors, perfumes and irritating substances acting upon the hypersensitive membrane of the nose. It is also attributed to the existence of microbes in the air.

The real cause of asthma is not fully known. It is **Asthma** ascribed to heredity, colds, nasal catarrh, gout, the pollen of plants and other atmospheric impurities.

It is undoubtedly a nerve disease, which causes a spasm of the muscular tissue of the bronchial tubes, attributed either to center or peripheral nervous irritation. It is sometimes dependent upon disease of the heart, kidneys, stomach and thymus.

Asthma is little affected by local treatments. The cause of the difficulty must first be ascertained.

Those who are addicted to hay fever and asthma should attend carefully, during the winter, spring and summer, to thoroughly strengthening the nerves and mucous lining of the nasal passages and the naso-pharynx. Before the air is filled with pollen in the fall the entire nervous system should be built up; it is by attending to these hygienic conditions, alone, that the tendency to hay fever or asthma is corrected.

Exercises to free and strengthen the spinal nerves and the muscles controlling the nasal passages and bronchial tubes, breathing exercises, with mental concentration to stimulate controlling nerves, and massage of the nose, throat and spine are valuable agencies in the relief of asthma. The use of a salt water nasal douche is also helpful.

Most diseases of the nose originate in a cold, which **Catarrh** being allowed to run, causes congestion, inflammation and unnatural secretions in the mucous membrane of the cav-

ities of the nasal passages, the naso-pharynx and the Eustachian tubes, extending from the throat to the ears.

If the recuperative powers be strong, so that nature can throw off the cold, no serious results ensue; but if the system be run down and the vitality low, or, if the colds be frequent, each new one leaves more and more inflammation, with a resultant thickening of the mucous membrane, and enlargement of glands. This eventually means chronic catarrh of the nasal passages.*

Unless the corpuscles of the blood are freely renewed and the blood thoroughly nourished and kept circulating freely, the inflammation in the cavities of the nose progresses and the unhealthy secretions are absorbed; some are inhaled into the lungs, and some carried down into the stomach, causing indigestion and fermentation, until the stomach, bowels, kidneys and bladder may become affected; in fact, the whole system may in time be filled with catarrh.

If the inflammation progresses into the tubes to the ears, as it is apt to do, the mucous lining of the nose being continuous through the naso-pharynx and Eustachian tubes with the lining of the ear, catarrhal deafness may result.

Catarrh can be cured, if the correct principles of hygienic living be followed conscientiously for a number of months, in the way of exercise, diet, breathing and bathing. The difficulty is that the majority of people will not be persistent for a long enough period.

It must be remembered that catarrh is an inflammation in the mucous lining, thus the relief must lie in relieving the inflammation and establishing a thorough circulation of good blood. This results in toning up the nerves of the entire system.

* This subject of catarrh will be more definitely understood if the reader will study the chapter on "The Ears."

The illustration on page 171 shows the cavities of the nose, with the turbinated bones and lining membranes of the nose, the nasopharynx and the opening of the tube to the ear. This tube is further shown in the lesson upon "The Ears." The manner in which catarrh of the nose and throat affects the ears is fully shown in this chapter.

Dry catarrh is the last stage of all catarrhal inflammation; the secretions dry up, and the inflammation burns up the mucous membranes. This causes ulcers and dry scabs to form. Proper breathing does much to prevent and relieve the trouble. Nasal massage and exercises, which cause flexibility, stimulate the flow of nourishing blood and eliminate the mucus through the Eustachian tubes and throat. (See lesson upon "The Ears.")

Polypus tumors, or growths, found in the mucous membrane of the nose, are a source of frequent trouble. Most polypi are not true tumors, but inflammatory deposits. Chronic catarrh will cause such deposits, also a swelling of the turbinated bones. This will oftentimes cause ulcers, granulation and proud flesh to form and in a few months polypus tumors develop. If they are large and fibrous they should be removed by surgery. This can be done without danger. Small ones can often be cured through absorption by good blood and proper breathing.

Adenoids resemble glands in their formation. An adenoid growth is an over-nourishment of the adenoid tissue in the naso-pharynx,—the arching space between the rear passage of the nose and the lower margin of the soft palate. (See page 171.)

The following characteristics accompany adenoid formations: vacant expression of face, pinched nose and mouth, open mouth,

noisy breathing when asleep, snoring, frequent colds, a narrow, high arched, hard palate (the roof of the mouth) and sometimes defective hearing. A narrow palate causes narrowness of the upper jaw and a consequent crowding and irregularity of the teeth. Adenoids will produce a hacking cough, enlarged tonsils and a peculiar muffling of the voice. They are met with in all classes in life and in all climates. As they are most prevalent among children, and affect the physical and mental development, detrimentally, they should be carefully looked after.

Treatment consists in early surgical removal of the growth.

If adenoids are removed when the child is small, these after effects may be avoided, and the health of the child greatly benefited. Early treatment will save much expense and worry.

The physical examination of hundreds of school children, develops the fact that two-thirds of them have adenoid growths, and eye weakness of some nature. It has also been demonstrated that upon removing the adenoids, the child improved in mental activity and brightness, as well as in physical soundness.

Eczema of the Nostrils This form of eczema is often associated with chronic nasal catarrh. The nose will often be swollen and the nostrils almost closed with the crust formations. Many times they become inflamed and cracked. If proper measures are taken the difficulty may be confined closely to the wings of the nose.

Eczema of the hair follicles in the nostrils is not uncommon among adults, and is very persistent and painful.

The general health and vitality should be built up, as difficulties of this character indicate general debility. Breathing exercises, to

strengthen and tone the nerves should be practiced, also exercises to promote a good circulation and strength of all vital organs.

Cod liver oil taken internally is excellent for children whose nostrils have become affected; also the syrup of iodide of iron.

External treatment requires that the crusts be removed by rubbing in oil, followed by the application of a soothing and mildly astringent ointment, such as 1 drachm of Squire's glycerole of subacetate of lead, combined with 1 ounce of cold cream.

An astringent ointment may be made of 5 to 20 grains of boric acid to 1 oz. of white precipitate of calomel.

Severe cases of eczema have often yielded to treatment, after the removal of adenoid growths.

One of the most distressing afflictions is a red nose, **Red Nose** and it is hard to overcome. It may be caused by tight lacing, some reflex irritation of stomach, bowels or pelvic organs, or it may be due to *Acne rosacea*.* The latter is a chronic inflammatory affection of the skin, which usually attacks the nose, cheeks, forehead and chin. In the commencement of the disease there is redness, which, in time, becomes permanent. In this stage, it is associated with the development of pustules, and varicose vessels. In the latest stages there is an excessive formation of new tissue.

* *Acne rosacea* is discussed more fully under the chapter upon "THE SKIN."

CHAPTER V

THE MOUTH

The mouth plays a very important part in the expression of the face and the muscles controlling it can be moulded by habit as can those of the rest of the body. Habits of amiability and contentment give the mouth its greatest charm.

It is one of the features which strongly displays the will-power. Many, otherwise attractive, change the whole character of their faces by the contour, or poise, of the muscles about the mouth.

By controlling the sphincter muscle of the mouth the lips may be made to appear thin or thick, and relaxation or firmness expressed.

There is an intricate network of little nerves and muscles around the mouth and when these have been stretched tightly for a few years, they become set and remain in that tense condition, so that eventually the tissues under the skin take on the same contour, with the woeful result that a long, ugly line extending from the wings of the nose down around the mouth on each side will become a permanent feature.

Upon the character of words and thoughts, depends the lip poise and mouth expression; but unless the tissues be kept flexible and free that they may be delicately susceptible to the change of thought,

the mouth may become hard and stern and the lines of expression may deepen into wrinkles.

One's thoughts are the expression of character, while in turn the character instigates the thought.

The lines, which give the mouth its expression, speak the record of one's years, for they are the result of all the words, and most of the thoughts, whether sweet or otherwise, which have been framed by the lips in the past. Each word leaves its impress, and the more often a thought is held, the deeper the impression, until it becomes a habit. Truly the lips speak without moving.

It is the habit of the silent hour which tells most. One's thoughts, when alone, are more systematic and make a deeper impress; therefore, let us form the habit of being cheerful, wholesome company for ourselves,—of thinking kindly, generous thoughts when alone, if we would give the mouth a pleasing expression, and radiate kindness and sweetness around us. The mouth and the eyes speak with a "thousand tongues" while the voice is silent.

The accompanying illustrations are given to show how much of the habitual thought may be read through the mouth alone. The home atmosphere, even, may be read through each mouth shown;—providing the individual be the controlling thought in the home. This is especially true, when studied in connection with the eyes and nose, illustrated in the lessons upon these features. It will be an interesting study for the reader to fit the mouths of Figures 2, 4, 5, 6, 11, 13, 16, and 17 with the eyes illustrated under the lesson upon "The Eyes."

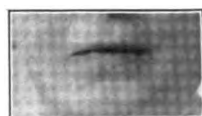
A sweet, lovable nature is expressed by soft, tender lines about the mouth and chin (see Figures 6, 7, 8, 9, 13, 14 and 16); while a



1



6



12



2



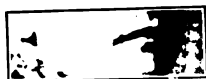
7



13



8



3



14



9



4



15



10



5



11



16

THE
MINOR CREAS
AND

domineering, ugly disposition is indicated by a heavy, set jaw, with all of the features showing dogged, heavy lines. (See Fig. 11.)

A definite character is expressed by a firm mouth, which, however, is not at all unpleasant if the lips are not too tightly drawn. (See Figures 6, 13 and 16.)

What is there about the definiteness of Fig. 1, which suggests selfishness? or about Figs. 2 and 7, which suggest amiability, but rather emotional weakness, allowing the individual to be, perhaps, too easily influenced to following another's judgment rather than her own?

The mouths of Figs. 3 and 12 belong to young girls, who have somehow started out with the idea that life is against them. Ah! that some great soul would turn their thoughts to see things from a different point of view,—to make them realize that life is what we make it—that we are here to sweetly, happily develop in usefulness to others, instead of to array ourselves for battle, regarding each incident in life as an enemy to be baffled.

What mental weakness—almost imbecility—is expressed by Fig. 4; and what a disagreeable, grouchy, selfish nature is shown in Fig. 5; while Fig. 15 shows dogged, brutal determination, and Fig. 17 arrogance and supercilious pride.

A woman who is habitually querulous, or given to continual pouting, or to compressing her lips tightly, as if in grim determination, or one who is given to exhibitions of self-will and ill temper, cannot easily command a smile. It would be hard for Figs. 3, 5 and 11 to smile. The lines would soon resume rigidity. Their mental attitudes need warming by love and sunshine; they need to relax and *let* the sunshine in—to see life from a different point of view—to

read good books—to work from the light within, rather than be cowed by the forces without.

If we greet life with a smile, we meet a smile in response. If we meet frowns, it behooves us to look within; a radiant smile will dispel the most lowering expression. It may be raining without, yet, still be warm and cozy within; storms may gather in the atmosphere about one, but sunshine in the soul will dispel them.

This sunshine and life within, reflected in the light without, are well expressed in Lowell's sonnet upon "True Nobleness":

"For this true nobleness I seek in vain,
In woman and in man I find it not,
I almost weary of my earthly lot,
My life springs are dried up with burning pain.
Thou findest it not? I pray thee look again,
Look *inward* thro' the depths of thine own soul.
How is it with thee? Art thou sound and whole?
Doth narrow search show thee no earthly strain?
Be noble! and the nobleness that lies
In other men, sleeping, but never dead,
Will rise in majesty to meet thine own;
Then wilt thou see it gleam in many eyes,
Then will pure light around thy path be shed,
And thou wilt never more be sad and lone.

.
We were not meant to struggle from our birth,
To skulk and creep, and in mean pathways range;
Act! With stern truth, large faith, and loving will!
Up and be doing! God is with us still."

A smiling face adds much to the sunshine of the world. If you force a smile to your face, even though you do not always feel like it, you will have the consolation of knowing you are relaxing the muscles about the mouth and helping to establish a good habit; there is sure to be a reflex effect upon the brain and, if by force of will, you will turn your thoughts to helpfulness and cheer, you will feel like

smiling.—Others, too, will reflect the smile and pass it along. Remember that the mouth should express what the lips would say.

As you study others, observe also your own mouth and if it does not express sweetness, cheer and helpfulness, guard well your thoughts and see that they are wholesome, kindly and cheerful, for “Out of the fullness of the heart the lips speaketh.” Remember that sweet and beautiful thoughts, as well as depressing and disagreeable ones, impress themselves indelibly upon the lips.*

Mouth wrinkles are due, either to general depression, ill health or missing teeth. The latter will cause a depression in the cheeks by the shrinking of the gums and lack of natural support for the cheeks.

If, therefore, teeth are removed for any cause, the space should, as soon as possible, be filled by false ones.

Crowded teeth will create an abnormal size and irregular contour of the lips. Do not let such a condition exist for any length of time, as in most cases it can be corrected by the dentist.

There are other erroneous habits that tend to spoil the shape of the mouth, all of which can be overcome. Breathing through the mouth, or sleeping with it open, will give an unpleasant expression, besides injuriously affecting the throat, lungs and, perhaps, the teeth.

The habit of moistening the lips frequently by passing the tongue over them is apt to make them large; this habit is obnoxious to others,—it is a frequent cause of chapping.

Watch the mouths of others and note the variety of expressions of character, also note how many have formed habits of unnecessary movements of the lips. One holds an umbrella in a storm and the

* Control of facial muscles by the thought is fully discussed in my book “The Reading of Character through Bodily Expression.”

face and lips are held with sufficient tension to stem the breeze— Ah! how much energy we waste! How much we need to form habits of conservation,—of repose,—that we may have more dynamic reserve power for the greater duties of life.

Some draw the lips in tensely after each expression, some purse them forward, others draw them to one side, while others permit the outer corners to droop. The latter is a very common defect and is undoubtedly the result of depression, or of a nature which takes things too seriously.

Some form the habit of constantly distorting the mouth when talking; with some the lower jaw is allowed to drop, leaving the mouth partly open, giving the face an expression of utter lack of intelligence; or the lips are tightly compressed, giving the face a determined, hard, set look.

Study your mouth in the mirror and note whether its expression pleases. If not, then devote a few minutes each day before your mirror to holding some pleasing, helpful, elevating thoughts and note the position the lips take.

If you have been too tense, or discouraged, or despondent, you will note that the corners of the mouth droop. Do not allow these corners to sag when the face is in repose. This is apt to draw the upper lip tense and to emphasize the lower one. In smiling, or in an amiable expression, you will note that the corners of the mouth raise slightly.

On the flexibility of the lips depends, to a great extent, the possible beauty of the mouth. Careful attention should be given to the following exercises, so that the muscles about the lips may be free and flexible and ideal lines be more readily established. If your

mouth is inclined to droop at the corners, as in Figs. 3, 5, 11 or 12, try raising the corners as in Fig. 6 and note the change in mental poise.

Keep the muscles of the cheeks exercised, as directed under "Facial Exercises," and those about the mouth flexible by the movements below.

After a little study along this line, you will soon reach the point where you can relax the lips at will, and, by directing the thought, you can make the mouth assume a pleasing expression without the mirror.

Do you say all this tends to affectation? Far be it from my intention to suggest the stereotype, set smile. It will not be affected nor set if the thoughts be directed to kindly, helpful, hopeful themes. Your lips, if first relaxed, will respond naturally to your thoughts. If you have no one in your immediate circle to help to lift your thoughts to broad usefulness,—to expansion,—to progress,—you will always find good books written by whole-souled men and women whose purpose in life is to uplift to happiness and whole-souled usefulness.

In the foregoing pages, I have pointed out the causes of unbeautiful mouths. Let us now look to material steps for a correction of the defects. Remember that muscles are susceptible to training. After they have been drawn into a certain position a number of times, they incline to that position more and more easily, and presently become settled in it. Take encouragement from the fact that

the wrinkle, or the ugly mouth habit was formed by training,—unconsciously, on your part, perhaps,—and that it can be corrected by conscious training, in accordance with definite rules.

Exercise 1. A simple exercise for developing
For Flexibility flexibility of the lips and associated muscles, consists in enunciating the vowel sounds Ah-Oh ten times; then Ah-Oh-EE ten times; then Ah-Oh-EE-OO ten times.

Exercise 2. Setting the lower jaw firmly, gives a stern, uninviting expression to the countenance. The following exercise will relax the jaw:

Let the lower jaw drop loosely; then shake the head rapidly from side to side. The jaw should be so loose and limp that it will move when the head is shaken. Don't be surprised if you find that it will be necessary to make several attempts before you get the jaw loosened, so that it will respond to the shaking of the head. Persevere,—the more tense it is, the more need for overcoming the condition. The muscles around the mouth may ache after a few minutes, due to the fact that they have been held so tense for so long a time that, when loosened, they require stretching in order to restore them to normal position. Is it any wonder that lines form under such conditions?

Exercises for Thick Lips Purse the lips outward slightly; then bring them back, drawing the corners of the mouth well in as you draw the lips tightly and firmly over the gums until the edges of the lips meet; hold tightly in this position for the length of five counts, then allow the mouth to relax into a smile. Repeat the pursing and drawing inward twenty times, relaxing into a smile after each repetition.

Thin lips may be made slightly fuller by pursing them forward as if for a kiss, drawing them tight together and suddenly relaxing, making the movement and sound of a kiss with a good "smack"; follow this by complete relaxation and by carefully turning the edges of the lips over with your finger. Watch yourself to see that you do not habitually hold your mouth too tightly closed. Keep the lips in a free, easy position when the face is in repose.

Many women and girls suffer with chronic chapped lips. The cause must be ascertained and removed in order to affect a permanent cure. They come from undue exposure to cold or wind and are usually associated with a disordered condition of the stomach, a dry and undernourished skin, poor blood and poor circulation;—or they may be the result of the very unpleasant habit I have already mentioned, of moistening the lips with the tongue.

The application of cold cream, glycerine or white vaseline will afford temporary relief and should be used freely at night before retiring, but the physical defects must be corrected, else the lips will continue to chap.

If they become parched, dry or cracked, the physical condition must be looked into, for there is an apparent gastric weakness, lack of good nourishing blood and an imperfect circulation. For temporary relief, use a healing ointment, such as Resinol salve, glycerine, white vaseline, almond oil, mutton tallow or a good cold cream.

A very healing ointment can be made of equal parts of almond oil, vaseline and mutton tallow. Apply freely to the lips at night. If the lips are thin rub it in thoroughly and then wipe off any surplus

with a soft cloth. If the lips are thick, they should not be rubbed.

Another good lotion for dry or cracked lips can be made of: 2 oz. of almond oil, $\frac{1}{2}$ oz. spermaceti, 1-12 dram of oil of bitter almonds and $\frac{1}{8}$ dram oil of geranium. Mix well and apply at night.

Purple lips indicate poor circulation and sometimes a weak heart. White lips show anaemic blood, weak digestion, poor circulation and sometimes weak heart action. To improve the color of the lips, the whole system should be toned and the blood built up.

Biting the lips to make them red, thickens and dries them and eventually causes them to lose their delicate curves.

Cold sores are caused by stomach disorders or by colds. They appear usually on the lips, at the angles of the mouth, and on the face below the mouth, in the form of one or more pimples. They come out suddenly, and are usually preceded by an aching, burning, tingling or itching sensation. The diet has evidently been wrong, therefore should be regulated, and exercises to strengthen the stomach and intestines should be practised that they may perform their normal work.

Fever blisters are symptomatic of a disordered condition of the gastro-intestinal organs and usually make their appearance with an accompanying chill or increase of temperature. Immediate measures should be taken for strengthening the stomach and relieving the sluggishness of the bowels; the diet must also be regulated, as in the case of cold sores.

Temporary relief from cold or fever blisters, is furnished by the use of camphor, or a powder made of equal parts of boracic acid and

camphor. Either of these applied to the sores freely every hour, as soon as they make their appearance, will dry them up and sometimes prevent them from fully forming. This will not correct the cause, however.

Boracic acid and peroxide of hydrogen can also be used in the same way. "Camphor Ice," sold by druggists, is also effective.

There is little or no excuse for a bad breath. If **Bad Breath** one is healthy, the breath should be almost odorless.

It is unfortunate that a person afflicted with a bad breath does not always know it. His or her friends hesitate to speak of the matter, yet surely it would be an act of kindness to do so. Many of us doubtless know sweet and lovable people, whom it is a punishment to be near, because of the impurity of their breath. Would it not be kind to tell them, that others may not withdraw from them with the same shrinking? It is an indication of a physical unwholesomeness, which is almost unpardonable in these days of enlightenment in the normal cleanliness and strength of the body within as well as without.

A bad breath is caused by various conditions, such as catarrh of the nose or throat, intestinal or gastric indigestion, constipation, sluggish liver, occasioned by sedentary habits or overwork, or to decayed or tartared teeth. The habit of bolting the food, or mental disturbance after eating, will strongly affect the breath, by preventing digestion and interfering with the normal elimination of waste through intestines and kidneys, thereby throwing extra work upon the lungs, causing each breath to be laden with a foul odor.

Chronic constipation gives evidence of decomposed organic matter through the breath. No woman should allow a constipated con-

dition to continue for a day, any more than she would allow a drain in her home to remain stopped up. It must be remembered that cathartics do not *correct* constipation,—they simply relieve it for the time.* The real correction lies in exercises to strengthen the nerves and muscles of the intestines, that the peristaltic movements may be strengthened and the intestines encouraged to perform their functions in a more normal manner, also in intelligent attention to diet, fresh air and deep breathing.

Torpid liver, also, affects the breath, through the intestines and the stomach.

Acute catarrhal trouble will cause such foul breath as to poison the atmosphere of a room.

It is, of course, evident that the whole physical condition needs correcting if the breath is to be made sweet and pure.

One should never inhale another's breath, as contagious diseases are often propagated in this way. For this reason the kiss is better given upon the cheek than the lip.

Good strong breathing exercises that reach all of the air passages and cells of the lungs, together with exercises for strengthening the muscles and nerves of stomach, liver and intestines, keeping them wholesome and free, also attention to diet and circulation will do much to overcome a bad breath.

Eczema of the Lips Eczema of the lips causes them to become hot and often very much thickened by swelling and inflammation, accompanied by a severe itching.

The general health must be immediately looked after and soothing applications used.

For complete discussion of the cause and relief of constipation see the author's book "The Vital Organs, Their Use and Abuse."

Early Deformities Any deformity of the lip, such as hare-lip, should receive surgical attention during the early life of the child. Surgeons are very successful in correcting such defects and it is a crime on the part of parents to neglect them.

The teeth of growing children should be watched most carefully. If they be uneven, so as to cause the lips to protrude at one point or contract at another, causing an entire change in the facial expression, they should be attended to by the dentist. A mother cannot watch these things too carefully. Give the child the heritage of a perfect physical body that the beautiful thoughts of after life may have untrammelled expression.

THE TEETH

White and well-kept teeth will redeem an otherwise plain face, while neglected, discolored or misshapen ones will mar the most beautiful countenance—will distort the most radiant smile.

Unless the teeth are even and well cared for, the beauty of the mouth is greatly lessened. The habitual neglect of the teeth, together with the resultant bad breath, renders an otherwise pleasing personality, repulsive to those of cleanly tastes and habits.

Children should be trained at an early age to use the tooth brush, and cavities appearing in their temporary teeth should receive prompt attention.

The teeth should be examined at least twice a year, by a reliable dentist. If there is a tendency toward the accumulation of tartar, and if ordinary brushing and care do not remove it, the teeth should be thoroughly cleaned by the dentist.

When the child is between five and seven years of age, any irregularities or imperfections of his teeth should be corrected.

194 BEAUTY A DUTY

Anatomy of the Teeth The teeth are simply papillae, or conic eminences of the mucous membrane of the gum, which have passed through characteristic development.

They consist of three portions: the crown or body, which projects above the gum; the root or fang, which extends below the gum; the neck or constricted portion between the crown and root.

In structure, a tooth consists of enamel, dentine and pulp. The hard enamel encases the crown of the tooth; the dentine constitutes the interior of the crown and the whole of the root, while the pulp, which is a soft tissue filling the cavity of the crown, is traversed by blood vessels and nerve filaments.

The enamel is the hardest substance in the body. It consists of hexagonal flattened prisms, arranged side by side like a palisade.

Crooked Teeth Cause Uneven Lips The modern dentist, by means of bands of rubber or metal, can straighten uneven teeth and can file them even, so that no woman need have an otherwise pleasing mouth disfigured.

It is difficult to give thorough care to teeth that are crowded. This condition is sometimes the result of inherited tendencies, or of the teeth being too large in proportion to the length of the jaws, consequently they are forced out of line and crowded against each other. This defect is sometimes caused by the habit of mouth breathing, a practice that usually follows obstruction of the nasal passage, through excessive development of the adenoid tissue in the vault of the pharynx, which causes a narrowing of the hard palate and of the maxillary arch, to such an extent that the line of the upper incisor teeth projects beyond the line of the lower ones. In such cases, the lower jaw is apt to recede, thereby disturbing the symmetry of the whole face.

In the case of children, should the teeth of the upper jaw decay before those of the lower one, they should not be extracted, but filled, for if they are removed any length of time before the permanent teeth appear, the upper jaw is likely to develop faster than the lower, or vice versa,—hence the projecting teeth, so disfiguring.

Thumb sucking in childhood often leads to an uneven development of lips and jaw, therefore the habit should be broken before permanent disfigurement results.

One should not masticate more on one side of the mouth than on the other, or the molars may be exercised and worn unevenly, and even the shape of the lower face may be changed by masticating the food on one side only.

When teeth have been extracted the gums
Receding Gums recede, changing the contour of the cheeks, by allowing them to sink and the muscles of the lower face to sag, thus drawing down the corners of the mouth. This creates an expression of discouragement and depression, greatly detracting from the intelligence of the face.

A catarrhal condition about the gums leads to their recession. Bacteria are largely the cause of this, and the condition is aggravated by acid foods, by accumulated tartar, or by careless use of the tooth-brush.

When the gums recede, or are soft and spongy, a mouth and tooth wash, containing myrrh, has a tendency to harden them.

Common salt, occasionally used in the mouth wash, keeps the gums hardened and healthy.

Precipitated chalk forms the basis of almost all tooth powders; it relieves the sensitiveness of the margins of the gums, and may be rubbed on the latter, especially after eating anything acid.

Tartar, which is so commonly deposited, usually on the inside of the teeth and which is most disfiguring and injurious to the teeth and gums, consists of carbonated lime and other inorganic matter. According to general belief, micro-organisms also enter into its formation.

However, teeth are attacked and cavities formed, without the development of tartar. All that seems necessary in this work of destruction is for the germ to lodge in some protected place, beyond the reach of the tooth-brush, or other cleansing means.

When the teeth have become yellow or discolored, a little powdered pumice stone may be rubbed upon them to polish and cleanse. Rub carefully over the surface of the teeth, wherever there are spots or discolorations, then rub gently around the edges of the gums, where the teeth and the gums meet, to remove any tartar that may have collected.

Gritty tooth powders and all hard substances that scratch or break the enamel, should be avoided.

Inflammation of the bone, resulting in a weakness of the tooth structure, and bacteria, resulting from neglect in cleansing the teeth, are responsible for dental cavities. The old theory, that teeth are injuriously affected by the action of certain acids in the stomach, is losing credence.

Fragments of food allowed to collect and remain between and around the base of the teeth, together with the secretions of the salivary glands, which find lodgment between and around the teeth, afford ample opportunity for the growth and development of bacteria. Fermented food about the teeth forms a sufficiently nourishing soil in which the bacteria may develop.

One authority advances the belief that cavities are the result of lactic acid, produced by the growth of certain bacteria about the teeth. He bases his opinion upon the fact that he found more than one hundred varieties of micro-organisms that grew in the mouth or about the teeth. There is a doubt, however, as to lactic or other acids playing any special part in the process.

It is undoubtedly safe to assume that dental decay is attributable to bacteria, and that the diet, as long as it is nutritious, has no influence whatever upon it. This latest accepted theory emphasizes the importance of keeping the teeth perfectly free from all particles of food or organic matter, that the bacteria may have no fertile field in which to develop.

The teeth should be brushed at least twice a day. Many dentist's bills will thereby be saved.

Acids, or medicines containing chloride or sulphate of iron, should never be allowed to touch the teeth, as they would very soon destroy the enamel. Anything of this nature should be taken through a glass or straw tube.

Habitual breathing through the mouth, encourages the introduction of a certain amount of organic matter about the teeth which may be laden with bacteria and their destruction. Mouth breathing also causes tonsil and throat troubles.

It often happens that the members of some families, through several generations, have soft teeth, apparently due to some congenital disturbance in the nutrition of the bone structure. Inherited tendencies of this character can be overcome to a very great extent by building up the general health and increasing the blood supply and the circulation. In such cases much more care is necessary to prevent the development of cavities.

Proper diet has much to do with the condition of the teeth, **Diet** because it builds good blood for their nutrition. In fact, it has been estimated that three-fourths of the teeth difficulties could be avoided, if a sensible and wholesome diet were adhered to, and coarse breads and cereals substituted for the finer sorts.

The teeth will be developed properly in childhood if the body is supplied with a sufficient amount of food rich in salts, such as beans, peas, graham bread or coarse cereals.

The use of the teeth, as well as the use of any muscle or membrane, strengthens them. Observation has established the fact that the teeth least called upon for mastication, are often the most delicate. This is one argument for the use of coarse foods. Eating hard tack or hard oatmeal crackers is excellent exercise for the teeth, helping to keep them strong and healthy. The crackers should be eaten dry and masticated until soft. These are especially good for growing children.

The teeth are for the purpose of masticating the food thoroughly before it is taken into the stomach. **Effect upon Digestion** And when they are neglected and allowed to decay, the food enters the stomach in too large pieces; it is not thoroughly mixed with saliva, and the effect is felt throughout the entire digestive tract.

If the teeth are not in good condition, the food is swallowed without being sufficiently masticated, causing indigestion and many other stomach ills, which frequently become chronic.

It is of the utmost importance that decayed teeth be filled just as soon as a cavity develops, and in case there are many missing teeth, they should be replaced by artificial ones.

The question of the preservation of the teeth, resolves itself into a few simple principles, viz.:

the prevention of overcrowding;

the avoidance of chemical or mechanical injury to the teeth and gums;

the careful and frequent cleansing of all exposed surfaces of the teeth;

and the use of such harmless antiseptics as will prevent the continuance of bacteria in the mouth.

**Daily Care
of the Teeth** Unless the teeth are brushed in the proper manner, many of them do not receive the cleansing necessary, more especially those on the right side, as it is easier to reach the teeth on the left. Brush from the gum to the end of the teeth rather than across them, so that all particles may more easily be reached and dislodged.

With the advantages which modern dentistry has brought within reach of every one, there is no excuse for poor teeth, but even though the dentist may supply all his profession can give, the teeth will not remain clean and free from disease and decay, unless properly cared for each day.

It is a good rule to establish the habit of brushing the teeth thoroughly after eating, even if it is several times a day. By so doing, the food which ordinarily collects in the little spaces between the teeth, cannot accumulate and cause fermentation and decay.

When brushing the teeth be sure and reach the inside as well as the outside, not neglecting the flat crowns of the back teeth, or the sides of the wisdom teeth. The latter often show decay sooner and receive less attention than the teeth nearer the front. The tooth

brush, if used rightly, will stimulate circulation through the gums and avoid disagreeable diseases, especially receding gums.

It is also well to occasionally massage the gums with the bare fingers.

In selecting a tooth brush, see that the bristles are neither too soft nor too stiff. A medium stiff brush is best.

Before cleansing the teeth in the morning wash the tongue off gently with a soft cloth or tooth brush. This removes the impurities which sometimes collect on the tongue through the night. To correct a chronically "coated tongue," however, an activity of the vital organs must be established and a thorough circulation of blood brought to them, so that the impurities will be eliminated through the proper channels.

An effective mouth-wash can be made from $7\frac{1}{2}$ grains of thymol, 15 grains borax and one pint of water. Rinse the mouth with this after cleansing the teeth.

A good antiseptic to help preserve the teeth to keep the breath sweet and the teeth white, is peroxide of hydrogen.

Diluted alcohol is another refreshing antiseptic. Rinse the mouth thoroughly each morning with either of the above solutions.

A tablespoonful of lime water in a glass of milk or water, taken occasionally, will add to the strength of the teeth.

If you have a regular dentist who understands the character of your teeth, he can decide best what dentifrice will be best for you, but the following is a good formula:

Equal parts of precipitated chalk and powdered orris root, with a little flavoring essence added, such as wintergreen, sarsaparilla or cinnamon.

When a tooth pick is required, use it unobtrusively and give preference to a quill tooth pick or a soft orange-wood stick.

The free use of dental floss between the teeth will help to keep them free from particles of food and prevent the little cavities which so often form in out-of-the-way places.

Do not have a tooth extracted except *as a very last*
False Teeth resort. If there is nothing but a root left, remember that if it is in healthy condition, a crown of porcelain or gold can be built upon it with far more satisfactory results than a whole false tooth will give. A tooth once out can never be replaced in the gum, but the crown of it, if in perfect condition, can have a little skeleton of gold wire attached to it, by means of which it can be clamped to the tooth on either side.

Inlays are now used more than gold and are certainly less conspicuous.

Pyorrhea, more commonly called Riggs Disease,
Pyorrhea has by many been considered incurable. Of late years, however, dentists have demonstrated that it is curable.

Pyorrhea means inflammation of the gums. This inflammation may be caused by an irritation of the gums by calcareous deposits about their edges or by a systemic condition. While a few dentists claim that pyorrhea is caused by a germ, a larger number of them believe that it is not, the latter holding that an irritated condition of the gums is apt to make good breeding places for germs and that germs are thus the accompaniment, but not the cause, of this disease.

The treatment consists in allaying the irritation. This is done by correcting the condition of the blood, by removing the calcareous deposits about the gums, and by regularly massaging the gums them-

selves, so as to create and maintain a good circulation through them.

Any inflammation of the gums should have prompt treatment. If it is neglected, pus may form at the roots of the teeth and infection result. In extreme cases the teeth become loosened from the roots and eventually fall out.

Remember that almost all cases of this disease can be cured. The important thing to do is to consult a good dentist when you find inflammation beginning about the gums.

The best preventive of pyorrhea is absolute cleanliness, and a good circulation through the gums.

The gums should be massaged regularly, just as regularly as any other part of the body should be exercised.

The best time to massage the gums is during the process of cleaning the teeth. Place the tooth brush with the bristles at the base of the gum, the side of the brush against the teeth. Then firmly pressing the brush against the gum, turn the handle of the brush in such a way that the back moves outward. The bristles work between the teeth as the brush rotates. The pressure of the gum upward toward the teeth massages them, creating a good circulation about the roots of the teeth. Massage the gums on both sides of the teeth in the same way.

If the gums bleed in this process, never mind. They will not bleed after you have massaged them for a little time and relieved all the congestion about them.

With the gums, as with the rest of the body, exercise which promotes a good circulation of blood is the most important agency in the prevention of diseases.

The seeping of the acids which collect about the gums in case of

pyorrhea is now asserted to be an aggravating cause of rheumatism. If one is afflicted with rheumatism, he should see to it that there are no pus sacs at the roots of the teeth; also that the tonsils are in good condition, because it has been discovered that many cases of rheumatism are caused by imperfect teeth and imperfect tonsils. Very often pus sacs form at the roots of the teeth without causing any outward disturbance or any aching of the teeth. A good dentist, however, will be able to find out whether or not there are pus sacs.

Don't expose the teeth to extreme temperatures, as extremes of heat or cold are apt to crack the enamel.

Don't bite or break a thread with the teeth; scissors will cut the thread quite as quickly and may save a "nicked" or broken tooth.

Don't crack nuts with the teeth; remember that your teeth were not made like a squirrel's.

Don't use pins or any kind of metal instruments on the teeth.

Do not allow your teeth to remain neglected, crowded or uneven. Your dentist can remedy these defects.

CHAPTER VI

THE EARS

The alarming increase, yearly, in the number who suffer from loss of hearing, from one cause or another, should awaken us all to the fact that the ear cannot be too cautiously protected and cared for. It behooves us to so inform ourselves in regard to its functioning, that we may be intelligent in its care and that we may recognize danger signals when they first present themselves.

It has been calculated that one-third of our population is deaf.

If people understood more intelligently the causes of deafness and derangements, to which the ear is liable, more attention would be given to keeping it in good condition and to correction of any difficulty in its earliest stages.

Perfect hearing is not only essential to personal comfort and happiness, but very necessary for a successful business, professional or social career.

If the hearing be normal one should hear a watch tick five feet from the ear. The greater the distance one hears well the greater and stronger the hearing power.

Not one in a hundred, or even a larger majority, knows how to care for the ears properly ; they pick, dig and irritate them by probing

to the middle ear with pins, hair pins and even tooth picks. Sharp instruments should be avoided in cleansing the ear passage; if used roughly, they will injure and often puncture the drum head, which in an adult is but a little more than an inch from the opening of the ear; it acts as a sort of door to close the entrance to the ear passage. These pernicious habits, if persisted in, will injure the lining membrane of the auditory canal, causing an unnatural flow of wax, which, when exposed to the air, will dry, harden and fill the canal; if the wax rests on the drum head, it may cause partial deafness.

In cleaning the ears, care should be exercised not to handle them too roughly. How many times do we see careful, painstaking mothers in their zeal for cleanliness, scrub the ears of their little ones, digging into the inner recesses with fingers and wash cloths, until our own ears ache and tingle in sympathy. The rim, or folded over portion of the ear, should be cleaned very carefully and dried thoroughly; if the folds are very close, the seams will crack easily if not properly dried.

The hearing and the eyesight are both materially affected by the general strength and vitality of the system. Normal vitality means a normal strength of nerves, forceful circulation, pure, well nourished blood and full breathing; it means, also, perfect bodily activity in all cells, in tearing down and removing the waste of the system and in converting the nourishment contained in the food into body tissue.

All cases of difficult hearing should, however, be diagnosed by the aurist, just as diseases of the eye should be referred to the oculist; but after the diagnosis is made, by working in harmony with the aurist or oculist, you can often do more than they, by building up the blood, the circulation and the general vitality, through

directions for exercise, diet, breathing and rest. These two senses are so important to the happiness and development of the individual that every care should be taken with the child to arrest any impending danger.

From the point of looks, also, the ears should
Shapes of Ears receive attention and consideration. Homely ears may disfigure an otherwise shapely head.

Many deformities in children's ears are due to carelessness of the nurse or mother during the child's infancy and younger days. A babe, with perfectly formed little ears, will be put to sleep on its side, with the ear carelessly folded forward. This habit will in time cause the ear to set out from the head at a very disfiguring angle. Some attractive faces are ruined by protruding ears, giving the face a most grotesque appearance. This could have been prevented in early years, when growing tissues were so susceptible to change. It is a pity to let a child grow into manhood or womanhood a mark for amusement and criticism, when a little care at the proper time would have prevented his misfortune.

If the ears are naturally large and prominent they can be trained to lie closer to the head by persevering with any simple, little device which will hold the ears down with a firm, even and steady, but not too severe pressure. A skeleton framework made of cloth or tape the shape of a cap, with ear pieces sufficiently large to hold the ears in place, can be worn without obstructing the necessary circulation of air around the head and through the hair. If, by constant care and use of the cap, the above method does not prove efficient, a first class surgeon can remedy the defect, with no attending danger and little trouble, by removing a small elliptical piece of skin and cartilage

from behind the ear where it is attached to the head. The wound would be very small and would require but few stitches. In such a case the "stitch in time" would save many days and hours of mortification for the child in later years.

Boys are prone to push hats and caps too far down on the head, often pushing the top of the ear out from the head. This practice will soon ruin their shape and develop protruding ears.

How many things mothers need to watch!

Women can more easily cover the defect of protruding ears than men, by drawing the hair down over them so that the defect is less noticeable.

Anatomy and Physiology To cover the anatomy and physiology of the ear fully would require more minute detail and take up more space than I can give here, and for the purpose of this work it is necessary to treat only such phases of ear difficulties as can be affected by hygienic treatment.

The accompanying illustrations, Figures 2, 3 and 4, show the intricate mechanism of the ear. Figure 4 shows the auditory nerve (F), and the labyrinth of the ear, from a different point of view to Fig. 3. The numbers below refer to Fig. 3.

Drum Head or Tympanic Membrane The auditory tube or canal (3) leads from the outside of the head to the drum head or tympanic membrane (4),—a delicate membrane which is a continuation of the skin of the canal. It stretches across it and entirely blocks up the tube, separating the inner and the outer tubes. Note the distinction in the following pages between the drum, the cavity of the middle ear, and the drum head.

The function of the drum head is largely protective, though it receives the sound waves and aids in conveying them to the middle ear through the little ear bones, the incus (5), malleus (6) and manubrium mallei (7), connected with it. The waves of air vibrate against the drum head; this causes a vibration in the drum or middle ear from which the nerves convey the impression to the brain.

The ear simply vibrates the air waves, the nerves transmit them and the brain registers and senses the impression.

The tympanic membrane is the most sensitive musical instrument created. It acts as a phonograph in receiving sound waves.

The drum head often becomes punctured; this is deplored, because of the removal of protection to the middle ear and because the ear may become too dry, but one often hears very well through a punctured ear drum and the belief that it is absolutely essential to hearing is no longer held. Low tones may be heard less distinctly because of defects in it, but loud tones quite as well.

When weakened by disease, small pressure may puncture the drum head, or cause it to sink in upon the small bones of the middle ear, so that its vibration is interfered with.

When the drum head has been injured, or if it has thickened, it cannot vibrate as the sound waves strike it, and the hearing is less acute.

A box on the ear sometimes causes a puncture, but the middle ear is the source of most aural trouble.

If conditions are normal the drum head stands perfectly straight, held in position by the pressure of air in the tube on the inner side, resisting the pressure of the air in the external auditory canal. These tubes, assisted by the nerves of the ear,

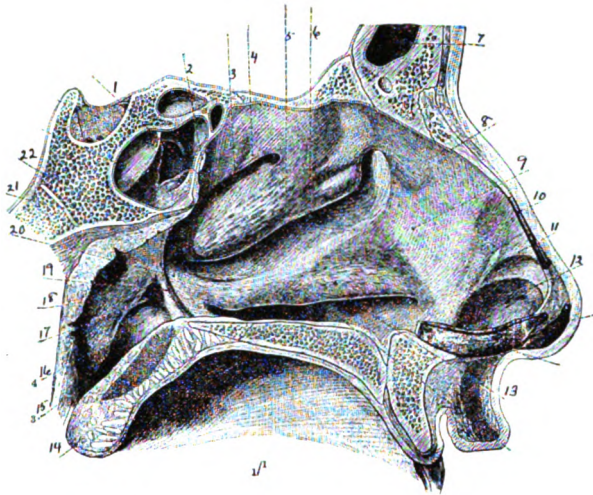


Figure 1.

The left lateral wall of the nasal cavity showing the vestibule of the nose and the naso pharynx. (Toldt)

- 1, Spheno-ethmoidal recess. 2, Sphenoida foramen. 3, Superior meatus of the nose. 4, Superior turbinal. 5, Middle turbinal. 6, Middle meatus of the nose. 7, Frontal sinus. 8, Agger nasi. 9, Atrium of the middle meatus. 10, Upper lateral cartilage. 11, Limen vestibuli. 12, Vestibule of the nose. 13, Inferior turbinal. 14, Soft palate. 15, Salping pharyngeal fold. 16, Levator cushion. 17, Pharyngeal orifice of the Eustachian tube. 18, Cushion of the Eustachian tube. 19, Nasopharyngeal fold. 20, Nasopharyngeal part of the lateral wall of the nasal fossae. 21, Occipitosphenoïdal synchondrosis. 22, Arched summit of the pharynx.

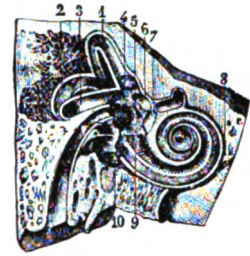


Figure 2.

The bony labyrinth of the ear. 1, 2, 3, Semicircular canal. 4, Vestibule. 5, Ampulla. 6, Fovea semi-elliptica. 7, Fovea hemispherical. 8, Cochlea. 9, Origin of lamina spiralis ossea. 10, Foramen rotundum. (Gould)

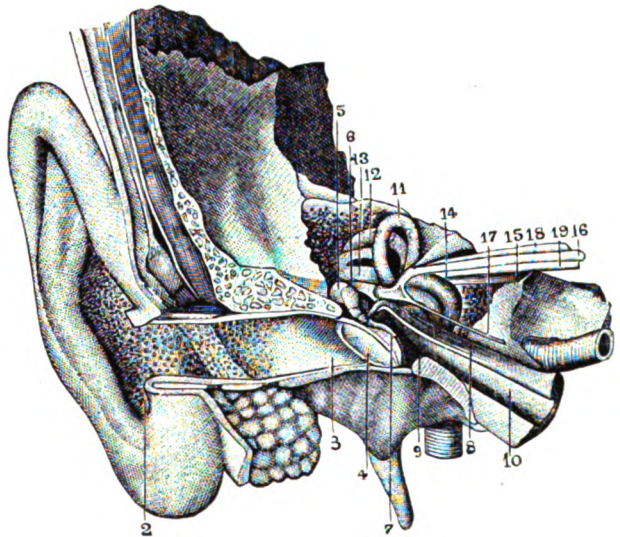


Figure 3.

- 1, Auricle. 2, Concha. 3, External auditory canal. 4, Tympanic membrane or drum head. 5, Incus. 6, Malleus. 7, Manubrium mallei. 8, Tensor tympani. 9, Tympanic cavity. 10, Eustachian tube. 11, Superior semicircular canal. 12, Posterior semicircular canal. 13, Cochlea. 14, Internal auditory canal. 15, Facial nerve. 16, Large petrosal nerve. 17, Vestibular branch of auditory nerve. 18, Cochlear branch. (Gould)

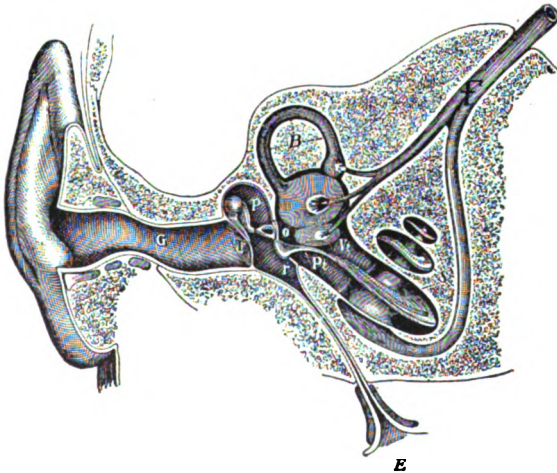


Figure 4.

THE
NORREY
1911

establish the sense of hearing; so upon their healthy condition depends the acuteness or dullness of the hearing.

Beginning in the back part of the throat is an inner tube, extending toward the outer tube and the air from this reaches this membrane or drum head from within. This inner tube is known as the Eustachian tube (10). It is more fully described later.

Nerves of the Ear The nerves of the ear, which receive and carry the sound waves, are so deeply located, that they are not easily reached by outward applications, and are affected only by building up the general health. If the nerves are tense they may often be relaxed by the application of heat, which is most penetrating if applied in the form of steam. In case of a gathering or abscess in the ear there is extreme pressure upon the nerves; these nerves will relax their hold, the tissues relax and the abscess or gathering more quickly head, if steam be applied through the auditory canal, as directed on page 217.

We can reach the nerve centers controlling the ear, located in the Pons, slightly, by exercises for the neck, but these centers are so deeply located at the base of the brain and so entirely protected by the skull, that they are reached very slightly.

Middle Ear or Drum The middle ear, the drum or tympanum (9), is the intricate air space within the petrous portion of the temporal bone. It is the outward extension of that portion of the air passages known as the naso-pharynx, where nose and throat meet, illustrated by Figure 1.

The whole middle ear is lined with a mucous membrane continuous with that of the nasal passages and the naso-pharynx. The mucus, which exudes from the mucous membrane, finds its outlet

from the middle ear through the Eustachian tube into the naso-pharynx and from the naso-pharynx into the throat. This is particularly noticeable in case of catarrh; the lining of the middle ear, being continuous with that of the nasal passages, is easily affected by any abnormal condition prevailing in the latter, hence the need of checking catarrhal tendencies, that the hearing may not become seriously involved. In case of inflammation the patient should be kept quiet.

**Naso-Pharynx and
Eustachian Tube**

The naso-pharynx is the space back of the nose. Its roof is formed by the base of the skull, its back by the vertebrae of the neck, its front by the ends of the nostrils, its floor by the soft palate, and its lateral walls by the trumpet-shaped mouths of the Eustachian tubes, which connect the middle ear with the naso-pharynx. These tubes act as drainage channels, through which the waste matter from the ears is carried into the throat. In case of catarrh, abscess or inflammation, it is of the utmost importance that they be kept strong, free and unobstructed.

The Eustachian tube, then, is important as a drainage tube from the ear to the throat, but its function of admitting air is equally important. The air in the inner ear is necessary to maintain the tension and equilibrium of the drum, which transmits the sound waves to the nerves of the inner ear.

There are two air systems;—with each inhalation a part of the air passes through the trachea to the lungs and a part passes through the upper air chamber (the naso-pharynx) and the Eustachian tubes to the ears.

Without the normal amount of air in the middle ear, or drum, the mechanism of the drum becomes defective; that is, if the Eustachian

tube leading from the throat to the ear is closed the air does not freely pass from the naso-pharynx to the ear, the pressure of air within the drum is thus lacking, and the atmospheric pressure from without, which is about fifteen pounds to the square inch, not being met by an equal pressure within, forces the drum head inward, causing it to draw toward the throat, much as a suction of air draws a window curtain inward; and, as the sound waves strike the membrane, or drum head, which is resting against the incus and malleus, it cannot vibrate, thus the sound waves are not conveyed to the nerves.

Effect of Full Breathing It will be readily seen how materially breathing, which retains a pressure within the drum equal to the pressure without, strengthens and holds the membrane of the drum at proper tension. It will also be readily seen how necessary it is that these membranes be thoroughly nourished by pure blood. If the body is undernourished by food or air the membranes of the ear become weakened.

It is when the drum head draws or sinks inward that the Politzer bag is used. It forces air into the ear drum during the act of swallowing, thus pushing the membrane of the drum back to position. The Politzer bag should be used only upon the advice of the aurist because if the drum head be weak it may be overstrained.

Such a condition is most frequently caused by catarrh and the extent to which the hearing is interfered with depends partly upon whether the Eustachian tube is partially or wholly closed. Special exercises, according to conditions, may be given to keep the Eustachian tube open, also breathing exercises to tone and strengthen the nerves of the mucous lining of the ears.

Breathing exercises, which answer the purpose of the Politzer bag, in a milder degree, may be practiced to systematically force a full amount of air into the air chamber of the drum, thereby strengthening its walls without danger of overstrain.

In swallowing, the mouth of the Eustachian tube is slightly elevated and the air more readily passes from the naso-pharynx to the middle ear.

Normally, every act of swallowing, yawning or breathing opens the tubes and gives a chance for equalization, unless the nose be stopped up. In that case, the process is reversed and, if the Eustachian tubes are likewise clogged, every swallowing motion by suction draws the air out of the ears.

Again—if the Eustachian tube be closed or partly so, the sounds will not only reverberate unnaturally within, but the air will be absorbed by moist walls, the partial vacuum will affect the ill-supporting drum membrane, and the pressure from without, being greater than that from within, will cause the bone of the middle ear to press too closely upon the network of cavities in the internal ear, producing deafness or dizziness, or subjective noises, and there may be a tendency to congestion.

The tissues here are delicate and the regular practice of breathing exercises, daily, is nature's method of retaining their strength. Exercises for the neck, to keep the Eustachian tubes free, also exercises for the palate, are particularly valuable in maintaining the general strength of the ears. The constrictor, or palate muscles, blended with those of the ear drum and the Eustachian tubes, control the movement of air in the upper air tract.

The ear secretes a yellow, sticky wax, which prevents foreign bodies from reaching the drum head. When the auditory canal is irritated, this wax is thrown out in large quantities and accumulates rapidly.

Ear wax is formed by glands, like the sweat glands. As these glands are in the outer two-thirds of the auditory canal, no wax forms near the drum head. A healthy ear should never show more wax than will render the hairs within sticky. Sometimes, however, the water which enters the ear in bathing will harden the wax and it will not work itself away naturally. One sometimes becomes deaf by reason of the wax, collecting gradually for several months, hardening and entirely closing the canal. Great care must be exercised in the removal of hardened wax. Never attempt to remove it with a hard substance, which may push it inward and injure the drum.

It can be removed by dropping two or three drops of warm olive or sweet oil into the ear at bed time. The next morning add a half teaspoon of soda to a pint of hot water, 105 degrees to 115 degrees F., and syringe the ear. In doing so, always point the syringe upward so that the water will not be directed against the ear drum, but by entering back of the wax, will wash it out. Promiscuous syringing of the ear is dangerous.

Follow the directions for syringing when, for any reason, the ear passage is to be cleaned out. It is well to always wear a bit of cotton in the ear for a few hours after syringing, as the inner and middle ear are more susceptible to cold at that time.

By far the largest percentage of deafness, ear noises, Catarrh etc., is caused by catarrh, which is merely an inflammation of a mucous lining. It is most frequent in the nasal passages and respiratory organs, but it attacks also the mucous lining of the stomach (gastritis), the intestines, bladder, etc. Catarrh is more fully treated under the chapter upon "The Nose."

Catarrh, and its resultant deafness, can often be overcome by persistent attention to special breathing exercises, which keep open the nasal passages and control the passage of air into the Eustachian tubes and by bodily exercises to free the spinal nerve centers controlling the head. Exercises may be given which stimulate the nerves to the ears, create an active removal of waste through the tubes, and cause a normal flow of blood through the entire body, thus improving not only local, but also general conditions.

Exercises which bring strength to all vital organs are most important in the relief of catarrh because they are the best means of purifying the blood. As the veins and lymph channels lie very near the surface in the neck, massage may be so applied as to remove the blood impurities here and bring fresh nourishing blood to the head. All exercises which stimulate a better circulation through the head, are of benefit to the ears.

For example: exercises for the ears and Eustachian tubes not only empty the tubes of all waste, but are soothing to the nerves of the neck by bringing purer and more nutritious blood to it.

In case of catarrh, when the mucous discharge is great, the freedom of the Eustachian tube is of utmost importance, since the mucus must pass through it to the throat. If the mucus be not

removed, it may become infected, pus may form and an abscess result.

The diet must also be supervised, that the blood may be thoroughly nourished.

Anything which affects the functions of the auditory
Causes of canal, the middle ear, the drum head, or the Eustachian
Deafness tube may affect the hearing or cause those disagreeable noises or muffled sounds in the head from which so many suffer without knowing the cause.

When the auditory nerve is paralyzed there is no hope for a cure.

If the external ear be closed partially or wholly, with hardened wax, it produces a form of deafness.

All conditions that obstruct the free passage of air through the Eustachian tube have their origin in diseases commencing in the nose and the throat. The disease extends from the throat into this tube, which, as previously explained, is lined with a mucous membrane continuous with that of the nose and throat; so, any inflammation or affection of these parts may extend into this tube and up into the ear; e. g.: when one takes a cold, which settles in the throat, the inflammation causes the opening of the Eustachian tube to partially close. This prevents the passage of sufficient air to the drum and very often results in ear trouble and even in deafness, especially if the inflammation, or catarrh, becomes chronic.

When deafness is caused by acute catarrh, or by a severe cold, inflammation starts in the nose and naso-pharynx, continuing up through the tubes, to the middle ear; therefore, in order to treat

Malformation of the nasal turbinates is a common cause of deafness.

the deafness successfully, it is necessary to stimulate the secretions, and bring fresh blood to the parts, so that the inflammatory deposits left in the membrane will be absorbed by the normal flow of the blood through the parts. The opening of the Eustachian tube into the naso-pharynx is shown in Figure 1 (17).

In children, the greater part of the roof of the naso-pharynx is covered with what is called the third tonsil and the enlargement of this by adenoid growth is grave, because it may possibly involve the Eustachian tube and the middle ear and result in deafness.

Mothers should carefully watch growing boys and girls, who are forming the habit of keeping the mouth open. As a rule it indicates trouble in the nose or naso-pharynx. The number of boys and girls in their teens who keep their mouths open is alarmingly increasing. Deafness caused by enlarged glands in the post-nasal cavity and by adenoids is most common among children under fifteen. When affected they usually sleep with the mouth open, snore, and make a good deal of noise, while asleep. Very often if the above diseases occur when a child is two or three years old and the glands swell very much, it results in deafness and dumbness, especially if the child has not learned to talk. When the glands swell badly it causes the tissues of the middle ear to close entirely and collapse. This results in complete deafness.

Habitual stopping up of the nose in children is serious, as chronic deafness may result from neglect of this condition.

Chronic catarrh of the nose, throat or post-nasal cavity, or inflammation and inflammatory thickening of the membranes of throat, head and nose, must be healed and relieved before any definite improvement will be experienced in deafness or head noises.

Diseases that most commonly affect the ears and hearing are measles, scarlet fever, diphtheria, pneumonia, bronchitis and catarrh.

Every cold in the head more or less involves the ears. Massage of the throat, below the points effected; compresses, hot or cold, as the case demands; exercises to stimulate the circulation and to reach the nerve centers controlling these parts; and breathing exercises to regulate the air in the nasal passages and Eustachian tubes, are most effective means of relief. Massage movements may prevent serious trouble, if practiced persistently.

Earache, arising from cold, usually means inflammation and is relieved by heat. The best way to apply the heat and make it penetrate is by steam:

Fill a glass half full of hot water; oil the ear and the flesh around it thoroughly with vaseline or cold cream, so that the steam may not blister the skin; fold a cloth around the top of the glass to prevent contact with the flesh; turn the head letting it rest upon the glass with the ear within, so that the steam penetrates into the auditory canal; press the head upon the glass with just sufficient pressure to prevent the steam from escaping, but be careful not to turn the glass up so as to allow the hot water, or the sides of the glass, to touch the ear.

Keep this up continuously until the inflammation subsides.

When the glass is removed, fill the ear with cotton and bind a warm cloth about the head to prevent taking cold in the tissues which have been relaxed by the steam.

Steam, applied in this way, is more penetrating than hot water compresses or baked onions, or the many other remedies frequently employed.

It is not wise to syringe hot water into the ear in case of inflammation, unless you know the exact condition, because the drum head may have been drawn inward, as shown on page 211, or it may have been punctured and the force of water from a syringe might aggravate this trouble. In case it is necessary to syringe the ear, it is well to use the Politzer bag after the syringe so that the air from the bag may force out the drum head pressed inward by water of the syringe. An aurist should thoroughly examine an ear in case of ear trouble and then instruct some member of the family in its treatment.

It must be remembered, however, that severe inflammation cannot be relieved at once. Rest in bed, with light diet is advisable, as severe exercise may increase the pain. The Eustachian tubes should be kept free by light massage of the neck that the secretion may pass away and not unduly press within the ear drum.

The old-fashioned night cap protects the entire region of the ear and is preferable to cotton in the ears at night. One sleeps on one side of the face and when turning exposes the ear to a sudden change of temperature, which is disastrous to inflamed ears. The night cap prevents this sudden change.

Constipation, poor circulation, or any cause of head congestion, should be removed.

Sometimes when there is serious catarrh of the
Abscesses drum, the secretions, being clogged, become infected, causing an abscess, and relief can be obtained only by the abscess breaking through the drum head. Moist heat applied in the form of steam, as above, will hasten the breaking of the abscess and reduce the pain.

An abscess in the ear is a pus formation resulting from suppurative inflammation. The symptoms are pressure, meningitis, headache and optic neuritis.

Few children, in climates subject to sudden changes, escape attacks of this kind; if they recur frequently watch carefully the hearing.

Abscesses in the middle ear, which break and discharge through the drum head, perforate it. If the perforation be small and located away from the center of the ear drum, it may only cause slight deafness, but if large, the deafness will be more pronounced.

A few drops of peroxide of hydrogen dropped into the ear twice a day after the pus begins to discharge will cleanse and disinfect the outer ear. This will cause the pus to boil up, and when a seething sound is no longer detected the pus is all removed; then, if the perforation is closed, syringe the ear out with warm water in which a little boracic acid has been dissolved, but all syringing of the ears after an abscess should be done under the immediate direction of a physician, who determines the condition of the perforation. Remember the water should be directed upward against the upper part of the auditory canal and not with direct force against the drum head; if carelessly attended to, so that the healing process is slow, the ear drum may remain perforated. Massage movements given elsewhere in the lesson, will help to stimulate the circulation to the ear and the perforation may, in most cases, be wholly healed.

In the absence of good health and pure blood it cannot be expected that the organs of the body will adequately meet the requirements imposed upon them by the strenuous life of today.

**Noises in
the Ears**

Noises in the ear have no definite relation to defective hearing; however, they are often associated with it.

Their cause is as varied as their character, though the most frequent cause is irritation of the nerve ending in the ear, caused by pressure. The seat of the irritation is often in the nose.

Anaemia, abnormal blood supply (plethora), defective digestion, poor circulation, stomach or intestinal catarrh or blood changes may cause them.

In other cases, the general condition of the veins and the arteries and especially over action of the heart, may cause them.

Another form of noise, which bystanders can hear, is a clicking due to opening of the Eustachian tube when the soft palate is lifted.

All inflammation, congestion, inflammatory deposit, and tension on the little tendons and nerves of the ear drum, must be relieved before noises in the head and ear will disappear.

**Eczema of
the Ears**

Children are more often affected with this form of eczema, especially when there is a similar condition of the scalp or face, but adults may also be affected.

In acute cases the ears will be red, swollen and very tender, while in chronic cases, they will be fissured, board-like in texture and have a scaly surface. Eczema of the external passages of the ears will cause deafness, a feeling of fullness, combined with pruritus (itching) and the canal will become clogged with scales and cerumen (ear wax).

Formulas for ointments and lotions will be given for relief when desired.

**Prognosis
in All Cases**

If the glands, blood vessels, nerves or tissues have not been destroyed, any disease of the nose, throat, ear or eye, should respond to proper hygienic treatment.

Diseased deposits in the tissues create chronic ailments, the organ gradually loses its functions and in time atrophies or becomes paralyzed.

Bring fresh blood to the parts, increase the vitality and tonicity of the nerve power, increase the flow of fresh secretion into the parts and re-absorb all inflammatory deposits, by exercises and massage.

It must be remembered that all ear difficulties will require persistent treatment;—in other words, faithful exercise and breathing each day, until the inflammatory deposit breaks up and is reabsorbed through the blood.

Very often a slight surgical operation upon the adenoids or turbinates will remove the cause of ear difficulties. This should be followed by exercise, breathing and general hygienic treatment.

CHAPTER VII

THE HANDS

The hands are an important medium of expression. The delicate nerves here may be cultivated to express thought to such a degree as to be almost incomprehensible to one who has not lived with those deprived of other senses, particularly the sense of sight. Take, for example, the hands of the blind Nydia, shown on the accompanying sheet; they seem almost to be quivering to express the sight denied the eyes.

The hands of the master musician, whose soul is moved, as with the music of the choir invisible, seem to be waiting, expectantly, to express the harmony heard by soul, not ear. The hands of St. Cecilia (Fig. 4), delicately flexible, seem almost to be saying to the hovering muse: "I am ready. Use *me* as your medium of expression." One can appreciate the refined thought, the artistic, exquisite nature of the possessor of the hands of Fig. 2, and the strength and refinement of Fig. 1, while the hand of Fig. 3 is too beautiful to disfigure with the mere metal of jewels. The beauty of nature is sufficient.

In races that gesticulate a great deal, particularly the French, the hands express much of the temperament,—the play of thoughts and the hidden depths,—which the face, schooled to control, does not.

This may be partly due to the fact that most sensitive and delicate nerves extend to the palms and to the finger tips.

The nerves of the hands become so sensitized that many physicians have learned to use them as diagnostic aids in their profession. Low vitality and slight resistive force, often express themselves in a cold perspiration in the palms,—the sweat glands here are very profuse. The clasp of such a hand is clammy and disagreeable.

A vast amount of character is expressed by a handclasp, and if the face be studied, in conjunction with the hand, corresponding lines of weakness or strength may be discovered.

A firm hand is designated as a positive hand. The negative hand is limp and unresponsive, denoting more or less weakness of character, or depleted vitality. The artistic hand is sensitive and may be either positive or negative, but is always expressive of the artistic temperament. (See Figs. 5, 7 and 9.)

Note the life expression which the artist has given to the hands of Fig. 8, illustrated more clearly in Fig. 9; and what eagerness and strength is shown in Fig. 10.

Nothing detracts more from one's appearance than neglected hands and nails. Failure to care for and develop lines of beauty here, suggests neglect of a sacred duty to educate, elevate, and refine through cleanliness.

Being a means of expression of the artistic sense, if not properly cared for, they displease and grate upon our finer sensibilities, for well groomed hands, daintily used, are an unfailing indication of delicacy of thought and nature.

The shape of the hand can be changed by cultivation and care to a certain degree, only. If the joints have become large, by reason of hard work, it is possible that

Hand
Exercises

15

they may slightly taper down, if one is relieved from hard work and the hand massaged and given good care; but if the hand has been subjected to hard work, during its growing years, or if a rheumatic or gouty condition exist, the joints themselves become enlarged and no amount of care can change the shape of the joints. They may be kept soft and flexible and be well cared for, however.

Fingers which taper gradually are considered artistic, and exercises may be given to develop this characteristic, as well as exercises to develop a good, firm, honest hand, so much to be admired.

Exercises will also develop grace and flexibility; every woman who wishes to cultivate a graceful hand should learn to relax it. Too much energy causes ungraceful, clumsy movements. When one has worked hard at some period of life, the hands form the habit of being too much energized, and a little time spent in their care and upon exercises for flexibility, will work wonders. But the treatment must be regular and systematic.

**Daily Care
of the Hands** The appearance of the hands can be greatly improved by taking good care of them each day. Do not abuse them in doing your housework, and do not fail to care for them just as conscientiously as you care for your face and neck, every night before retiring. When doing rough housework, use rubber gloves, such as are worn by surgeons; during cold weather, when more special care of exposed skin is needed, use a larger sized kid or chamois glove at night, whenever the hands seem to be unusually rough, after first anointing well with a skin food, hand cream or healing lotion.

Stains may be removed by lemon juice, alcohol, salt or pumice stone,—the latter is powdered or in plain lump or mounted form.



1



2 Nydia



3



4



5 Isaiah

(SARGENT.)

THE
N CREAS

The hands should always be thoroughly dried (this is more necessary in cold than in warm weather) and judgment exercised as to how often they need washing, for exposed skin will not stand as indiscriminate use of water in winter as in summer.

In cold weather, particularly, have a good hand lotion on your wash stand and moisten the hands with this each time, after washing them, to prevent them chapping and to keep them white.

The kind of soap to be used must depend upon the character of the skin. If dry, an oily soap, such as an olive oil or glycerine soap would be best; if oily, any kind of good toilet soap may be used. What agrees, however, with one skin may not with another; therefore, if you have not already done so, it would be advisable to give the leading good, unscented soaps a trial and note results, continuing that which you find most beneficial for your skin. Avoid cheap, perfumed soaps, such as are supplied free in public places. Always carry your own soap, in traveling.

An excellent plan, and an economical one, is to buy a large bar of good castile, cut it into small convenient sized cakes, by use of a cord or knife, and let them dry thoroughly. This is excellent for the skin and also for shampooing. Ivory soap is cheap, it contains no free alkali, and it is as good for cleansing hands or body as many, if not all, of the expensive ones.

Hands
Chapped A chapped condition of the skin is, properly speaking, a dermatitis, or mild skin disease. Besides being caused by exposure to heat, dirt, wind, weather and cold, it is, also, the result of not properly drying the hands after washing them, particularly in winter;—it may come from a mild eczema of the hands. Constant exposure to dust and dirt will chap the hands very

quickly, and it is very necessary to keep them moistened with a good hand lotion, because it is drying.

Until the roughness is overcome, or in case you are obliged to wash your hands often in cold weather, each time after they are bathed, or put in water, they should be anointed with a good hand lotion. A hand lotion or a good healing oil, such as white vaseline, olive or almond oil, cold cream, should be thoroughly rubbed in at night before retiring. There is no better healing oil than white vaseline. When the hands are chapped, almond meal or oatmeal is better for cleansing than soap, on account of the drying quality of the alkali in the soap. A lotion of equal parts of glycerine, bay rum and rose water, with a few drops of carbolic acid is good for most hands.

Red Hands One frequent cause of red hands, in the past, was tight lacing, which impeded circulation; but few women are guilty of this bad habit to-day,—we love our freedom too well. The most frequent cause of this defect is imperfect circulation, indigestion, or undue exposure to dirt, to extremes of heat or cold, or to sun or wind. In such cases,—the congested blood vessels can be relieved, and the skin whitened, by attention to the use of pure, soft water and a softening lotion after bathing.

Salt Rheum and Eczema of the Hands Salt rheum is a chronic form of eczema, which more commonly attacks the hands, but frequently involves both hands and feet at the same time. The various forms of the disease are papular (pimply), scaly and moist. Eczema very often develops between the fingers and toes, while acute vascular eczema is quite frequent on the hands.

The susceptibility to and frequency of skin diseases of the hands



6



7 Soul's Awakening
(SAUT).



8 St. Cecilia



9



10

THE
MORE
YOU

is due, more or less, to their exposure to external irritants, and is of course aggravated by too frequent washing.

Fissures will result wherever eczema has impaired the elasticity of the skin, causing it to tear and stretch, when a necessary movement is made in the joints. This form of eczema often affects the hands and arms, feet and ankles, and frequently develops about the mouth and the anus.

Mild forms of scaly, fissured eczema will occur on the hands and faces of those with thin, tender, or poorly nourished skin, or when the skin has been exposed to the wind, strongly alkaline soaps, hard water, chemicals or other irritants.*

Care of
the Nails Manicuring is an art in itself, and one which every woman should understand and practice, for well groomed hands and nails indicate a delicate refinement and attention to details of appearance, which mark the woman who fully appreciates the influence such little attentions to the toilet have upon the atmosphere about us.

Diseases of the nails, such as arise from blood disorders, gastric disturbances and other causes, require special treatment and of course do not come within the province of manicure instructions.

The nails should be carefully manicured once a week, according to directions which follow, and properly cared for each day, so that the arc of skin about the nail may present an unbroken line. As often, therefore, as may be necessary during the day, thoroughly clean with a brush and remove all foreign matter from beneath, then gently push the cuticle back. On no account trim the cuticle with the scissors, as this process leaves broken and sometimes raw edges,

* Eczema is more fully treated under the lesson upon "The Skin."

which will need constant attention. If the cuticle is ragged, be patient and rub off with the fingers what is too loose, or use pumice stone.

In cleaning the nails, it is never advisable to use a sharp, metal point. If the tip of a file is used, it should be rounded slightly, and its edges smooth. Otherwise, the inner surface of the nail will be scraped and roughened, thus permitting it to hold dust more readily. The rounded point of the orange stick is a good nail cleaner, and, cut short, may be carried in the purse.

In selecting scissors, files, etc., get only the best grade, as they will give better service, last longer and will prove cheaper in the end.

A complete manicure outfit consists of a file, scissors, tweezers, cuticle knife, buffer, orange sticks, emery boards, nail-brush, soap, hand lotion or cream, nail-powder, a small bottle of peroxide of hydrogen, and a small pumice stone.

A thin file is easiest to handle, and will reach under the edge of the nail better. A good file costs only 30 cents, if you buy one with just a plain extension handle.

In selecting scissors, get full steel scissors, with plain, round handle and curved blade.

Of course, if you wish to get more elaborate designs in scissors or other manicure pieces, very beautiful ones may be had in silver, but plain steel instruments are more substantial and satisfactory for practical use.

The cuticle knife should be of steel, also, and should be very thin and pointed; it should be used when the orange-wood stick will not loosen the flesh from the nail.

In selecting a buffer, see that it is soft and pliable, and about four inches in length. This is used for rubbing the nails after the

polishing powder is applied. Put it away each time after using, so that dust and dirt will not collect on the chamois that covers the pad.

Orange-wood sticks come only in one grade and size and are used for loosening the cuticle which grows upon the nail, and cleansing underneath the nail itself. The orange-wood sticks are preferable to any other, as they do not become soft or swell, as other woods do, when wet. A real orange-wood stick is hard to get, nowadays, as many imitations are sold. Remember that a yellowish, close-grained texture of wood identifies the orange-wood. They sell for 5 cents each.

Emery boards are also of one grade and one size, but they have a coarse and a fine side. The coarse side is to be used first and the fine side last. These are used to smooth the edges of the nails after filing and are very inexpensive, costing but a few cents per dozen.

Any good, cold cream (even the sweet cream of milk), is suitable as a lubricant for the nails and surrounding cuticle and to prepare the nail for polishing.

For polishing, a nail powder is needed. It can also be gotten in compressed cake form. The latter is convenient to use and prevents wasting the powder.

A good nail brush will cost 30 to 40 cents. The kind with a flat back and bristles on the sides is most in favor.

A small bottle of peroxide of hydrogen should be kept with the manicure outfit, ready for use, as directed or needed. It is used to bleach the under side of the nail and remove stains.

Many manicurists use powdered pumice stone to assist in removing the stain, but this is not necessary.

No point of womanly beauty so quickly responds to proper care or shows so much improvement for the amount of time expended as the finger nails. And there is no feature which detracts more from a woman's charm than do ill-kept nails.

The care of the nails should begin in childhood. On the care which the child's finger nails received depends very largely the beauty or unattractiveness of the nails later in life. Nail-biting, with its consequent deformities, is a habit often started by rough, neglected nails. A child, when it discovers a rough place on a finger nail, will bite and tear the rough edge. Of course, the nail is no smoother after this is done, and the process is repeated. Thus the habit of nail-biting is acquired.

A rough or broken nail should never be neglected longer than it is necessary to reach a nail file. If the habit of nail-biting has been formed, it may be corrected by first smoothing the remnants of the nails which have been left and then anointing them with quassia, quinine, bitter aloes, or anything else bitter, yet harmless. Keep close watch on the nails and if they are bitten again, immediately file down the rough edge. Just so long as the nails are smooth there is no nervous irritation to encourage biting them.

In the case of children, it is just as easy to smooth the roughened edges of the nails as it is to reprove the child for biting them, and far more effective.

General In- The importance of proper manicuring cannot be
structions for overestimated. No matter how beautifully shaped the
Manicuring hands may be, they will not be attractive if the nails are not properly manicured.

The most graceful, tapering fingers will appear unattractive if the nails are rough and uneven, stained or ill-shaped. Rough cuticle will mar the appearance of a hand which, if properly cared for, would be beautiful. If the nails are perfectly cared for, even the hand which is not beautiful in contour may be made attractive. Just as personal daintiness is the redeeming feature of many an otherwise plain woman, exquisitely manicured nails lend attractiveness and charm to the plainest hand.

It does not require any great length of time properly to care for the nails; in fact, a small amount of time devoted regularly to them gives better results than does a greater amount of time spent haphazard. Ten minutes each day, with half an hour once a week for the manicure, is sufficient time to keep the nails in proper condition.

The daily care of the nails is very simple. Always after bathing, when the nails and the flesh surrounding them have been thoroughly softened by the water, press back the cuticle with a soft towel when drying the hands. Do this gently, being careful not to bruise the nail. If every time you wash your hands you remember to do this, the cuticle will gradually become free from the nail and the white crescent will show more plainly.

Never clean the nails with a sharp instrument. This only scrapes and scars them, leaving them rough and very much more easily soiled. Have the point of the orange-wood stick moderately sharp for cleaning the nails. It is not well to use a thick instrument, as it forces the flesh away from the nail. However, if the orange-wood stick is too sharp it will tear the delicate flesh beneath the nail and be very painful. About the sharpness of a soft lead pencil is advisable.

With the blunt end of the orange-wood stick, loosen the cuticle

surrounding the nail. Be very patient while you are doing this, for the cuticle is living tissue and should be very gently pushed from the nail. If the fingers are thoroughly soaked in warm water the operation is comparatively easy.

The tiny bits of flesh which adhere to the nail after the cuticle is loosened, the bits of skin which follow the outline where the cuticle was attached to the nail, should never be scraped off with a sharp instrument, but should be gently removed with the orange-wood stick.

Never to cut the cuticle is a hard and fast rule which needs no explanation to prove its wisdom. Cuticle is the living selvage of the flesh. Cut it, and you will have an uneven edge which will fray, developing hang-nails.

Hang-nails often accompany improperly cared for nails. Do not immediately cut them off, for you will more than likely make your fingers sore. Instead, soak the fingers in warm water until the flesh is thoroughly softened, then dry the hands carefully. Loosen the cuticle, beginning in the center of the base of the nail and working toward the point of the finger. Always loosen the cuticle in this manner. If the hang-nail is raw, apply a bit of peroxide. If the hang-nail is not very bad and the flesh is dry, the ragged edge may be worked off with the orange-wood stick; but always remember to work from the center of the base of the nail toward the finger tip.

If you find it necessary to clip the end of the hang-nail, cut *away* from the base of the nail, toward the end of the finger. Otherwise you are cutting against the grain, thereby aggravating the trouble, and encouraging the return of the hang-nail. If the cuticle be kept properly loosened the hang-nail will heal naturally, as would a cut in any other part of the skin. Never neglect the daily loosening of the

cuticle and you will not be troubled with the presence of hang-nails.

Lemon is one of the best bleaches for the hands. It removes many troublesome stains and does not dry the nails or make them brittle, as peroxide has a tendency to do. However, the stains will reappear when soap is used after lemon bleaching. It is well to have half of a lemon to use after washing your hands. The effect of the acid is to soften as well as to bleach. Plunge the fingers into the pulp of the lemon and work them around. This bleaches the skin beneath the nail.

The nails should be filed a little, every other day. If this is done there will be no necessity for cutting the nails. Clipping the nails has a thickening tendency, and it should be avoided.

Nails should be filed and shaped to suit the individual hands. It is well to allow the nails to conform to a great extent to the shape of the ends of the fingers. Sharply pointed nails are always in very bad taste, as are nails which are too long.

Brittle nails may be helped by application of a bit of oil or cold cream.

Polishing the nails is the last step in the manicure. The degree of polish should be governed by individual taste. The very highly polished nail is not regarded as good form. Moderation holds good in this case as in everything else. Powder or paste may be used for polishing.

Be careful in using the buffer not to rub the nails so rapidly that they become heated. The heat caused by brisk rubbing makes them brittle.

Finger nails which are extremely brittle and surrounded by broken and ragged cuticle may be greatly helped by a liberal appli-

cation of cold cream and the wearing of loose white gloves at night.

Cultivate the habit of right care of the hands and you will be fully repaid.

If the nails have been neglected and are in bad condition, you must not expect to accomplish a perfect finish in the first treatment; but if you will be persistent you will find that even the most unsightly nails can be made to look attractive in time.

If the skin adheres to the nail, or if the cuticle has been cut and is sore or ragged, or if the nails are inclined to be brittle, rub a little mutton or beef tallow, cold cream or white vaseline into the flesh about the roots each night.

When using a hand lotion, always be sure that it is rubbed well around the nails.

In case blood is drawn by the cuticle knife, or scissors, apply a little peroxide of hydrogen. It will stop the bleeding and act as an antiseptic and disinfectant.

The child should be early taught to properly care for its own nails.

SCIENTIFIC READING OF THE PALM

It seems reasonable that the characteristic thoughts should outline themselves in the expression of the hands, as well as in facial or bodily expression, and it may be interesting to my pupils to outline, broadly, the general character as read by the hand. I am, therefore, reproducing below the seven types of hands as drawn by Dore, with a brief description of the types by Cheiro.

I am not a student of palmistry and cannot go into a discussion of types of hands with my pupils but thinking the following brief description might be of interest, I give it.

The Elementary Hand
Fig. 1 "This hand naturally belongs to the lowest type of mentality. In appearance, it is coarse and clumsy, with large, thick, heavy palm, short fingers and short nails.

"It is always important to notice the length of the palm and fingers. Some books on palmistry state that to show intellectuality the fingers should be longer than the palm; but an examination of this statement will show that it is not correct. It has not been proved that fingers have been found longer than the palm. When, however, in proportion to the size of the palm the fingers are long, it indicates a more intellectual nature than when they are short. The deduction, therefore, is that the more the palm dominates the hand, the more does the animal nature rule. The people possessing such a type have very little mental capacity, and what they do possess leans more to the order of the brute.

The Square or Useful Hand
Fig. 2

“The square hand means the palm square at the wrist, square at the base of the fingers, and the fingers themselves square. Such a type is also called the useful, because it is found in so many walks of life. With this type, the nails, as well, are generally short and square.

“People with such a hand are orderly, punctual and precise in manner; not, however, from any innate grace of nature, but more from conformity to custom and habit. They respect authority, they love discipline, they have a place for everything and everything is kept in its place, not only in their household, but in their brains. They respect law and order, and are slaves to custom; they are not quarrelsome, but are determined in opposition; they prefer reason to instinct, peace to war, and are methodical in work and in habit. They are endowed with great perseverance, but are tenacious, not resigned; they are not enthusiastic over poetry or art; they ask for the material, they win success in practical things.

“In religion they will not go to extremes; they prefer substance to show and dogma to ideas. They are not adaptable to people, or versatile; they have little originality or imagination, but in work they have great application, force of character, strength of will, and often out-distance their more brilliant and inspirational rivals. They naturally love the exact sciences, and all practical study. They encourage agriculture and commerce; they love home and the duties of home, but are not demonstrative in affection. They are sincere and true in promises, staunch in friendship, strong in principle, and honest in business. Their greatest fault is that they are inclined to reason by a twelve-inch rule, and disbelieve all they cannot understand.

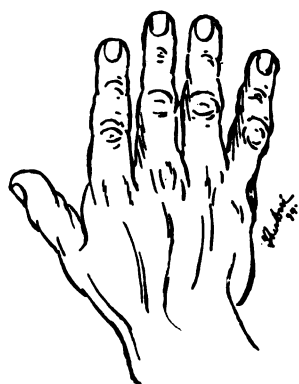


Fig. 1—The Elementary Hand



Fig. 2—The Square or Useful Hand



Fig. 3—The Spatulate or Active Hand



Fig. 4—The Knotty or Philosophic Hand.



Fig. 5—The Conic or Artistic Hand

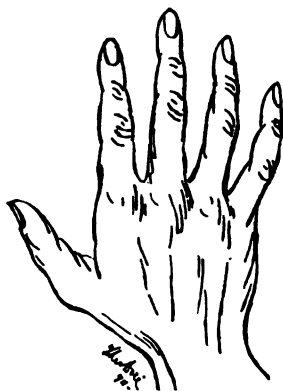


Fig. 6—The Psychic, or Idealistic Hand



Fig. 7—The Mixed Hand

THE
MORE
WORLD

The Spatulate or
Active Hand
Fig. 3

“The spatulate hand is so called not only because the tip of each finger resembles the spatula that chemists use in mortars, but also because the palm, instead of having the squareness of the preceding type, is either unusually broad at the wrist or at the base of the fingers.

“In the first place, the spatulate hand, when hard and firm, indicates a nature restless and excitable, but full of energy of purpose and enthusiasm. When soft and flabby, which is often the case, it denotes the restless but irritable spirit. Such a person works in fits and starts, but cannot stick to anything long. Now, in the first place, the peculiar attribute that the spatulate hand has is its intense love of action, energy and independence. It belongs to the great navigators, explorers, discoverers, and also the great engineers and mechanics, but it is by no means confined to such people, and may be found in almost every walk of life. As a rule, it is a large hand, with fairly long, well-developed fingers. The most striking characteristic of all is the singular independence of spirit that characterizes individuals possessing such a development. It is doubtless this spirit that makes them explorers and discoverers, and causes them also to depart from the known rules of engineering and mechanics to seek the unknown, and thus become famous for their invention. No matter in what grade or position in life these spatulate hands find themselves, they always in some form strike out for themselves, and assert their right to possess a marked individuality of their own.

“A singer, actress, doctor, or preacher with such a development will break all rules of precedent—not by any means for the sake of eccentricity, but simply because they have an original way of looking

at things, and their sense of independence inclines them to resent suiting their brain to other people's ideas. It is from this hand that we get not only our great discoverers and engineers, but also the whole army of men and women we are pleased to call cranks, simply because they will not follow the rut made by the centuries of sheep that have gone before them. Such men and women with the spatulate hands are the advance agents of thought. They are, it is true, very often before their time; they are often wrong in the way they set about their work; but they are, as a rule, the heralds of some new thought or life that will, years later, give life to their fellow-men.

The Knotty or
Philosophic Hand
Fig. 4

“The name of this type explains itself, the word ‘philosophic’ being derived from the Greek *philos*, loving, and *sophia*, wisdom. This shape of hand is easily recognized: it is generally long and angular, with bony fingers, developed joints, and long nails. As far as success in the-form of wealth is concerned, it is not a favorable type to have; it gleans wisdom, but rarely, if ever, gold.

“People with such a type are, as a rule, students, but of peculiar subjects. They study mankind; they know every chord and tone in the harp of life; they play upon it, and are gratified with its responsive melody more than the clink of coin. In this way they have as much ambition as other types of humanity only theirs is of a different kind, that is all. They like to be distinct from other people, and they will go through all kinds of privations to attain their end; but as knowledge gives power, so does the knowledge of mankind give power over man. Such people love mystery in all things. If they preach, they preach over the heads of the people; if they paint, they are mystic; if they are poets, they discard the dramatic clash

and color of life for the visionary similes and vaporish drappings of the spirit.

“Cardinal Newman, Cardinal Manning and Tennyson were striking examples of this type.

“With these hands, the developed joints are the peculiar characteristic of thoughtful people, while the smooth, pointed fingers are the reverse. Such hands are generally egotistical, which is in keeping with the life they lead. In character they are silent and secretive; they are deep thinkers careful over little matters, even in the use of little words; they are proud with the pride of being different from others; they rarely forget an injury, but they are patient with the patience of power.

“The conic hand, properly speaking, is medium-sized, the palm slightly tapering, and the fingers full at the base and conic, or slightly pointed, at the tip or nail phalange. It is often confounded with the next type, the psychic, which is the long, narrow hand, with extremely tapering fingers.

“The main characteristics of the conic hand are impulse and instinct. People with the conic hand are often, in fact, designated ‘the children of impulse.’ There is a great variety in connection with this type, but it is more usually found as a full, soft hand, with pointed fingers, and rather long nails. Such a formation denotes an artistic, impulsive nature, but one in which love of luxury and indolence predominate. The great fault with people possessing this type is, that though they may be clever and quick in thought and ideas, yet they are so utterly devoid of patience and tire so easily, that they rarely, if ever, carry out their intentions. Such people

appear to their greatest advantage in company, or before strangers. They are good conversationalists, they grasp the drift of a subject quickly, but they are more or less superficial in knowledge, as also in other things; they have not the power of the student, through want of application; they do not reason, they judge by impulse and instinct. It is this quality which makes them changeable in friendship and affection; one can easily offend them over little things. They are also very much influenced by the people they come in contact with, and by their surroundings. They are impressionable in *affaires de cœur*; they carry their likes and dislikes to extremes; they are usually quick tempered, but temper with them is but a thing of the moment. They, however, when out of temper, speak their mind plainly, and are too impetuous to study words or expressions. They are always generous and sympathetic, selfish where their own personal comfort is concerned, it is true, but not in money matters; they are easily influenced to give money for charity, but, alas! here they have not the power of discrimination, consequently the money is given to anybody or anything which may rouse their sympathies at the moment. These hands never get that credit for charity which falls to the lot of the more practical types. To get credit for charity very often consists in saving what we give to the beggar and giving it to the church, but the conic fingers never think of that. The beggar comes, and if the impulse to give is there—well, they give, and that is all.

The Psychic or
Idealistic Hand
Fig. 6

“The most beautiful but the most unfortunate of the seven is what is known as the psychic. This in its purity of type is a very rare hand to find. The name explains itself—that which appertains

to the soul. The very word seems to suggest to one's mind the old fable of the envy of Venus toward the maiden Psyche—the war of the goddess of passion against the more spiritual charm of the daughter of the soul.

“In its pureness of type it is a hard hand to find; nineteenth-century civilization does not encourage such rare flowers of lily whiteness and icy purity; the calmness, coldness and dreamy chastity of such a type are not sought after by the present-day sons of the soil, whose heads are bowed in the quest for gold, and whose blood is heated by the closeness of the battle. But although the exact type may be hard to find, yet there are hundreds of men and women who so approach the psychic that they must be considered part of it, particularly when the customs that control our present-day life are taken into consideration.

“The psychic is the most beautiful hand of all. It is in formation long, narrow and fragile-looking, with slender, tapering fingers and long, almond-shaped nails. Its very fineness and beauty, however, indicate its want of energy and strength, and one instinctively pities such hands if they have to try to hold their own in the battle of life.

“Individuals with the psychic hand have the purely visionary, idealistic nature. They appreciate the beautiful in every shape and form; they are gentle in manner, quiet in temper; they are confiding and they instinctively trust every one who is kind to them. They have no idea of how to be practical, business-like, or logical; they have no conception of order, punctuality, or discipline; they are easily influenced by others against their will, they are carried away by the strong rush of humanity. Color appeals to this nature in the

highest possible way; to some, every tone of music, every joy, every sorrow, every emotion is reflected in color. This type is unconsciously a religious one; it feels what is true, but has not the power to seek truth. In religion such people will be more impressed with the service, the music, and the ceremony than with the logic or truth of the sermon. They are innately devotional, they seem to dwell on the confines of the spiritual, they feel the awe and the mystery of life, without knowing why. All forms of magic and mystery attract them; they are easily imposed upon, and yet bitterly resent being deceived. These individuals have the intuitive faculties highly developed; they are good as sensitives, mediums, clairvoyants, because they are more alive to feelings, instincts, and impressions than are their more matter-of-fact brothers and sisters.

“Parents having such children generally do not at all understand how to treat them. The strange thing is that they are often the offspring of matter-of-fact, practical people. The only way in which I would account for such a fact is by the theory of balance; nature, working through hereditary laws, finds a point of balance by producing the direct opposite of the parent; thus the law of reaction produces the type under examination. Alas! too often a temperament of this kind, by ignorance and stupidity of the parents, is forced into some business life, simply because the father is in business. The utter wrongness of the life so crushes and dwarfs the nature that very often the result of such environment is insanity or an early grave. There is no question but that the asylums of the world are largely filled on account of the utter inability of parents for such a position of responsibility; and the sooner this fact is recognized, the better.

“Possessors of these beautiful, delicate hands, the indicators of the purely sensitive nature, usually feel their position in life so keenly that they too often consider themselves useless, and become morbid and melancholy in consequence.

“They are as lilies thrown, by some ruthless hand, upon the tempest-tossed river of life—they seem so helpless in the onward sweep of that terrible current. One sees them at times clinging to the banks for pity. Ah! those beautiful hands have no strength; they are swept on again by the rising tide of bubbling, babbling, frothy humanity.

The Mixed Hand
Fig. 7 “The mixed hand is the most difficult of all to describe. It is so called because the hand cannot possibly be classed as square, spatulate, conic, philosophic, or psychic; the fingers also belong to different types—often one pointed, one square, one spatulate, one philosophic, etc.

“The mixed hand is the hand of ideas, of versatility, and generally of changeability of purpose. A man with such a hand is adaptable to both people and circumstances, clever, but erratic in the application of his talents. He will be brilliant in conversation, be the subject science, art, or gossip. He may play some instrument fairly well, may paint a little, and so on; but rarely will he be great. When, however, a strong line of head rules the hand, he will, of all his talents, choose the best and add to it the brilliancy and versatility of the others.

“Such hands find their greatest scope in work requiring diplomacy and tact. They are so versatile that they have no difficulty in getting on with the different dispositions with which they come into

contact. Their most striking peculiarity is their adaptability to circumstances; they never feel the ups and downs of fortune like others; almost all classes of work are easy to them. They are generally inventive, particularly if they can thereby relieve themselves of labor. They are restless and do not remain long in any town or place. They are fond of new ideas: one moment they determine to write a drama, the next, perhaps, they invent a gas-stove or go into politics; but as they are always changing, and stable as water, they rarely succeed.

“It must be remembered that when the palm belongs to a certain type these characteristics are much modified; as, for instance, mixed fingers on the square, the spatulate, the philosophic, or the conic will often succeed where the pure development of the type would fail. When the entire hand is mixed it is then that, through versatility of talent and purpose, the subject is inclined to become ‘Jack of all trades,’ to which class of unfortunates the individual possessing this type of hand is so commonly relegated in works on palmistry.”

Whether the study of the hand can be reduced to a definite science or not, it certainly is an interesting study.

CHAPTER VIII

THE FEET

No extremity of the body has more to do with its general health than the feet; no member is more dainty nor more beautiful than a healthy, well shaped, symmetrically curved foot, free from the many blemishes which are all too common nowadays, and which come from lack of hygienic care of the feet and from encasing them in shoes, which do not allow the free use of the muscles, nor admit of the evaporation of waste.

Nature intended that the feet should be free and untrammelled but custom and environment say we shall stiffly encase them. Ever since sandals ceased to be worn, back in the fifteenth and seventeenth centuries, we have gone on following Fashion's dictates, trying to improve upon Nature and her methods and violating her laws, until there is probably no part of the body so systematically abused and neglected as the feet.

There is no doubt but that the most sensible foot
Ideal Foot
Gear covering was the sandal shoes, worn some centuries ago; they gave freedom, air, health and strength to the feet,—not only by allowing freedom of movement but, also, by affording perfect circulation of air about them. Until women adopt a hygienic

shoe, with proper ventilation about the foot, we shall continue to have the same difficulties that arise from clogged pores and uneliminated impurities, due to poor ventilation and impeded circulation.

The nearest approach to the sandal is the shoe, illustrated by Fig. 2, which opens almost to the toe and is strapped across the front. It is not now made for general sale. It can be made to order, however. The sandal shoes, which are on the market (Fig. 1), are made with light soles and such light, small heels, that they lose in one direction what they gain in another. Sandals are made with low heels for children. Is there any reason why a woman's foot should not be clothed as hygienically? This shoe, shown in Fig. 2, can be made into graceful lines, with low heel and heavy sole,—it is then ideal.

For walking, particularly, it is important that the sole be of sufficient thickness to prevent the uneven surface of the ground being felt, and for comfort and health it is vital that the heel of the shoe be of sufficient breadth, and project far enough under the instep arch of the foot, to receive the weight. A sensible sole and heel are indicated in Fig. 4. The projection under the inside of the heel of Fig. 4, illustrated by Fig. 7, gives the desirable support to the arch of the foot.

The extremely high heels not only make a woman **High Heels** look absurd, as she minces along on these little stilts, but they throw the entire body out of poise, thereby cramping the pelvis, and bringing on many pelvic weaknesses, so common among women, young and old.

High heels bring a strong strain upon the stomach and abdominal muscles and upon the spinal column, affecting the entire nervous

system; they also cause a slight misplacement in the pelvis and in the knee joints. If habitually worn they will shorten the ligaments and weaken the muscles of the calves of the legs, resulting in an ungraceful walk.

The natural position of the foot, in standing, is illustrated by Fig. 5. When this foot is encased in a shoe with a "military heel," about an inch high (Fig. 6), it will be noted by the white line, showing the outline of the foot, that the weight of the body in walking must be supported too much on the toes. The effect upon the pelvic and abdominal organs, and upon the spine, is very bad, but not so bad as is the case of the French heel of Fig. 1. This French heel, if worn for walking, will surely result in uterine or ovarian weakness.

Neither is the French heel desirable for dancing; it is not tolerated by the best dancing masters. For rhythm of dancing, as well as of walking, every muscle of the foot and limb must be free.

The heels of walking shoes should be low and broad, to give a firm and steady support to the foot; then, if the shoe be properly fitted, in other particulars, and be made of soft, pliable leather, there is no reason why a perfect flexibility of the foot cannot be maintained.

Patent leather, though much worn, is usually stiff, retarding the circulation through the feet. It will draw the feet more than the ordinary leather, as it is less porous, admits of less ventilation, and is less pliable.

A foot to be well dressed, must be *comfortably*
 Well-dressed Feet dressed. Surely footwear looks much better to be sufficiently large and to conform fairly well to the natural shape of the foot in the beginning; then after it has been worn a

short time, the uppers will not stretch over the soles, and the shoe be twisted out of shape.

A shoe, with sole and heel, as illustrated in Fig. 4, is a God-send to fleshy women, to those who walk much, or to those who must stand on their feet much.

Ill-shapen feet suggest ignorance and lack of care,—the reverse of comfort, refinement and intelligence.

When the foot is fitted properly, the shoe should be about three-fourths of an inch longer than the foot, as there is a tendency for the foot to move forward in the shoe when walking. When shoes are worn either too short or too narrow, they cramp the toes, impede the circulation and restrict freedom of movement; the joints are pressed out of place, and corns, bunions, ingrowing nails and many other evils are induced. These evils also result from wearing high-heeled shoes, of which one side of the heel has worn off, thus twisting the shoe out of shape.

<p>Effect of Shoes upon Development and Grace</p>	<p>Many defects of bodily grace and development can be traced to ill-fitting shoes. An ungainly walk is often caused by a painful corn or bunion, and the habit once formed is hard to break.</p>
---	---

An uneven development of the shape and size of the hips, may come from a shoe that is too tight, or a corn, bunion or other foot blemish, which has made it necessary to favor one foot, causing the other foot to be used more strongly and the hip to develop accordingly.

There should be perfect flexibility of the foot when walking, and this is not possible if the foot is encased in a shoe that cramps the toes and joints, or causes constant friction at some point.



1



2



3



4



5



6



7

THE
FOREVA
LIVE

Many people limp slightly or find that one limb is longer than the other, as a result of a corn or bunion at some earlier period of life.

Few people use the ball of the foot freely in walking, thus getting the spring in the instep, because the ball or the toes have at some time been painful and have therefore been favored, until a wrong habit of walking has been established. The free strength of all foot and leg muscles is necessary for a graceful, free walk.

Therefore, for grace of movement and perfection of development, as well as for health, the utmost care should be exercised in an untrammelled clothing of the feet.

The framework of the human foot is made up of 26 bones, arranged to allow freedom of all the joints of the toes, the ball of the foot and the ankle. The bones are held together at the joints by ligaments of great strength, each joint allowing a certain amount of motion, making the structure of the foot pliable and very strong.

It is necessary also that there should be a certain elasticity of the arch of the foot and a freedom of the ankle joints to prevent a jarring of the body in walking, and if the weight of the body be adjusted properly over the arch of the foot, this elasticity will be maintained and the ligaments will never become relaxed.

It is impossible to walk gracefully when stilted on the toes as in Figs. 1 or 6.

If a woman wears a shoe too narrow, the weight cannot be thrown forward to the balls of the feet, without pain and discomfort, and she is forced to walk flat-footed to ease the cramped toes; this causes her to come down upon her heels with a jar at each step, often throwing the more delicate, pelvic organs out of position, and some-

times resulting in broken arches. The latter is especially true when the shoe is both too short and too narrow.

Children's Shoes Mothers should exercise great care in the selection of shoes for children. Many times a child is helplessly put into shoes that in no way fit the outline of the foot, being either too long or too short, too wide or too narrow. Shoes should be selected sufficiently large to allow of perfect freedom and development, but not large enough to produce friction or irritation. One extreme is quite as detrimental as the other, as constant friction from shoes too large or too small, will develop corns, bunions and calluses, while a shoe that cramps the foot will press the larger joints out of place, deform the toe joints and generally distort the shape of the foot.

The feet should be shapely in contour and just as free from pain and deformities as the hands, and they will be, when we learn to care for them properly and clothe them hygienically.

Change of Shoes and Hosiery Many do not realize the necessity for frequent change of both shoes and hose. The latter should be changed daily, for they become clogged with impurities emitted from the pores of the feet and with germ-laden dust from the streets. This irritates the feet by depriving them of the amount of oxygen necessary for proper circulation about the glands. Many times when the feet are tired and irritated, great relief will be obtained by putting on a fresh, clean pair of hose and a different pair of shoes.

Damp hosiery is death to a good complexion.

The same pair of shoes should not be worn on consecutive days, but several pair, (at least two), should be worn "change about,"

giving each pair in succession a chance to become thoroughly aired and ventilated.

Rubber heels are much worn to prevent any jar when walking, but if one learns to walk properly, rubber heels are not necessary, for the weight is not borne by the heel.

Rubbers should never be worn indoors, as they restrict the necessary ventilation.

Hosiery should be selected carefully and
Selecting Hosiery with as few seams as possible, as the pressure of a seam will often develop a painful corn or callus.

Cotton hose are preferable to silk or wool, as they absorb the moisture more readily. It is well to avoid the very cheap, colored hose, for they very often contain a coloring matter that will irritate and poison, especially should there chance to be an abrasion, such as a scratch or bruise on the foot. By washing new hose before wearing, such danger will be avoided.

The extent to which the body depends upon the
Ventilation breathing of oxygen through the pores, is demonstrated by the fact that if all air be kept from the body, even though the lungs be allowed free use, the result, after a few hours, is death. This was accidentally demonstrated, a number of years ago, at a pageant in which, as a drawing feature, a little boy was completely encased in a coating of tar and then covered with gold leaf to represent a cherub. This admitted of no air circulating about the body, hoarded all the body toxins, which should be thrown from the skin, and resulted, in a few hours, in the boy's death.

No other cause could be ascribed for the fatality, excepting that

the pores of the skin had been closed against the natural elimination of body poisons through the skin and the oxygen, which is naturally breathed in through the pores, was restricted.

Many other experiments have demonstrated, beyond a doubt, that the skin is a part of the breathing apparatus of the body and materially aids the lungs in supplying the oxygen necessary to carry on the body's metabolism—(the power which the body possesses of using up and renewing the matter composing it).

There is a shoe now being manufactured, which allows fresh air about the foot, and has a heavy sole for protection. The air enters the space beneath the sole through a tube which extends through the top of the heel. The sole is perforated with a row of holes, which permit the air to enter the inside of the shoe.

The growing tendency toward low shoes, oxfords and pumps, with low heels, is a movement in the right direction. Let us hope that the high shoe, with leather tops, which allows no circulation up to twelve to fifteen inches above the ankle, may soon be a thing of the past. The gaiter over the ankle in winter may not be as neat, but it is porous, warmer and altogether more hygienic.

Caution should be used in exposing the feet unduly, if one is delicate. The habit of dressing the feet too tightly and not allowing proper ventilation about them, makes them more susceptible to atmospheric changes than the hands.

Above all things keep the feet warm and comfortable and remember that this result will be brought about not by over-heating the feet, but by keeping a good circulation around them, the skin soft and the hosiery dry. Warmth, comfort and a good circulation gained through freedom, mean absorption and evaporation of moisture.

**Elimination of Waste
Through the Feet**

The feet aid greatly in the very important function of eliminating waste from the body, providing they are cared for properly. The sweat glands, which play so important a part in this elimination, thus aiding and relieving the kidneys and intestines, are most numerous in the soles of the feet and palms of the hands, indicating that nature intended these extremities to be unrestricted. There are about 2,700 sweat glands to the square inch on the sole of the foot, while in the face there are only 550 to the square inch.

It is computed that the average person in health excretes about two quarts of waste daily through all the sweat glands, this quantity being almost equal to that excreted by the kidneys. For this reason, perspiration should never be checked, for by so doing there is liability of causing congestion of internal organs.

If this elimination be impeded by an accumulation of dirt, dust, dried perspiration or unshed cuticle, the pores, which are vents for all skin glands, become clogged; the glands cannot emit their poisonous waste matter and the result is noticeably manifest in the complexion; in a disagreeable odor thrown off by the feet; and frequently in the appearance of rheumatism, gout and other diseases. These diseases are caused by waste salts and acids being deposited instead of being freely thrown from the system by the kidneys, intestines, skin and lungs.

**Complexion Affected
by the Feet**

Moreover, if elimination through the pores of the feet be impeded, as above stated, additional labor is thrown upon the kidneys and the pores in other parts of the body; they are thus overloaded and cannot throw off the waste fast enough. This results in choking and

clogging the over-worked ducts. The effects are almost immediately noticeable in a muddy, or sallow complexion, or in facial blemishes, such as pimples, blackheads, etc.

Indeed, if one is to have a clear skin, *it is of the utmost importance that the feet be bathed, daily, and cared for as regularly as the face or any other part of the body.* The rational method of keeping the skin of the feet active is through bathing, massage, exposure of the feet to sun and air, and by friction with the hand, a flesh brush, or a Turkish towel. In fact, the word *cleanliness* covers the subject fully, and it behooves every one, who would be or appear in health, to pay sufficient attention to these matters and to realize and understand the value of a foot bath, of friction and of fresh hosiery, both in health and sickness.

Any serious check to the passing away of the poisonous matter from the system has a *serious* effect upon the deeper structure of the body.

**Nervousness Caused
by Foot Troubles** The extreme sensitiveness of the feet to heat, cold, constriction, pressure, etc., is due to the presence of many nerves. These are so closely spread over every portion of the sole of the foot, that the point of the finest needle cannot be touched to the sole without its being directly over a little nerve. Consequently, any disturbance in the feet is quickly transmitted by these sensitive nerves to the entire nervous system. A sudden pain in the foot will cause one to gasp and catch for breath, due to a response of other nerves and to the nervous reaction. The effects are visible in a tense, drawn expression of the face, but in a still more serious tenseness of the nerves to the vital organs, to the heart, stomach, bowels, liver and

kidneys. They cannot perform their functions with freedom when their supply of blood, restricted by the nerve tension, is thus restricted.

So close is the nervous association between the feet and other parts of the body, that neuralgia and fatigue are often relieved by a warm foot bath; in fact, perfect comfort in the feet sends a corresponding feeling of refreshment through the whole body.

One should not overlook the importance of bringing the feet into actual contact with mother earth. The magnetic contact of the nerves of the feet with the earth is very beneficial, and those living in the country, or where they have access to a grassy lawn or park, should, during the summer, improve every opportunity to walk upon the grass in bare or stockinged feet.

Effect of Massage Upon the Feet Massage of the feet is very soothing to the nerves and creates a sympathy with other organs.

The magnetic contact of the palm of the hand with the sole of the foot is most grateful, particularly if this massage be gently administered. A bit of vaseline should be used in the massage, as it is both lubricating and healing.

Massage the sole with the palm of the hand, rubbing toward the heel to stimulate venous and lymph circulation and toward the toes to draw off nervous affections and to stimulate arterial circulation. Care should be taken to massage firmly toward the heart, for the circulation, and lightly and soothingly toward the extremities for the nerves.

In massaging the feet, even though there be tenderness and corns, do not be afraid of manipulating the toes freely. Work them around in all directions, and massage with vaseline between the toes.

This stimulates circulation, lubricates the skin and helps to carry away inflammation and impurities. It will be found restful to the entire body, as well.

Various diseases are diagnosed from symptoms which appear in the feet,—in fact, some diseases are first detected by disturbances here.

**Diseases Expressed
Through the Feet**

No doubt, the organ, which expresses its derangement in the feet in the most pronounced manner, is the kidney. Dropsical tendencies, especially, are shown here early in the development of the disease. Dyspepsia, rheumatism and gout will cause a dry burning sensation in the feet, and enlarged and inflamed joints.

Impeded circulation through the feet and dropsical tendencies are often indicated by the swelling of the limbs above the shoe tops.

See that all instruments, such as knives or scissors used in cutting corns, calluses, etc., are carefully cleaned and sterilized by immersing the blades in boiling water before using; or they may be sterilized by dipping them in a mild solution of about 10% carbolic acid; then dry them thoroughly with a clean cloth, to prevent them from rusting.

**Instruments for the
Care of the Feet**

All instruments should be used with utmost care to avoid the danger of scraping or cutting too deeply into the flesh. If by any chance you cut the flesh deep enough to draw blood, bathe the part affected in a solution of boracic acid or with peroxide of hydrogen to prevent infection. It is well to have a bottle of each of these antiseptic solutions on hand for they are useful in so many emergencies.

For the boracic acid solution put two teaspoons of boracic acid into a pint of distilled water, bottle it and keep ready for use. The peroxide may be used clear.

The nails of the feet should be looked after just as carefully as those of the hands. A few well selected instruments will make it possible for one to keep the feet in comfortable condition, without the necessity of depending upon the chiropodist.

The following instruments are all that are needful for ordinary operations :

A pair of *nail nippers*, strong, and with a spiral spring, are excellent for cutting the toe nails. These are the same as those used for the nails of the hands.

The round, blunt end of the *chisel knife* may be used for soft corns. This knife is only convenient for fine work and cannot be used on calluses or nails.

A pair of *tweezers* is convenient for handling small pieces of medicated cotton or for lifting bits of cuticle that need to be removed.

An *emery board* or a pumice stone is needed to remove calluses and to smoothe corns after treating, but if the feet are daily cared for, according to above directions, there will be no calluses nor corns to remove.

A good pair of *shears*, similar to manicure scissors, only stronger, made of steel, and with bent blades, is needed for trimming the nails and for removing dead cuticle or calluses.

The *scalpel* is one of the most useful instruments and is a knife which can be used for many purposes in caring for the feet. It should be of the best steel, so that it will not be affected by acid. It is a long blade with single edge and can be used for scraping the nails, removing calluses, corns, etc.

Cuban clay makes a splendid *hone* for sharpening all instruments,—a stone about two inches wide and four inches long being the best size.

COMMON DISEASES OF THE FEET

The diseases which affect the feet most commonly are:

Corns (hard and soft),	Mal-Odors,	Bunions,
Calluses,	Chilblains,	Fissures,
Ingrowing toe-nails,	Excessive Perspiration.	

Corns are caused by pressure or friction of ill-fitting shoes. When a hard corn forms, there is a thickening of the epidermis, with a small point or projection on the under surface, somewhat resembling an inverted cone. Any pressure will push this little point inward and down into the dermis, often causing great pain by pressure upon, and irritation of the sensitive nerve ends.

A loose shoe will develop a corn by the constant friction or rubbing of the toe against the shoe, while a tight shoe will produce a corn by constant pressure. Ill-fitting stockings will also produce corns.

Soft corns usually develop between the toes, most frequently between the fourth and fifth, though they sometimes form between the third and fourth. They, also, are caused by pressure and friction,—the former by the head of one of the phalanges pressing against the next toe. The continued pressure and irritation causes a thickening of the epidermis, and as it separates from the dermis, it forms a blister, which is covered with a white or yellowish skin. Such corns are often more painful than corns on the outside.

Many times soft corns are so painful as to cause nausea. They are never very deeply rooted, but as they are subjected to a continued

pressure, they lie rather flat. Being continuously softened by maceration, they are of a consistency similar to India rubber and so not easily removed with the ordinary knife.

Unpleasant or strong odors constantly
Mal-Odoriferous Feet thrown off by the feet are caused by an excess of perspiration, which scalds the skin and causes the pores to become diseased. This odor is not necessarily due to uncleanness, but to a weak condition of the skin of the feet, and constant bathing, alone, will not eradicate the difficulty nor remove the cause. Special treatment for the disease is necessary.

Those so afflicted should leave no stone unturned to correct the disease, and, in consideration for friends and associates, should be most particular in the daily change of hose and shoes.

In ordinary cases of enlarged or dislocated
Enlarged Joints joints, when there are no complications, a cure can be effected, if properly fitting shoes be worn, and the joint treated carefully at home. In most complicated cases treatment by a competent chiropodist will be necessary.

Enlarged joints caused by rheumatism or gout can be somewhat reduced and the pain relieved by hot foot baths, but the enlargement cannot be entirely eradicated until the cause be removed. If of long standing these enlargements are seldom, if ever, removed.

Hot water reduces the inflammation and softens the chalky matter deposited in the joints.

Rheumatic gout originates in the blood and produces a swelling of the joints similar to a bunion, by depositing quantities of a chalky substance, which has failed of elimination through proper channels, in the joints of both fingers and toes, often increasing the thickness

of the joints to painful proportions. Rheumatism is also a systemic disease and, like gout, produces enlarged joints, but usually attacks the larger ones, while gout affects the smaller ones. The intense pain accompanying both is caused by inflammation of the muscles.

Dislocated joints must not be confused with Dislocated Joints bunions or enlarged joints. They can be cured if properly treated, but if neglected until the condition becomes chronic, pus is liable to form and the joint will discharge its lubricating fluid through a wound caused by the pus formation. This will eventually stiffen the joint; the only relief, then, is by surgery.

An excessive or acid state of perspiration, indicates Fissures an inactivity of the kidneys. The impurities are not being properly thrown off through these organs. When the perspiration is in this state, it will often cause fissures or cracking of the skin between the toes. This is usually very painful but can be remedied by first getting the kidneys in an active, healthy condition, by strengthening them through proper exercise and by drinking plenty of water. Sometimes the fissures are caused by not carefully washing or drying between the toes.

A bunion is an inflammation of the subcutaneous sac Bunions which protects and lubricates the walls of the bone and joint at the base of the toe. Constant pressure or friction causes inflammation of this little sac, (or *bursa* as it is properly called), with all its attendant symptoms of pain, heat, swelling and redness. The inflammation, pain and swelling usually last for three or four days, with a period of a few days between the attacks. Frequently all attempts to cure it are unsuccessful and the inflammation

leads to the formation of an abscess, and sometimes to the destruction of the bone, when a surgical operation, alone, will give relief. Sometimes the healing of this abscess obliterates the bursa, or sac, and in this way removes the cause of the trouble.

Usually, as a bunion enlarges and the swelling increases, the pores on the surface close, and little corns cover its surface. It is the pressure of these little hard corns, against the nerves underneath, that causes the great pain.

In most cases, the cause can be traced to ill-fitting shoes or stockings, but more often to the former as they cause continued pressure and friction upon the joint at the base of the big or little toe, but more frequently on the former. Unless this cause is removed and the shoes adapted to the feet, to prevent pressure and friction, the relief will never be permanent. Any enlargement at these points is usually called a bunion. Dislocated or enlarged joints are brought on by practically the same causes, and in appearance resemble a bunion, but the treatment for relief would be quite different.

Club nails usually grow very thick and brittle, also **Club Nails** to considerable height and length, and will become hard as bone. They may be caused by a shoe which is not full enough in the uppers, or by a pressure of one that is too short. Sometimes they are caused by accident to the nail or to the toe.

An incorrect maner of walking, combined with the **Flat Foot** wearing of shoes that are so short as to prevent a natural spring through the instep, will in time cause the ligaments to become inelastic, the arch to flatten and the result to be

what is known as flat, or splay foot. Fleshy persons, who walk incorrectly, are often troubled with flat foot, owing to the superfluous weight brought to bear upon the heel instead of upon the ball, thus not properly using the ligaments in the instep.

Many cases of flat foot are caused by deficient nourishment and circulation. This weakens the general health and if there is a prolonged use of the feet, as in standing or walking, the result will often express itself in a flattening of the arches.

If attended to in time, "flat foot" can be prevented, but once the arches become entirely broken down, they can rarely, if ever, be built up again.

An iron plate or a cork support is often used to hold up the arch of the foot, but while these help to support the center of the arch, they do not support the pillars or sides. A trouble of this nature should be treated by an Orthopedist just as soon as it asserts itself, so that suffering may be avoided.

Chilblains occur when some part of the foot has
Chilblains and Frost Bites been exposed to severe cold for a continued period of time and when the cold has not been quite intense enough to congeal the blood. They develop most frequently when the blood is anaemic; if, therefore, there is a tendency to a recurrence year after year, attention should be given to building up the general health.

If the foot is exposed to heat, when in a chilled condition, the sudden change of temperature will also cause chilblains. It is inadvisable to hold cold or damp feet near a hot register, radiator or stove. Let them warm gradually.

Cold and "clammy" feet indicate poor circulation and general debility; they are often caused by **Clammy Feet** weak nerves, indigestion, constipation and torpid liver. External applications will give but temporary relief,—the cause must be reached and removed. In health, the feet usually give little trouble.

Sometimes there is a tendency of the nail to grow **Ingrowing Nails** down into the flesh at the corners. This can be prevented by notching the nail in the centre of the top, which will allow the sides to grow rather long and toward the centre rather than outward toward the corners. By keeping the nail in the heart-shape above described, permanent relief can be brought about. If merely notching the top does not bring relief, the center may be scraped from base to end. Being thus weakened the center of the nail will be depressed and the sides will rise from the flesh. In scraping, be careful not to penetrate to the quick.

Ignorance and lack of attention in caring for the **Care of the Toe Nails** toe nails will bring on as many painful and annoying difficulties as carelessness in other details of foot hygiene. The nails of the feet should receive almost as careful and as frequent attention as those of the hands. There are very few persons who realize this, or who possess even fairly well-kept toe nails. Much the same method of procedure for manicuring should be followed for pedicuring.

The manner in which a toe nail should be cut is considered of little importance to the average person, when, in fact, it is of the greatest importance, as a badly trained nail will invite just such difficulties as the ingrown above described. Differently shaped nails should be trimmed differently. For example: if the nails are flat

* I can help this condition most directly by my Course of Remedial Exercises.

they should be cut straight across and even with the ends of the toes. When they are oval, they should be rounded somewhat at the corners, but never cut to a point. The shape of the nail should follow that of the toe.

Foot baths may be of any desired temperature, but
Foot Baths when taken cold, the feet should be exercised constantly while in the water. Shallow cold baths, of 10 or 15 minutes duration, will often prevent habitual cold feet. They will promote good circulation and aid in preventing colds.

Hot foot baths will often afford relief from headache, tooth-ache, colds and neuralgia, also from ailments caused by deranged nerves or obstructed circulation, showing the effect the care of the feet has upon the general health.

A sudden transition of the feet from hot to cold water is most beneficial to the skin and whole system, because of the stimulating effect upon the nerves and upon the circulation and the hardening and strengthening effect upon the skin.

If the feet are plunged into a cold bath, the effect is at once noticeable in the increased action of the kidneys, thus showing the definite relation between the excretions of kidneys and skin and the necessity of keeping each in a normal condition that the other may not be overloaded.

In the case of a cold bath, the pores of the skin are suddenly closed, and the necessity of throwing off the waste immediately is shown in the immediate action of the kidneys, thus showing the importance of keeping the pores of the skin open or the kidneys will be overworked; the action also demonstrates the stimulation of the vital organs through the cold bath.

When the feet and the body are immersed in cold water for a few moments and then rubbed briskly to bring about an immediate reaction, the vital organs and deeper tissues are stimulated and flooded with blood; this results in nourishment and tone,—unless the heart be too weak to react. Consequently, in normal health, or in cases where vital organs are torpid, the cold bath is very beneficial.

If the pores of the feet or other parts of the skin be kept closed for too long a period, the poisons, which should be eliminated through them, overload the mucous linings of the other organs and in their effort to throw off an abnormal share, they are weakened and the result is the condition we term “a cold.” The importance of normal elimination through the feet is emphasized by the fact that if one sits for a few hours with damp feet, which means closed pores, the result is almost sure to be “a cold,” which is simply another word for hoarded poisons, not able to escape from the body.

Sea shore bathing is of great value, not only

Sand or Salt Bath for softening the feet, but because of the friction
for the Feet produced by the sand, which scours off calluses

and cleanses and opens the pores. While bathing slippers protect the sole of the foot, they also retard its free movement and prevent its healthful contact with the sand. Sunning the feet in the sand after a bath is particularly helpful.

Salt will answer the same purpose for scouring calluses and opening pores and stimulating circulation and it has a tonic effect upon the nerves. An excellent practice is to keep a dish of salt in your bath room, and after your bath rub the feet thoroughly with it.

See that the sand or salt does not remain between the toes.

DAILY CARE OF THE FEET

Each morning, in connection with your bath, bathe the feet in cold water and after drying them thoroughly rub briskly with a little salt, a flesh brush or coarse towel, being particular to remove all the loose cuticle from every part of the foot.

In wiping the feet, wipe thoroughly between the toes and run the fingers two or three times between the toes, for the soothing effect upon the nerves.

Wipe each nail, across and backward with a firm touch. This helps to prevent the cuticle from growing over them, and from accumulating cuticle cells on their surface, causing them to thicken.

Each evening, if no special care of the feet is necessary for the relief of corns, bunions or similar difficulties, it is well to bathe them, first in warm water, then in shallow cold water; then after drying rub them thoroughly with salt or a stiff flesh brush. If the feet be not bathed at night, they should be rubbed in this manner, so as to remove all of the loose cuticle and to dry the perspiration, particularly between the toes. Then take the ball of the foot between the palms of both hands and work all of the joints free, rubbing between the toes with the fingers. This will have a soothing effect upon the entire body. There is nothing much more soothing than the palm of the hand in contact with the nerves of the feet.

Once a week, preferably in connection with your cleansing bath, bathe the feet in warm water and after the warm bath, massage them thoroughly, as directed under "Massage," and rub vaseline into them, being particular to work between the toes.

At this weekly cleansing, scrape with the scalpel or rub with a

pumice stone any calluses which may be forming on any part of the feet, trim the toe nails carefully, remove all of the loose cuticle from under and around the sides of the nail with the orange stick; push the cuticle back from the surface of the nail at the base. In fact, "pedicure" the nails of the feet once a week, much the same as you manicure the nails of the hand and you will be abundantly rewarded in the good feeling which results.

If corns, bunions or any diseases of the feet exist, these are best attended to at the time of the bath, unless my special directions for these specify some other time.

For health as well as for cleanliness, the feet should receive systematic care.

DON'TS FOR THE FEET

Don't forget that dainty feet are just as essential to refinement as are dainty hands.

Don't forget that a good fitting shoe is one of the essentials for healthy, well-shaped feet.

Don't wear a shoe that is too large or too small as it causes friction or pressure.

Don't be a fashion plate and mince along on heels that resemble stilts.

Don't forget that high heels affect the spine, pelvic and abdominal organs, nerves and temper.

Don't forget that the warmth and comfortable feeling of the feet depend upon the activity of the pores, good circulation and the absorption of moisture.

Don't forget that a well-shaped foot, although a trifle larger, is preferable to a small, ill-shapen one.

Don't forget to change the shoes and stockings daily. (Your feet need fresh clothing as well as your body.)

Don't neglect to bathe the feet daily; remember that cleanliness is a step toward Godliness, and certainly cleanliness of the feet is a step toward health.

Don't forget that proper care of the feet soothes the nerves of the entire body.

Don't forget that a good complexion often depends upon the care you give to the feet.

Don't forget that the air should circulate about the feet.

CHAPTER IX

THE COMPLEXION

The day has passed when a woman feels that she needs to apologize for developing her personal charms. These are just as much God-given as beauty of mind.

Is it not just as elevating and refining to cultivate the beauty of natural curves, the gloss of the hair, the sea-shell delicacy of the skin, the pearliness of the teeth, the artistic taper of the fingers, the expressiveness of eyes and mouth and the daintiness of the feet, as to cultivate a taste for these expressions on canvas, or in marble? It is simply art expressed in a different form; it is using Nature's coloring in flesh and blood, instead of tinting with paint; it is changing the form of human flesh, instead of modeling in clay.

One class of more frivolous women devote their entire time to thoughts of self, striving for a certain kind of beauty and attempting to express it through outward applications of paint, powder, hair dyes, hair washes, etc. They fail to realize the *Truth* in art,—to know that the veneer never gives the impression of the real,—that the clearness of skin and brightness of the eyes must be an expression of purity of blood and rested nerves,—that all of this comes from within and is first gained through attention to exercise, diet, breath-

ing and rest. The veneer of powder is sometimes desirable to protect the real, but by the intelligent, it never is mistaken for it.

The woman who fails to realize her ideal of beauty within herself, detracts just so much from her influence. Beauty may be used as a more potent influence for good than for evil.

The prettier a woman grows by cultivation of mind and body, the happier she is and the better opportunity she has of impressing upon others the beauty of her character and of wielding a most powerful influence. An attractive woman always wins a hearing and therefore is in better position to gain more advantages than the indifferent looking and carelessly groomed woman.

The more beautiful a woman grows the younger she feels, the lighter is her heart and the greater her interest in creating a corresponding atmosphere around her. She has the admiration of her family and friends and this in itself inspires her to rise to her best.

Beauty of face and form and charm of manner are not only woman's privilege, but her duty because they educate, refine and uplift. Thus they are most potent agencies in usefulness; they "allure to brighter worlds and lead the way."

One delightful privilege and duty, by common consent dedicated to women, is to educate and uplift by adding to the beauty of the world.

Every woman's home is an expression of her artistic nature and of her refinement. Just so do the care she gives to her skin, the taste she uses in arranging her hair, the care exercised in manicuring her nails and in attending to the grace of outline and movement give expression in another form to this same culture and refinement. Every woman should be, herself, then, the highest expression of art

and education in her home. She should be a more refining influence than any picture she can buy to put upon her wall, or than any pretext or theory she can express through the voice. Her very movement and bodily expression speak the thoughts of the silence in a thousand tongues.

The expression of the face depends almost entirely upon the thoughts which play upon the nerves. The nerves in turn cause a muscular response and very subtle lights and shadows are produced upon the face by the most delicate tracery of lines caused by these nerves.

If the same character of thought be persisted in regularly and systematically, for some time, the impulse will be carried through the same nerves and this impulse, thus retracing itself in the skin and muscular tissues, causes habitual lines of expression. If the skin be inelastic, wrinkles result.

Despondency, discouragement and disagreeable, pessimistic thoughts express themselves in downward lines. (See Figs. 5 and 7 of the illustration of the eyes and nose). Thoughts of cheer, good will, brightness and happiness, are conveyed by horizontal or uplifted lines and the only way to change the facial expression of Figs. 5 and 7 is to change the thought. By cultivating a more cheerful view of life and its possibilities, one's mental poise changes and, if the skin and facial muscles be flexible, the lines, which have been formed by past thoughts, will be eradicated. (See Figs. 8 and 9).

Exercise of the face will make the muscles more pliable and the proper care of the skin will keep it more elastic, so that the new thought may more readily form new lines of expression. To

*"Salute each opening day with glad good morning, be it
rosy dawn or gray."*

realize how the thought will change the contour of the muscles one has but to stand before the mirror, let the brain force relax and think of all the discouraging, disagreeable thoughts possible; the facial muscles will droop, the jaw will relax, lines will form from the corners of the nose to the mouth, and from the corners of the mouth downward; the muscles below the eyes will relax and this relaxation, with the weight of the relaxed muscles of the lower face, will cause the lines between the eyes and the drooping lines of the corners, as in Figs. 5 and 7.

So much for the effect of thought, through the nerves, upon the muscles of the face.

Again, let the muscles of the face relax to the expression of Figs. 5 and 7, with no effort at control of thought. Let them remain in this position for a few moments; note the reflex action of this poise of the nerve extremities in the face upon the controlling nerve centers of the brain. You feel discouraged and disagreeable as you look. If this facial expression be held from habit until the lines become fixed, it affects the character.*

The most definite agencies in thought expression are the mouth and the eyes. Note the lines of expression and read the character in accompanying illustrations.

Everything depends upon our habit of looking upon cares. We may look upon them as duties to be undertaken cheerfully, with mind in poise, or we may meet them with a frown.

One so often sees young girls frowning when crossed in very small matters. Many form the habit of frowning, each time a duty presents itself. Each disagreeable duty met with a smile is half

* This subject of Reflex Action is fully discussed and illustrated in the author's book upon "The Reading of Character Through Bodily Expression."

accomplished, and a great part of a child's education is in the formation of the habit of meeting disappointments with cheer. Ah! that each girl might learn to regard every duty in a happy light, remembering that the mental attitude and habit of looking at small things have a great influence in the shaping of her life; might meet each duty with a mind in poise to direct, rather than to be directed.

The habit of a cheerful mental poise is a fortune to man or woman.

The effect of a smile upon the face is wonderful, not only in its reaction upon one's own nerves, but in the influence it wields upon those we meet. A smile will call forth smiles from others. The habit of carrying a long, gloomy face is a sin,—a great sin, for it may cloud a whole day for someone who has come within my atmosphere. If my expression is not responsible for the gloom on the face I meet, then I should strive to dispel the gloom in the expression of that face by radiating sunshine from my own.

Life is not a rushing, disagreeable, doleful duty. It is a happy, glorious, joyful privilege. Meet it with joy in your countenance, that the beholder may be reminded of its sweetness. As the facial expression clears and the chest is uplifted, the clouds clear from the brain.

A pleasing diversion at night, just before rest, is one of the strongest agencies in the cultivation of a happy facial expression. Merely smiling artificially, even though the heart be heavy, has its effect upon the brain through the reflex action produced upon the nerves. Take the thought lines of the day from the face at night, by a few well directed massage movements; soften it with a little cold cream if needed, then smile and see if you do not feel more like smiling. Continue to smile and look pleasant for a few moments and note how the clouds disappear from brain and heart.

"Each rising sun shall record a noble impulse. Its setting shall bless some helpful work begun."

It is said that Patti, one of our best preserved beauties, has formed a habit of going to her room once a day and laughing for five minutes. It is true that we can, by holding a pleasing expression of the face for a few minutes each day, change the predominating expression which the cares of life bring.

THE SKIN

The care of the skin is a subject quite as important to those who would be well as to those who would be beautiful—it vitally concerns both. Nature's endowment of clearness, rosy warmth and velvety texture are simply expressions of the perfection of action of each vital organ, and the most skilled attempts at producing clear skin and rosy cheeks with paint and pencil, are known on the surface as attempts, and urgently deplored, not only because they are artificial, untrue, and savor of the effort to *seem*, rather than *to be*, but because, unless used intelligently, they are bitter enemies of health.

A study of the skin will help one in the care of it.

It is composed of the outer Scarf Skin, or Epidermis and the Dermis, or "True Skin," also called the Coreum. (See Fig 1, illustrating growth of hair.)

Including both the epidermis and the dermis, the skin varies in thickness from extreme thinness over the eyelids to an eighth of an inch wherever intermittent pressure is applied, as in the palms of the hands and over the soles of the feet. An idea of the thickness may be realized by noting the thickness of the two outer layers of the epidermis, which rise in a blister, yet these layers have been expanded beyond normal size, by the heat causing the blister.

The Epidermis
or Scarf Skin

The outer covering of the Scarf Skin, or Epidermis, consists of four very thin horny or scaly layers. The outer two layers, known as the Cuticle, are firm and close, presenting to the eye a smooth surface, yet, under the microscope, they resemble fish scales. The cuticle is so thin and flexible, and so lubricated by the natural oils of the body, that only in exceptional cases, such as calluses, is this horny character perceptible; the scales are entirely shed in case of fever. While the two outer layers are smooth, the inner layers dip down in wave-like undulations over the papillæ of the true skin.

The cuticle is constantly being thrown off and new cells are constantly being formed from beneath; the outer cells of the true skin are daily changed in their composition, growing into the scarf scales and working nearer the surface all the time, until it becomes their turn to be cast off to give place to others forming beneath them.

The Dermis
or True Skin

The True Skin, Coreum, or Dermis, contains the Papillæ, the Blood Vessels, the Lymphatics, the Sebaceous and Sweat Glands and Ducts, the Hair Follicles, the Fat Cells and the Nerves.

When it is realized that all the glands and ducts enumerated are contained in from one-twelfth to one-eighth of an inch, one realizes how tiny these glands are, yet when we consider that the perspiration of one man, in a day, has been known to weigh forty pounds, we also realize how very numerous are the sweat glands, to say nothing of all the other little workers, each and every one performing some important part in building and keeping health.

The true skin is much softer in texture than the scarf skin. It is composed of several layers of fine fibrous tissue and cells arranged

side by side like bricks in a wall, the cells being retained in position by a semi-fluid substance which fills the intervening though imperceptible spaces and holds the cells together. The deeper connective tissues gradually pass into the tissues beneath; the intervening spaces between the bundles of tissue are filled with fat cells—excepting in the eyelids. In animals, the fluid of the true skin forms gelatin when boiled.

Pigment in Skin The cells, especially those in the outer part of the true skin, contain the pigment or coloring matter. Sometimes this pigment works up into the deepest layer of the scarf skin, as in the negro.

There is a diffused whitish-yellow pigment in the scarf skin which becomes darker in old age.

The pigment diffuses and disappears when one is shielded from light, or kept in a darkened room, but soon reappears when exposed to the light. When it is uniform in all of the cells of the pigment layer, the effect is a uniformly dark appearance, as in the case of the skin of a negro.

The rays of the sun, a mustard plaster or, in fact, heat of any kind, or irritation without heat, will increase the pigment and thus turn the skin dark. This darkening of the skin, as caused by incessant irritation, is shown in the dark lines about a woman's neck, occasioned by tight collars.

From the fact that heat increases the pigment, it might be inferred that a too frequent use of hot water or steam on the face would darken the skin. The furnace man's skin exposed to the heat, though shielded from the light, becomes deeply bronzed. The exposure to intense heat of the rays of the sun for generations has caused the dark complexions of the inhabitants of the tropics.

The pigment is also affected by the character of the blood supply. This has been illustrated by engrafting upon a white man the skin of a negro. The pigmentation is soon lost, while a white man's skin becomes pigmented if engrafted upon a negro.

Generally speaking, the pigment of the skin partakes of the same depth of color as the pigment of the hair and eyes. The skin accompanying dark hair and dark eyes is thicker and darker; that accompanying brown hair and gray eyes is medium in depth and thickness, and the skin accompanying light hair and eyes is thin and contains less pigment. In the latter class, the epidermis is often so transparent that the blood circulating beneath it imparts a tint of beauty.

Beneath the Epidermis, constituting the outer-

Papillae—the
Organs of Touch most part of the true skin is a layer forming undulation-like waves called the Papillae. These undulations make a resisting stratum for blows and bring the vitalizing organs nearer the surface.

The papillae are the organs of touch and may be seen with the naked eye in little ridges upon the soles of the feet and the ends of the fingers, which here take a curved direction, conforming to the shape of the fingers.

It is the true skin of the animal which, when stripped of the epidermis and the hair, is converted into leather and the papillae are readily discernible in the uneven surface, with which we are all familiar, on the inner side of the leather.

Just underneath the papillae is a network, or plexus, of tiny nerve fibres; these have their endings in peculiar little knobs in the ends of the papillae, which make them very sensitive to pressure, touch, temperature and pain.

Nerve ends also extend through the papillae into the cement between the cells of the true skin and the two inner layers of the scarf skin. These nerve extremities control the circulation at these points, and it will be shown later how they affect the complexion.

The sensitiveness to touch varies greatly with different people and may be cultivated to a very high degree, as is the case with blind people, whose whole existence is guided by this delicate sensation.

Each papilla is supplied with a tiny blood vessel which brings it nourishment. Intermeshed with the nerves about the lower papillae is also a network of tiny blood vessels, the termination of the vessels which supply the skin and carry away its waste.

In the deepest layers of the skin tissues are larger **Fat Cells** cells containing fat globules. Their existence in normal proportion is essential to health and to beauty, as the fat cells nourish the skin, helping to supply the material for the natural oils, and they form a cushion for its protection. The fat cells, both in the skin and about the tissues, serve as reserve heat and energy. If for a period the body be not supplied with sufficient fat, that within these cells is called upon and in cases of starvation, wasting diseases, or all acute diseases attended by loss of tissue, as well as in mental strain or worry, which call for an undue expenditure of mental energy, the fat cells disappear to a greater or lesser extent, particularly about the eyes. The skin in such cases becomes correspondingly flaccid or wrinkled, and the face thin.

The waste matter which it is the office of the skin **Sweat Glands** to eliminate, passes out through the sweat glands, situated in the deeper layers of the true skin or beneath the skin. It is estimated that there are about two and one-

half millions of these. These glands coil and twist at their base, somewhat resembling little balls of twine. Ducts, or tiny tubes, reach from the glands to the surface of the skin, opening through trumpet-shaped mouths known as pores, which are sometimes visible to the naked eye. The impurities, together with the water from the system, which are exuded from these pores, are known as sweat. The sweat is composed of air, inorganic salts, urea and other waste products. Urea, broadly speaking, represents the proteids of the body. Surrounding each sweat gland is a dense network of capillaries which brings the impurities to the glands for elimination.

The perspiration comes from the lymph spaces, in and about the skin; it is carried to them by the blood.

As a result of extreme heat, beads of sweat are often seen on the body at the opening of the pores.

The other excretory organs are the kidneys, intestines and the lungs, but the kidneys and the sweat glands of the skin collect and eliminate most of the water and the proteid or nitrogenous waste of the system. In normal health the greater proportion of nitrogenous waste is eliminated by the kidneys, but with the skin in thoroughly healthy condition the sweat glands greatly aid the kidneys and relieve them of much of their work.

When the perspiration is increased the amount of urea in the urine is decreased. If these impurities be not eliminated properly, they pass back into the blood and the acids collecting in the system may express themselves in rheumatism or gout; for this reason, vigorous exercise and sweat baths are advisable as relief from rheumatism and gout. In case of inflammatory rheumatism, the odor of the urea, eliminated through the skin, is readily detected.

The water, nitrogenous waste, carbonic acid gas, fatty acids, urea and small quantities of salt which should be eliminated, fluctuate in quantity from 2 to 40 pounds a day. It is said that gas stokers and engineers in the tropics often lose in perspiration from two to three pounds in an hour.

Exercise affects the spinal nerves controlling the sweat glands and the greater the amount of physical exercise, the more the sweat glands accomplish. With but little exercise, as a rule, the kidneys are overloaded because of the failure of the sweat glands to eliminate their share of impurities. In excessive activity in athletics almost all liquid waste is thrown off through the pores of the skin.

Profuse perspiration is always associated with simultaneous dilation of the blood vessels.

Increase in the excretion of sweat occurs in easily excitable persons in consequence of the irritation of the nerves.

Sebaceous Glands The Sebaceous glands, which secrete the natural oils of the skin, are located in the deeper layers of the true skin, though generally not as deep as the sweat glands. They connect with the surface of the skin, as do the sweat glands, by small ducts which open into the hair follicles; they thus become the natural lubricants not only of the roots of the hair, but of the hair itself and they keep the hair soft.

The Sebaceous glands are most frequent about the nose and many of the irritations and pimples upon the face are due to a clogging of these.

The sebum, which is the term designating the contents of these glands, is fluid, but if the ends of the ducts are clogged and the sebum is prevented from discharging naturally, it becomes putrid, hardens and finally forms a white worm-like coil of fat.

If a gland of the face become clogged and pressure be applied to either side, a creamy-like substance will be forced out. The length of this substance as it is squeezed out gives one an idea of the length and size of the glands.

Lanolin is prepared from the "recovered grease" extracted from raw sheep's wool. It forms an admirable basis for ointments and is readily absorbed by the skin.

The excretion of the sebum continuously flows from the glands into the hair channels outward to the surface of the skin, where it sears over the surface, actually covering the skin with a thin coating of oil. This secretion is quite different from that of the perspiration and is hardly perceptible, except upon the hair, where it is secreted more freely.

The oil prevents the water or atmospheric changes from quickly affecting the temperature of the body; it also tends to prevent an undue loss of heat from evaporation. Bathing the skin with grease is adopted by swimmers both to conserve bodily heat and to protect the skin.

The offices of the skin may be enumerated as:

**Functions
of the Skin**

1. Protection of the surface of the body and protection and support within the body of the inner covering of the internal organs;
2. Elimination of impurities, perspiration and oily matter;
3. Breathing;
4. Receiving sensations;
5. Regulation of the body temperature;
6. Absorption of substances through the pores.

That the skin protects the surface, when it is the **Protection** surface, may seem a contradiction until we recall that the hair and nails are parts of the skin, being mere variations in the form of actual skin tissue. Moreover, the outer skin is especially formed to protect the true skin and its more delicate structures. The skin forming the lining of the digestive tract, the kidneys and the pelvic organs, acts not only as a protection to them, but as a support.

The downy hair which entirely covers the surface of the body is a non-conductor and is its best protection against extremes of heat and cold.

The construction of the skin, with its system of drainage into the air and its system of absorption of oxygen as a minor lung, with its nerves, dependent upon the air for stimulating friction, would indicate that Nature intended the body to be uncovered or so clothed as to admit of a free circulation of air about it.

For the retention of the heat, fur, feathers, hair and wool, Nature's covering for animals, are the best non-conductors, and thus best conserve the body heat; they are, therefore, the best clothing for the protection of the body against extremes of cold; but linen or cotton should be worn next the skin to absorb the moisture. For this reason, where wool is required to conserve the body heat, if it is not practical to wear linen or cotton under the wool garments, these garments should be made of part wool and part cotton.

The oil from the sebaceous glands, which **Absorption** everywhere covers the skin, prevents the absorption of water and foreign ingredients, yet under **Through the Skin** normal conditions a small quantity of oxygen is absorbed from the

air. Alcohol also penetrates the skin sufficiently to stimulate the nerves.

Where it is desirable that the pores absorb a cream or skin food, the natural oil should be removed by warm water; then the skin should be massaged to free the glands. The oil merely penetrates these glands.

Drugs, such as iodine, which affect the sensory nerves, are sometimes painted over a painful area to create a counter irritation in the skin and near tissues.

This is demonstrated by enclosing the body in an air tight sac. Remaining there for a time, it will be found that the sac is filled with carbonic acid gas, that nearly all of the oxygen has been extracted from the air within it and absorbed by the body.

It is a singular fact that the skin acts as secondary lungs; the pores of the skin draw in oxygen during the inhalation, as do the lungs and throw off waste during the exhalation. Animals varnished or coated with paint die very speedily, thus proving the importance of the skin as a breathing organ and heat regulator.

On account of the heat producing agency of the oxygen, the body on the coldest day can be quickly warmed by a succession of full, deep breaths, each breath being held for a few seconds.

The amount of oxygen taken in and the carbonic acid gas thrown off by the skin depends upon the amount of exercise and warmth. When the system is poisoned by carbonic acid gas, if systematic, daily exercise with deep breathing be followed, the pores of the skin will act more freely, the impurities will be eliminated through the

sweat glands and the carbonic acid gas will be thrown off, while the oxygen, the vitalizing force, will be absorbed.

A frog breathes through the skin to such an extent that it will live for several days after the lungs have been removed. In man, respiration by means of the skin is more limited than in the frog, owing to the thickness of the dermis.

The necessity of clothing the body so that the air may freely circulate about it will be readily seen. A place for daily exercise, screened from observation, where the body could be nude and exposed to air and light would dispense with many doctors' bills.

It may be well here to give a little outline of
Blood Vessels
and Lymphatics the circulation of the blood and the use and necessity of oxygen within the body, since both a free circulation and sufficient oxygen are most essential to the color, elasticity and health of the skin.

Neither healing nor nourishment is ever carried to the skin, excepting through the blood; and no lotion, no oil, no cream, no skin food nor prepared condiment possesses the same healing, nourishing qualities as does pure blood. A wound upon the flesh will heal much quicker if it remains immersed in its own blood. Many skins are undernourished, partly because the blood is impoverished, by a lack of nourishment in the food; partly by the failure of the system to digest or assimilate the food absorbed; partly because the circulation through the capillaries and small blood vessels of the skin is retarded; or because of insufficient breathing, hence insufficient oxygen to purify the blood.

The blood capillaries are distributed over and through all the tissues of the body until in the skin, for instance, they form a

regular network around and about every fibre. They are so close that it would be impossible to prick the skin with the finest needle at any point without puncturing a capillary and thus drawing blood. The walls of the capillaries are very thin, so thin that the oxygen, and the nourishing qualities of the blood ooze out into the lymph spaces. Here the nourishing qualities feed the tissues and the oxygen causes combustion of the waste; the impure gases re-enter the capillaries and then the veins. Other impure waste matter which cannot re-enter the capillaries is picked up by the lymph spaces and carried by the lymphatics into the venous stream.*

The white liquid which exudes from a wound upon pricking the skin or from a sore, is lymph.

Thus the blood, obtaining nourishment from the food and oxygen from the air, completely reaches the skin and every part of the organism, carrying its nourishment and vitalizing power to the very extremities. Some idea of the waste which is continuously thrown from the system may be realized by comparing the color of the impure, venous blood with the color of the pure arterial blood containing the oxygen. It must be recalled that the dark, impure blood in the veins is constantly being purified in the lungs and that much waste must be constantly picked up, to keep its hue so dark.

The relation between the condition of the blood and the character of nourishment which it, therefore, brings to the skin will be readily seen.

If the digestive organs are weak, so that the food is not put in proper condition to be absorbed, or if there is an insufficient activity of the body tissues to insure complete assimilation—conversion of

* Miss Cocroft's Book upon "The Circulatory System" traces the circulation of the blood in its journey out to the capillaries of the skin and its return, laden with impurities, to the lungs, showing just how the blood nourishes the tissues.

nourishment into body tissue—or if sufficient oxygen is not taken in to assist in catabolism—a breaking down of the waste tissue of the body—the blood lacks nourishment and the skin must suffer, as does the rest of the body.

**Elimination
of Waste** If the liver, kidneys, intestines or lungs are not throwing off the amount of waste designated by Nature for them to eliminate, or if the combustion of this waste is not carried out among the tissues, the blood becomes impure, and the skin, being one of the organs of elimination, is forced to throw off more than it should, or throw off impurities which are not consistent with the character of impurities which Nature intended to be thrown off by it.

No agency, except the circulation of blood, is so important in this elimination, as full breathing of pure air. If the breathing is not deep, so that every capillary of the lungs is expanded, that sufficient oxygen may enter them, the blood is not fully purified as it passes through the lungs, and the proper amount of oxygen does not enter it. Thus it is that the blood gradually becomes impure as the result of insufficient breathing.

As the oxygen enters the blood, it causes a combustion of the waste products in the form of carbonic acid gas, phosphoric acid, acid potassium phosphate and glycerin-phosphoric acid, which readily pass off from the blood through the lungs. Waste products are being thrown off every instant in all parts of the system. As the tissues decompose, the oxygen, as it is carried by the blood out among these tissues, puts them in condition to be absorbed by the lymph-spaces and the veins, which carry them to the lungs and to the skin, where they are ejected from the body.

The experience of the writer in taking the measurements of thirty-five thousand women has unfortunately shown that the average woman takes in not over two-thirds of the oxygen necessary for complete purification.

The importance of full, correct breathing and of the strength of the stomach, liver, kidneys and intestines, as agencies in the retention of a clear, smooth skin, cannot be over-estimated.

The reader will recall that in order that the food may be digested, absorbed and converted into tissue, and the waste of the system put in condition to be cast off, a regular heat must be kept up within the body. It will be recalled, also, that the heat is caused by the combustion of carbon. As is the case in the combustion of carbon in wood, the more oxygen supplied to the fire by fanning, or by draughts in a stove, the more combustion and the greater the heat. If all air, and therefore, all oxygen be kept away from a burning fire, the fire will go out, because the combustion will cease when the oxygen is withdrawn. This same combustion of carbon, or fat, goes on within the body to keep up its heat, and, if all oxygen be withdrawn from the body, it grows cold and death ensues. The importance of full breathing to carry oxygen to all parts of the body as a heat producer, will, therefore, be readily seen.

The friction created by the passage of the oxygen about all of the tissues, together with the friction created by the passage of the gas, gives the heat and stimulus necessary to the flow of the electric current through the nerves. It is in the creation of this friction that the oxygen of the air is necessary as a nerve stimulus. Without this natural stimulus, the nerves do not properly direct the muscular action, necessary not only to move the extremities, but to move all

tissues which aid in digestion, absorption and assimilation of foods and in relief of the waste.

**Effect of Nerves
Upon the Skin** Through the telegraph system of nerves, the brain receives messages and issues its instructions to all parts, regulating the action of the muscular coats of the blood-vessels, as well as of all other tissues.

The body contains two kinds of muscular tissue: the one obeys our thoughts, directed through the nerves, by will, as is the case with the large muscles of the body; and the other, as the tissues in the blood-vessels, obeys our emotions and not our thoughts; thus, the muscles of the arms can be moved at will, but those of the blood-vessels are controlled only by thoughts and emotions, directed by the delicate vaso-motor nerves.

The involuntary muscles of the capillaries being elastic, by some emotions dilate, and allow the blood to flow freely, giving the red glow to the skin, or by other emotional impulses, they contract, forcing the blood out and the skin blanches or turns pale,—thus an emotion can contract the blood-vessels and blanch the cheeks, or by opening them can diffuse the face with a blush.

It is the contraction of the involuntary muscles in the capillaries of the skin, which causes the peculiar expression known as “Goose flesh.”

If one becomes extremely angry, the minute capillaries contract, the blood flows out of them and is sent bounding back to the large arteries and through them to the heart and brain. This sudden reversing of the blood-current is unnatural; it produces unpleasant sensations and thus extreme anger often causes severe illness.

Extreme fear acts in the same way, and the result of frightening

children as a means of punishment, will be readily seen in its effect upon the health.

Thoughts of kindness, joy, happiness and good-will, put the nerves in a normal condition and it is through this control of the blood-vessels of the body, through the nerves, that the health is materially and directly affected by the character of thoughts. This physiological truth is the basis of the so-called "Mental Science" belief.

It must be borne in mind that when a
Effect of Thought
Upon the Complexion thought contracts the capillaries of the outer skin, it contracts also the skin which lines the stomach, intestines, and, in fact, the lining of all internal organs; hence fear, anger, worry or displeasure directly affect the stomach, intestines, kidneys, and, in fact, all of the vital organs; and the skin, as well as the tissues of the nerves and every part of the body, becomes insufficiently nourished. Long-continued worry, displeasure or anger, by their effect upon the nerves, so interfere with assimilation and absorption of nourishment that reserve fat, stored in the system, is consumed and the body becomes thin.

Disagreeable thoughts, resulting in unpleasant emotions, if persisted in for a long time, keep the capillaries of the skin contracted, drive the blood from it, and cause it to become undernourished and pale.

If one worries for a few days, causing unpleasant emotions, the complexion often becomes pale, because the nerves to the capillaries of the skin have contracted and kept it from being flushed with blood. Illness, causing nerve tension, sometimes acts in the same way,—even when there is sufficient blood in the body, the face is pale. Per-

haps one of the most frequent causes for pale faces is worry. *Thus do our thoughts affect our complexions.*

Regulation of Temperature The skin, with the other organs of excretion, is an important regulator of the heat of the body. As previously stated, heat is occasioned by combustion within the body, of the elements contained in the food as they are changed by chemical action into other forms and combinations, also by friction in the passage of solids, liquids and gases through the blood.

The heat is distributed throughout the body by means of the blood. The normal temperature of the body is a little over 98 degrees.

Much of the heat passes off from the body in aqueous vapor and volatile matter through the lungs and the skin. About 90 per cent. of the so-called "solid food" leaves the body in the form of carbonic acid, water and urea. These, in part, all pass through the skin. The perspiration, and the aqueous vapor carry body heat out with them, thus cooling the body and regulating the temperature, and it is very necessary that the flow of perspiration be kept free and natural.

In the condition of the body termed a "cold," the pores of the skin, or the opening of the sweat-ducts, are closed, the impurities cannot be eliminated and the poisonous toxins remain within the body. The kidneys and intestines are forced to eliminate the proportion of waste which should be thrown from the skin. The relief, therefore, from a cold must be in opening the pores. The greater heat which aids in opening them may be occasioned by imbibing much oxygen. Therefore, deep breathing and our grandmother's remedy of a hot bath, a hot drink and a warm covering in bed is a most rational means of opening up the sweat-glands and relieving a cold.

What the body would be were there no means of parting with its heat, excepting by dry radiation through the skin, is seen in fevers where the perspiration which should be evaporated is suppressed, and the blood becoming overheated burns the epidermis. Great heat can be borne as long as the circulation is vigorous and the skin clean, so that the sweating is free.

The greater the evaporation, the greater the loss of heat, so that in cases of fever, if the sweat ducts can be opened, the temperature is lowered. Thus the application of hot water, which opens the pores of the skin, assists the natural heat evaporation through perspiration, in fever patients, and is productive of more permanent results than can be obtained by the application of cold water.

The nerves are also an important factor in the regulation of body heat, and in controlling the involuntary muscles in the blood-vessels; where the circulation is sluggish, the work of the physical culturist should often be directed to toning and relaxing the nerves.

Bodily fatigue very quickly and definitely affects the **Fatigue** condition of the skin. If a muscle is fatigued, a greater nerve stimulation is required to incite its action, thus, where one is tired, more nerve force is required to stimulate the muscles and the nerves become overtaxed. Artificial nerve stimulation may be applied, but from this there must be a reaction.

The only natural relief from fatigue is in exercise to call a vigorous circulation to all parts of the body, deep breathing and relaxation until the waste is removed and harmony restored.

As the character and color of the skin are
Effect of Diet
Upon the Skin dependent upon the amount and purity of the blood circulating through it, the importance of following a judicious diet, for supplying the necessary elements which go to

make up the tissues of the body, will be seen. The kind of food should, of course, be regulated by the needs of the individual, keeping in mind that, generally speaking, proteids re-supply the tissue, which, in the natural functioning of the body is continually being torn down. When the blood is found lacking in certain elements, attention should be given to supplying those elements by selection of the right kind of food. For example,—if the blood be anaemic, foods which build red blood corpuscles should be supplied in generous proportions. When development is necessary, fattening foods of all kinds are required in as generous quantity as the system will assimilate, while exercise for the vital organs is a daily necessity that they may be sufficiently strong and active to digest the food and absorb the nourishment. Nothing is gained by supplying more than the digestive system can handle. Exercise also sets free the blood corpuscles from the liver and pancreas. In the case of reduction of flesh, the quantity and quality of food must be regulated by definite rules, so that the skin may not be deprived of the proper nourishment, while the excess of fatty tissue is being consumed by exercises and deep breathing.

Every woman must use her intelligence, therefore, or take up a study of this interesting subject, so that she can build up the right kind of blood and keep her skin properly nourished by forceful circulation. The skin is never fully nourished if the blood is poor or the circulation is sluggish. This knowledge together with the information and instructions given in these lessons upon the anatomy and care of the skin, will go far towards creating that phase of beauty, which is expressed in a glowing, clear skin. In this article I discuss not general dietetics, but the foods having a medicinal effect upon the skin.

The natural acid of fruit and the medicinal elements of vegetables, render them valuable as promoters of a clear skin. The custom of eating fruit before a meal is excellent, as it stimulates the flow of gastric juices. Well cooked vegetables should always constitute an important part of the heaviest meal.

Drink freely of water, as its natural assistance in the elimination of waste from the system has so much to do with a clear complexion.

In the case of a weak stomach, coffee should not be used, and even in normal condition, its use should be very moderate, else it will create digestive disturbances and the skin will suffer. Coffee contains tannic acid, caffein and a volatile oil. The caffein and the volatile oil, both affect the nervous system and the heart.

The tannin, which is present in tea as well as in coffee, unites in the stomach with food and with mucus, retarding digestion. It is the tannin in the bark of trees which is used in the process of toughening skin into leather. Because of the physiological action constantly at work in the skin lining the stomach, the tannin does not toughen the stomach to the same degree, but it doubtless has the tendency to do so, and probably does so, in a less degree, especially where the nerves and muscles here are weak.

Tea and coffee are nerve stimulants,—not foods. There are better nerve stimulants and these should be used very judiciously, if at all. Why eat or drink, as foods, things which are not foods—they do not nourish.

Milk, liquid made of fruits and cereals, cocoa and grape juice are nourishing and, if properly digested, tend to build up a good skin.

Meat once a day is amply sufficient and combined with vegetables and fruit, which, as stated above, should be used with the

heaviest meal, will supply the blood with proper nourishment and strength.

Rich foods and fried foods of all kinds, are "death" to good complexions; therefore, avoid elaborate pastries, too many sweets or too much fat. These all serve their purpose in small quantities; but much sugar, fat or starch clog the system and fried foods are indigestible.

A certain amount of stimulation is, of course, desirable and healthful, but this natural stimulant is furnished in the fruits and vegetables, and too high seasoning should be avoided.

Nuts are very nourishing, therefore should form part of the winter diet; however, being very rich in fat, a tablespoonful of nuts a day will suffice.

Many persons overload the stomach and liver with too much starch. If not doing heavy work, or if not exercising freely, the system requires little starch, or little fat.

Graham bread is far better for the complexion than white bread. The coarse bran in the graham flour keeps the lining of the intestines and stomach clean. The so-called "whole wheat" bread is a misnomer. It is not made from the whole wheat—the bran is omitted.*

The old time notion that one needs a tonic every spring is erroneous. Nature provides a tonic in the foods which the seasons provide, and let me impress upon you the importance, in the spring, of discarding, to a great extent, the root vegetables used in the winter and eating freely of those growing above ground.

There is no tonic in the drug store better than dandelion greens, spinach and water-cress. These will correct many diseases due to impure blood.

* For a full discussion of the digestibility and value of foods, see the author's book, "Foods."

Water-cress contains sulphur, iron and phosphates,—the ingredients in most spring tonics.

Spinach and beets contain much iron, therefore, are especially valuable for anaemia.

Dandelions contain taraxacum, which is used in the relief of dyspepsia. They are a strong tonic, a moderate laxative and a diuretic,—that is, they increase the secretion and flow of urine, and should be used freely in the springtime for greens.

Onions and asparagus are also diuretic. The former is a good tonic for the stomach and the latter for the heart.

Lettuce is a sedative, containing a certain amount of opium, therefore it is quieting to the nerves, and without the depressing after effects of an opiate. It increases the flow of urine and is frequently an ingredient in patent cough medicines.

Parsley contains a volatile oil and camphor. It acts upon the reflex and vaso-motor nerve centers, and is used in dysmenorrhea and genito-spinal debility. It is used in many liver tonics.

Celery is said to be good for the nerves, but its value as a nerve is questioned.

The use of soap is one of the most important things for
Soaps a woman who would have a smooth skin to consider carefully; its indiscriminate use has caused many wrinkles. Especially should one, whose skin is inclined to be too dry, be careful not to use a soap containing free alkali, as the alkali will extract the fat from the sebaceous glands and tissues, and one who is inclined to wrinkles will note that the use of a strongly alkaline soap will be followed by the appearance of numerous little lines,—after the skin has dried. There are *very few* soaps that contain no free alkali.

The latter must be used in manufacture, in order to extract the soap ingredients from fat.

Pure castile soap made of olive oil—not animal oil—is the best. It must be remembered that there are many grades of “castile” soap, some of which are no better than any other cheap soap. When one can be sure it is the pure, imported castile it is safe and preferable. The scented soaps should be used guardedly, unless you know definitely about their ingredients, because the pleasant odor may hide a multitude of dangers to the skin. Next to castile olive oil soap comes Ivory soap. This is made of purely vegetable oil and is said to contain no free alkali.

The soap that dries, roughens or makes the skin of the face feel stiff, should never be used a second time and when one has been found, which softens the face, experiments should cease and, if soap be used at all, that soap should be used regularly.

**Use Soft
Water**

The face should *never* be washed in hard water. The woman who has soft water available, without effort, is to be congratulated, for Nature provides no better skin tonic than soft water. Instead of spending so much money on face creams, it would be better expended upon soft water.

The city dweller, who has not access to rain water, can often procure it by saving the melted ice from her refrigerator; or, if the house be heated with steam and the air is let out of the radiator by a valve, she can procure the best kind of soft water by opening this valve and allowing the water to run from it. This is condensed steam, which is distilled water and the purest kind of soft water.

If it is absolutely necessary to use hard water upon the face, be sure that the water is boiled first. The hard water contains lime,

which is exceedingly injurious to the skin. Boiling the water causes a deposit of this lime in the bottom of the kettle.

It is much safer to boil hard water before using it than it is to try to soften the hard water with borax, or soda, as these are drying in their nature.

When one is going immediately into the open air
Soap the face should never be washed; it should be cleaned ✓
Substitutes with cream or a bath oil. Cream should be rubbed lightly over the face and then wiped off with a soft cloth, after which another application should be made to cleanse the pores and again wiped off with a clean cloth. If your skin is too oily and you cannot remove all of the oil with a dry cloth, dip the cloth in witch hazel or Pond's extract. The cream of cow's milk is excellent for cleansing.

In applying the cream or wiping it off be sure that all movements of the hands are upward and outward. The movement should be the same as for massage of the face. ✓

Remember in washing the face with oil or water that the dirt is on the surface. Do not attempt to combine cleansing with massage, because you will not be so particular to follow right lines. ✓

If one is exposed to much dust or dirt the face should be cleansed ✓ three times a day with cream and a little powder should be dusted over it.

Never wash the face with soap or use warm water upon it in the morning.

Many city dwellers, who have not soft water, prefer to wash their faces with cream and not to use the water upon the face at any time, and many others employ this method of cleansing during

the day, for cold water will not remove dirt from the pores and the face chaps after warm water or soap. This method is very successful, if the face be regularly exercised that the oil glands be kept fully active.

Soap and soft water at night, followed by a cream or skin food with cream for cleansing in the morning is a good plan.

Another soap substitute is almond meal; this is bought in a jar with a sifter cover and all that is necessary is to sift a little into the palm of the hand, wet it and rub upon the face as you would a soap lather. A jar of almond meal, with a perforated top costs no more in the end than soap. You will pay 25 to 30 cents a jar but it will last longer than soap. Be sure to get a meal which has been so carefully sifted that it contains no hard kernels. After you have used one jar of almond meal you will have the jar with the sifter and you can re-fill it with oatmeal, which you sift through a cloth sufficiently fine to prevent the coarse shell from sifting through.

Oatmeal is nourishing to the skin. It is particularly good for dry skins and bags of this are used in place of soap and wash cloths. These bags are made at home of soft linen or cheese cloth. A number of bags about four inches square may be made up at a time. Fill the bag with oatmeal, which has been well crushed and put through a sieve. Mix with the meal one-fourth of a level teaspoon of boracic acid and an equal part of powdered orris root. The boracic acid is an antiseptic and is healing, while the orris root is an astringent and is aromatic. These should be put in the air to dry after each use.

The cleansing with oil is particularly applicable to dry skins, while the almond and oatmeal are nourishing and the oatmeal with

the orris root is desirable for large pores and for faces of which the skin is becoming loose and flabby—the astringent tightens. The natural oil of the meal feeds the skin and when one can accomplish the purposes of feeding, tightening and cleansing with one process time is economized.

**Wash Cloths
and Towels**

The great agency in the removal of any skin blemish or in overcoming inelastic skin, which results in wrinkles, is an abundant blood supply. This should be stimulated by exercises. Were it not that a coarse towel or coarse wash cloth is apt to abrade the cuticle, making the skin rough, or, if used too vigorously, to deepen wrinkles, instead of rubbing them out, rubbing the face with a wash cloth or a coarse towel, which brings a good blood supply to the skin, would be as good a method as any for the development of tissues and the removal of waste through the blood stream and sweat glands, keeping the latter open that their natural amount of oxygen might be absorbed. As they *are* used, however, there is no doubt but that the wash cloth and the towel are responsible for many wrinkles and for many rough skins.

If you use a wash cloth on the face, be sure not to scrub the face and deepen wrinkles with it and be sure to rinse and dry it thoroughly after using. Remember that the dirt is on the surface and that all work with the face deeper than the surface is done by the hands in massage. ✓

Here let me remind you,—In drying the face with a towel, let the movement be upward and from the center of the face outward. Never rub the face downward,—it encourages the facial muscles to sag, and never *scrub with the towel—dry the face gently*. Let the rubbing

of the skin tissue be done with the fingers in the regular process of massage.

Substitutes for the Wash Cloth For cleansing the pores, nothing excels the camel's hair complexion brush. These bristles are exceedingly fine, and, when wet they are sufficiently soft not to abrade the skin or to deepen the wrinkles or to tear the delicate tissues about the pores. The brush should be thoroughly dried and, where practicable, put in the sun. It may be thoroughly cleansed, once a week, by rinsing in water containing a few drops of carbolic acid.

Another excellent substitute is the oatmeal bags suggested above.

Steaming the Face Steaming is not to be recommended, particularly for delicate skins. It enlarges the pores and makes the skin much more susceptible to atmospheric conditions, keeping it too tender.

The immediate effect of steam is to plump and swell out the tissues, but the reaction is flabby tissues and the application of cold water after the steaming will not cause it to fully react. Neither am I in sympathy with the use of alternate hot and cold applications. These are used for the purpose of stimulating the circulation through the skin, but the use of first hot and then cold is extreme and this stimulation is better done by exercises for the face. These result in more permanent tissue-building, and do not bring about flabbiness. Exercises will not only stimulate the nerves and bring a good circulation of blood to the skin, but will awaken the muscles, prevent clogging of the pores and of the glands of the skin, appreciably promoting their activity. A few good exercises take no longer than does the application of hot and cold compresses.

In many massage parlors, the face is steamed, then massaged, then electricity applied. This is too much work; it fatigues the tissues and the real result of facial treatment is not the immediate effect but the result shown hours later.

One well-known writer and dermatologist speaks strongly against the use of steam and hot water upon the face, stating that too great heat will leave the tissues weakened, but in the next chapter states that after oil has been applied, the red electric light bulb should be held closely over the face "to drive the oil in." This creates greater heat than hot water. The writer forgets that the movements of the skin are not from without inward, but from within outward; the natural oil of the skin flows outward, and as stated above, excessive heat tends to weaken and relax the tissues. The natural amount of heat needed to enable the pores to absorb the oil is produced by the friction of the massage.

SKIN IRREGULARITIES AND DISEASES

In most cases of actual disease of the skin the whole system is deranged, and the application of simply a liniment, or a salve, will not correct the condition. To accomplish a cure the entire system must be regulated by following the rules of hygiene,—the regulation of diet, proper exercises to establish a forceful circulation and deep breathing to purify the blood. It requires patience and persistence.

The same holds true in the case of chronic skin ailments such as pimples, sallow skins, etc., which are not actual diseases. In actual skin diseases one should consult a physician and obtain his opinion as to the exact form of disease; then definite hygienic treatment, with directions for massage, lotions, or ointments can be prescribed.

It is safe to say that there are no remedies that can be taken into the system, which, of themselves, are sure and specific cures for skin diseases. Physicians often endeavor to reach the cause of the difficulty by giving cathartics and tonics which are only temporary in relief. They merely assist Nature in her work,—while exercise, proper diet, correct breathing, local treatment and massage are more natural and more permanent aids, because they restore the natural strength of the organs so that they will perform their normal functions unaided. These means are always insisted upon by the up-to-date physician.

I am simply explaining here the cause of the most common skin difficulties and giving the general line of treatment. Specific directions must be given according to the individual case. Only in this way can satisfactory results be obtained.

Pale faces are occasioned by a deficiency in the general blood supply; by deficient quantity of red blood corpuscles (anaemia); by indigestion or any physical ailments which affect the nervous system; and by undue tension of nerves, causing the skin capillaries to contract, so that the blood cannot enter them.

Worry, or disagreeable thoughts, by reason of the effect upon the nerves and, through the nerves, upon the digestion and the capillaries of the skin, is a most frequent cause of pale faces. The effect of thought upon the color of the skin is explained earlier in this chapter (pages 288 and 289).

Tan and Sunburn Tan and sunburn are caused by the effect of the sun upon the pigment of the skin, as explained on page 276. As directed elsewhere, if one is out in the sun or air a

great deal, the use of much water on the face should be avoided; cold cream should be used to cleanse the face, in place of water. ✓ When it seems desirable to use water, it should be used at night, and a cold cream, or skin food, as the condition demands, should be applied. Water should not be used before going into the open air.

The special instructions for the removal of freckles are followed for the removal of tan. This treatment, like every other, should be modified according to individual needs.

A good cold cream, fresh cream of milk, almond oil, olive oil, vaseline or mutton tallow will heal the burned flesh.

Sallow skins, as a rule, are caused by the failure of the liver, stomach, intestines or kidneys to do their normal work, thus freely eliminating the poisons and waste from the system. Perhaps the large majority of cases are due to the failure of the liver to properly discharge the bile into the intestines. It is then picked up by the blood stream and it is the color of the bile which gives to the skin its yellow tinge. It is relieved by exercises to create a normal activity of the above organs, that there may be no clogged organs or ducts and that the impurities may be freely eliminated, and by deep breathing, which purifies the blood and enables the system to throw off its natural amount of impurities through the lungs.

The rest of the treatment consists of daily baths, plain, wholesome food and the external use of a whitening cream, with a thorough daily facial massage for a few minutes. The most stubborn cases yield to this treatment.

Flabby or Withered Skin When the skin has become flabby, withered or wrinkled, its elasticity and tone must be regained by a circulation of good blood through the skin; this is gained by exercise of the face, by exercise for the entire body and by deep breathing to purify the blood.

The daily facial exercise movements and use of skin food for the face and neck will keep up a normal circulation and elasticity and correct the flabbiness. Your diet must also be looked after so that it will contain good nourishing foods.

Daily sponge baths must be taken and a hygienic manner of living adopted.

Large Pores Large pores are caused by the clogging of the glands or ducts with dirt, powder, or with anything which causes a hardening of the sebum. The condition is aggravated when the skin is not elastic,—a lifeless or inelastic skin will not close the pores when the clogging is removed.

The relief from this difficulty lies in exercise and cleanliness. The former brings back the elasticity to the skin and the latter keeps the skin active, preventing the stoppage of the pores.

The free use of cold water upon the face tends to strengthen and adapt the skin to the flesh beneath it, but the skin must be kept well nourished and elastic. An astringent wash may be applied to tighten the skin and close the pores, whenever necessary, but care must be exercised in first thoroughly cleansing the pores.

Red Faces When not resulting from diseases, such as erysipelas, acne or eczema, red faces are caused by an unusual dilation of the capillaries of the skin, which sometimes results from tight clothing, but more often from eating too strongly

stimulating foods, both liquid and solid, also from indigestion or undue exposure to wind, heat or cold.

A thoroughly good circulation must be promoted, attention given to diet and plenty of cold water and an astringent wash applied for contracting the capillaries of the skin. Strong tea and coffee, and in fact all stimulating drinks and highly seasoned and fattening foods, should be avoided.

The constant friction of high or tight collars upon
Dark Necks the skin will draw more pigment to it and will work away much of the fat in the skin and immediate tissues. The dark lines about the top of a collar can never be entirely relieved until the tight collars are discontinued. This condition of the skin can be helped, however, by a thorough cleansing each night followed by neck exercises and the application of a good whitening lotion and a good skin food.

An oily skin is exceedingly trying to the patience of
Oily Skin any woman. It makes the face shiny, greasy and uncleanly and aids in the collection of dirt. ✓

Oily skins are most frequently caused by inactivity of the sebaceous glands, so that they do not retain their normal amount of oil in reserve and it oozes out upon the surface of the skin too freely.

Stimulants and drying lotions such as Eau de Cologne, alcohol, witch hazel or Pond's Extract will cut the oil, so it can be wiped off, therefore it is well to apply one of the above whenever the skin becomes oily. This, however, furnishes temporary relief, only.

As in the case of dry skin, permanent relief lies in a thorough daily exercise to open up and strengthen these glands, and in exercise

to create a good circulation; definite attention must also be given to diet.

A dry skin is caused by an impoverished condition of the blood, by an imperfect circulation, by tense nerves, by continued exposure to dry winds, alkali dust, extreme heat, to soaps containing free alkali, or to the use of strongly alkaline water; any one of these conditions will unduly dry the natural oil in the skin.

Permanent relief lies in a forceful circulation of good blood and in facial exercise, which will promote a more natural flow of oil in the glands and blood in the capillaries; also in the application of a skin food, which to a certain extent, supplies the lack of oil in the sebaceous glands.

The mere application of skin food, however, is temporary in its relief only, because oil which is forced into the pores soon comes to the surface, unless the sebaceous glands are put in condition to retain a certain amount of that which is applied, and to retain their own supply. It must be remembered that when the skin has been dry for some time, these glands themselves become shrunken.

As explained, elsewhere, dry, undernourished skin is the chief cause of wrinkles.

Soap should be used with great care on the face and neck as it often dries the skin. If after experimenting with the good kinds of soap suggested on page 296, you find they do not agree with your face, one of the soap substitutes referred to on page 297 should be used. When you have found the one that suits your particular case, stick to it and stop experimenting.

Blackheads
(Comedones) Blackheads are due to clogging of the sebaceous ducts with dirt. To prevent this, thorough cleanliness must be observed. Many women, who are neat in every other respect, fail to be thorough in the cleansing of the skin. It may be that they are surrounded by an atmosphere containing an unusual amount of dirt. In this event, the face should be cleansed more frequently. Where the pores become clogged the sebaceous matter, instead of being milky, becomes cheeselike; there is a pressure upon the surrounding capillaries, the tissues underneath often become involved and pimples result.

A forceful circulation of good blood and regular, daily facial exercise, together with frequent cleansing, will prevent a return of the blackheads. All cases of this kind should be taken in hand as soon as they develop, and persistently treated until they are cured.

Freckles Freckles are due to an excessive and irregular amount of pigment in the skin. They consist of small deposits of coloring matter in the deeper layer of the epidermis and differ from chloasma, or liver spots, only in size.

The heat, particularly of the sun's rays in summer, draws the pigment to the surface of the skin and one who is susceptible to freckles should avoid undue exposure to either sun or wind.

Freckles indicate a goodly proportion of iron in the blood and the child's description of them as "rusty spots" is correct. It will be noted that freckles are not present in anaemia, which denotes a lack of iron in the blood.

These blemishes are more common to blonds and those with red hair, due to the fact that the skin of blonds is usually thin.

Freckles rarely appear before the age of six, but from then on, they come and go with the change of seasons, usually disappearing in the fall as the sun's rays grow less powerful.

The use of strong, mercurial lotions for the removal of freckles is injurious to the skin and cosmetic washes sometimes contain ingredients which are harmful and dangerous; therefore, both should be avoided, but very satisfactory results may be obtained by the galvanic battery, using the stiff, fine needle, connected with the negative pole.

When the pores of the skin are clogged, the kidneys, **Pimples** intestines and lungs are overworked. In order, therefore, that the pores may do their share in eliminating the waste matter of the system, they must be kept open, otherwise the tissues will become involved, the circulation through the skin and deeper tissues interrupted, the capillaries broken, and pimples or other skin eruptions result.

Constipation and indigestion are prolific sources of "muddy" complexions and skin eruptions. The retained excretions form poisonous gases, which are carried into the circulation and contaminate the blood. The effort of this waste matter to find its way out of the system, is the greatest cause of pimples and other skin difficulties.

Regular daily exercises for the vital organs to promote a healthy circulation are imperative for relief of pimples.

When pimples are insistent, or chronic, and do not yield to the restoration of the normal action of the above organs, the skin tissues have become involved and the case requires special treatment, according to the nature of the disease.

Temporary relief from pimples, of the ordinary kind, may be materially aided by the application of soothing lotions or a lubricant, but permanent benefit can be established only by creating a perfect activity of every eliminating organ and a good circulation throughout the entire body, that the waste may be thrown off through its natural channels.

These little pimples vary in size from a
White Spiders
(Milia or Millet-Seed) pinpoint to a large pinhead. They are like small, whitish, sebaceous seeds, showing below the epidermis like kernels of rice. They are found mostly on cheeks, eyelids and foreheads of elderly persons. Sometimes they are but two or three and sometimes as many dozens. Unless removed they remain unchanged for years.

Internal remedies do not seem to reach the cause of these peculiar pimples, as their origin seems to be purely local and not affected by physical conditions.

Some of these little "seeds" may be embedded in the skin, or they may project above the surface and in either case, there is a sac formation within the sebaceous gland that must be opened, the lumpy contents pressed out, and the cavity carefully cleansed, before the real treatment and cure can be commenced.

So-called "liver spots" come in larger patches than
Liver Spots
(Chloasma) freckles and vary in color, some being scarcely perceptible, others being a deep yellow, brown or almost black. The idiopathic varieties of this disease (those which have no relation to other diseases) are those produced by externally operating agencies, which persistently bring an undue flow of blood to any portion of the skin. As it is from the blood that the pigment is derived,

the stains produced by the pigment are in proportion to the congestion, or lack of current in the fluids of the body, especially the blood, or to the filtration of the vascular fluids.

The symptomatic varieties of chloasma—those which are associated with other diseases,—are the result of disorders involving the internal organs; ovarian and uterine diseases, pregnancy, chronic constipation and intestinal and gastric fermentation are very frequent causes of patches on the face and hands.

The internal treatment for chloasma should consist in first putting the stomach, intestines, kidneys, uterus and ovaries in good condition, as these organs are mostly responsible for the pigmentations on the face, neck and hands. This is best done by exercise, diet and deep breathing. Local treatment will depend largely upon the depth and location of the pigments.

The discolorations in the skin often come after a long continued use of arsenic.

To treat chloasma successfully, the skin must be kept perfectly clean and the pores free from obstructions.

A daily bath is necessary, as is also the use of plenty of water internally; at least eight glasses of water a day should be taken. The bowels and stomach must be kept strong and active. Not otherwise can relief be obtained.

The external, or local treatment consists of proper exercise and the bleaching of the skin. In doing the latter it is entirely unnecessary to remove the cuticle. A systematic and thorough use of massage, combined with the proper lotions and creams, will bring much more satisfactory results.

External applications hasten the reproduction of the epidermis, thereby substituting new and unpigmented skin for the old.

Great care must be exercised against too powerful bleaching remedies; they have many times been known to cause inflammation, so that the pigment deposit was increased instead of lessened.

Slow methods of removing the pigment spots are advisable rather than the rapid ones, as there is more liability of the discoloration returning if too rapidly removed.

Peroxide of hydrogen can be recommended as harmless and somewhat helpful, but is not of any material value for permanent results. Corrosive sublimate constitutes the basis of most of the lotions sold in drug stores, but such harmful results have come from it, that it should never be used.

Warts are the outgrowth of the cuticle. In
Warts childhood and early life they need not suggest grave sequels. In advanced years, especially when irritated by frequent caustic applications, they are more serious, often becoming the seat of malignant growths, therefore should be treated carefully.

The variety most frequently seen on the fingers and hands come singly or in numbers, from pin head to pea size. They are erratic and come and go without any apparent cause. They are successfully removed by a simple caustic, but if the growth is obstinate, electrolysis should be resorted to, but in young children who will not submit to the light pain of the needle, or where electrolysis is not available, Hardaway advises that the wart be painted with a saturated solution of salicylic acid in alcohol or this can be bought in the form of Beiersdorf plaster; it is more simple of application in the plaster form.

“Various caustic applications such as acid nitrate of mercury, caustic potash, or nitric chronic, or trichloracetic acid, may also be used, but the plaster is perhaps safer and better.

“In case a caustic is used the trichloracetic acid is best. In the application of a caustic the contiguous skin about the wart should be thoroughly protected by applying melted wax about the base of the wart; then wrap the merest fragment of cotton about the point of a fine wooden tooth-pick, so as to avoid taking up too much of the acid and barely to moisten the wart, being careful not to let it touch the unaffected skin. If drastic treatment is desired the acid may be rubbed into the wart with the cotton, if a light treatment it is merely dropped upon it.”

Moles are said to be congenital in origin, though they often do not appear until late in life. When they appear after middle age, care should be used not to irritate them, as they often develop into more serious difficulties.

The best method for removal is by electrolysis, which, of course, requires skilled treatment. It is unsafe and unwise for anyone but an expert to in any way tamper with a mole, as it will not yield to simple treatment and the danger of after results is great.

These are tumor-like growths, or greatly distended sebaceous glands, due to clogging of the glands or ducts. They form sacs containing a cheesy matter. They vary in size from that of a pea to an orange. They develop on the face, head, neck and back. The treatment for them is excision.

Acne is, no doubt, one of the most common of the skin diseases and well developed cases of long standing sometimes require medical attention, as well as remedial exercise. Most often, however, it is relieved by exercise, diet, breathing and rest with local applications of astringent and healing lotions. The combination of the two forms of treatment is very effective.

Usually acne is a chronic affection, insidious in its progress, and intermittent in its severity. It is sometimes aggravated at the menstrual period, but not in all cases.

Acne occurs most commonly between the ages of puberty and about twenty-five years, but it may also occur in more mature years;—it is unusual, however, after sixty. The disease may last for years, or a lifetime, if not given proper treatment, but often disappears spontaneously as the body reaches full maturity.

It is a chronic inflammatory disease of the sebaceous glands and may occur wherever these are located. While the most common seat of the disease is the face, it frequently appears on the chest, neck, shoulders, the back and front of the upper chest, the genitals and extremities, although other parts of the body are frequently affected. The palms of the hands and soles of the feet are not affected by the disease.

One of the reasons for the presence of acne on the face, more frequently than elsewhere, is the fact that the sebaceous glands, over most of the surface of the body, are connected with hairs of some size. The sebaceous ducts open into the follicles of the hair, which by continual growth, keeps the orifice of the glands free. The friction of the clothes upon the body also assists in keeping these glands free. On the face, nose, forehead and cheeks, as well as on the neck and

chest, the hairs are few and cannot so fully assist in the outflow of the sebaceous secretion. In fact, when there is little friction of the face, by massage, they often act as an impediment, and block up the openings, the glands becoming clogged with dirt.

The skin has within its structure a certain amount of involuntary muscular fibres, which are especially important in the emptying of the sebaceous glands, but on the face, back and chest, where acne develops most frequently, and where these glands are apt to become clogged, these involuntary muscles are almost entirely missing, so that the secretion, having no particular expulsive force, becomes impacted and if at all hard, the secretion is not excreted. This is one reason why exercise is important for the face, neck and chest, to keep the pores open.

When these glands fail to act properly, as they do under various circumstances, it will cause a hard, dry condition of the skin called Xeroderma. When the skin is properly cared for, washed and massaged, the tissues will be fed with their natural food, the oily products of these glands, with the dead epidermal matter, will be removed; but when the skin is neglected, these impurities and dead matter accumulate and the openings of the sebaceous and sweat glands become clogged, throwing extra work upon the other organs of the body and various forms of skin diseases develop—acne being the most common and annoying.

The earliest stages of the acne-papule are generally intermingled with blackheads (comedones) and very often associated with seborrhea (dandruff) of the scalp. In fact acne seems to find its outlet in comedones and seborrhoea, but there is a diversity of opinion as to whether these cause the acne or the reverse. The former is probably

true, or at least the clogging of the pores may be the instigation.

Uterine and gastro-intestinal derangements frequently accompany the disease, constipation and dyspepsia and the resultant malnutrition being the most common causes. When the uterine difficulty is corrected, and the stomach and other digestive organs are made to perform their functions properly, by exercises to strengthen the parts and bring a good circulation through them, much will have been done towards its relief and cure. Over-eating, or indigestible foods will cause an outbreak of acne.

The eruptions are characterized by numerous small red pimples, somewhat conical in shape and varying from a pinhead to a split pea in size. These are usually scattered irregularly over the surface.

Acne is aggravated by sea bathing, or by salt baths in any form. Some drugs, principally the bromides and iodides, will aggravate an existing case of acne, while at times the disorder seems to be a reflex neurosis, or nerve affection.

**Treatment
for Acne** Exercises for the stomach and intestines to bring a thorough circulation of good blood to them, deep breathing exercises and proper diet are the basis of all treatment for acne.

A judicious and careful local treatment is very important, as the measures to be employed must depend largely upon the character of the disease, the constitutional treatment depending upon the discovery and removal of the cause, each case must be treated after the health symptoms are known.

Although a disease of the sebaceous glands, acne cannot be treated solely as such, for it has strong relations with the rest of the system that must be borne in mind when treating it, and the internal

condition must often receive careful attention, as a large majority of acne cases, after the age of twenty, show derangement of the urine, liver and bowels. Indiscretions of diet will bring acne eruptions, as will also the checking of perspiration.

Relief of acne is often obtained by proper vaginal injections.

Caustics should not be used for acne, though they are often recommended.

There is no doubt but that the use of the X-ray is one of the best agents for its relief, but there are cases that will not yield to that treatment alone. The best results will be obtained with a soft tube and a faint light.

In the use of the X-ray treatment, the eyes and scalp must be protected, and the danger of producing atrophy not forgotten. If Erythema appears, the X-ray treatment should be discontinued at once. Exercise, diet, cheerful thoughts and deep breathing are essential, as these increase the skin resistance.

Acne Rosacea, characterized by redness of the nose, chin or other parts of the face, has many causes, but the most common are menstrual irregularities, anaemia, chlorosis, dyspepsia, constipation and exposure to excessive heat or cold. The trouble is most liable to occur at puberty or at the menopause, and is generally a reflex one. Chronic nasal troubles, or any condition that interferes with the local circulation, must always be considered in its treatment.

A recurrent inflammation of the hair follicles just inside of the nose, is one of the common causes of chronic redness of the end of the nose, and when this inflammation exists it is advisable to pluck the hairs. This requires a little patience and persistence, but so

does everything which is worth working for in the correction of disease or bodily defects. A 10% ointment of xeroform or a 30% solution of peroxide of hydrogen may be applied to the inner surface of the nostrils, while the hairs are being removed. Even if the trouble has been of long standing, if the cause can be definitely reached and removed, very good results toward a cure can be obtained. The treatment and relief of this disease are slow and tedious.

Eczema is a common skin disease and, like acne, is **Eczema** largely constitutional, therefore requires medical treatment, as well as remedial exercise. The advice given here is to be considered supplementary, as in the majority of cases both kinds of treatment are necessary.

There are a great many forms of this disease, but only those involving the face, lips, neck and hands will be considered here.

Eczema is an acute, sub-acute or chronic inflammatory disease of the skin. It generally begins in congestion of the skin, and ends in a falling off of the cuticle in scales, but between these two conditions there may be several distinct changes.

It is not hereditary in the same sense that syphilis is. If the parents have eczema, it may be looked for in the children but it is probably the predisposed and susceptible skin that is inherited, and not the disease itself.

It is not considered contagious, even in the parasitic variety, but an irritating discharge, coming in contact with the susceptible skin of another, may provoke it. It has a marked tendency to relapse.

The principal internal causes are:

Different derangements of nervous function, such as sudden mental shock, severe mental worry and nervous exhaustion;

Some conditions of pregnancy, or a reflex irritation due to uterine disorders;

Some articles of food and drink, according as they derange the bowels and stomach;

Extreme cold and excessive heat especially if the heated condition causes much sweating;

External irritants such as sugar, chemicals, flour, lime, soap hard water, or rough underwear that rubs and scratches the skin;

Sometimes flat foot, with the condition at times attendant, of varicose veins, will excite and produce eczema.

In fact the causes of eczema are numerous and many times so obscure that the treatment of the disease is more or less a complicated problem, especially as there is not much tendency to a spontaneous recovery, but rather a persistency in spreading to contiguous or distant parts of the body. Its treatment must be both local and constitutional.

Before the exact form of local treatment can be decided upon, it is necessary to study the general features of the case,—the age, the length of time the condition has existed, and the cause of the trouble. When these things have been considered, and the correct stage of the disease determined, as to whether it is acute, subacute or chronic, then the form of treatment may be mapped out.

Eczema of the face occurs in early, middle and advanced years and does not yield readily to treatment. It attacks the whole of the face, often involving the nose and eyelids. The skin in such cases is usually light or dark red and the surface somewhat elevated. A discharge of

Eczema Faciei
(Erythematous)

serum will be noticed. When the disease reaches its height the skin will scale and the itching become intense.

This form of eczema is frequently mistaken for erysipelas, especially when there is a swelling, which causes the eyes to close, but eczema can be distinguished by its persistency and chronic character, failing often to yield even to the best treatment and recurring under the influence of thermal changes. It is often confused with acne, also, but in eczema the itching is severe while in acne there is considerable heat and burning.

Soothing applications should be used first, followed by more stimulating ones.

Papular Eczema
(Papulosum) This is a dry form of the disease and is characterized by little red papules of about the size of a pinhead, which appear in small groups, or scattered over the face and on the surface of the skin in the vicinity of the joints, where there is a natural distension. Frequently in chronic cases the papules unite and form large patches. They are accompanied by intense itching. The papules may continue several weeks or be replaced by others. A patch of eczema of this kind will ooze with moisture on being scratched; this gives relief from the itching sensation.

Vesicular Eczema
(Vesiculosum) Vesicular eczema, as the name implies, shows little bladder-like vesicles, or blisters, which are filled with a perfectly clear fluid, or serum. There is a good deal of fever, sensitiveness and itching at first, after which the skin becomes very red and the blisters form. If the latter are not opened accidentally, they will burst. The fluid dries rapidly,

when exposed to the air, and light crusts form. If treated promptly the breaking of the vesicles may be avoided.

This is the mildest form of eczema and is **Erythematosum** peculiar to persons exposed to extremes of heat, cold or wind. Though it most often attacks the face, it will also be found on the soles of the feet, palms of the hands, and in the genital region. In the more acute forms, there is great irritation, burning and itching. It begins in patches of redness, rather than in spots, varying from a bright to a dull red, and there is more or less swelling.

This form of eczema has a marked tendency to extend to adjoining parts, also to relapse.

The above four forms of eczema often present new phases, in fact they are constantly changing and also intermingling, which permits physicians to distinguish them more readily from other skin diseases.

Eczema of the Hands
(**E. Fissum**) When the skin of the hand loses its elasticity, as a result of an eczematous condition, fissures form, particularly over the joints.

This kind is often found in combination with the scaly sort in persons whose skin is thin, or undernourished, or exposed to irritating influences.

Eczema of the Lips
(**E. Labiorum**) The lips furnish a good example of the liability of eczema to attack the mucous outlets of the body as in the case of the nostrils and eyelids. Their most constant use in the wetting of the lips and nasal discharges aggravate the trouble.

Any of the above described kinds of facial eczema may occur on the lips.

**Treatment of
Eczema**

In treating eczema, five general objects and principles must be considered:

1st. The exclusion of all sources of irritation to the skin in the matter of clothing, food, bathing, etc.

2nd. Relief from itching, burning and other irritating sensations.

3rd. Reliable antiseptic dressings for local relief

4th. Reduction of local congestion in acute cases and stimulation of circulation in chronic ones.

5th. Repair of the horny layer in acute diseases, and destruction of the thickened and abnormally horny quality of the tissue in chronic cases.

The very best contributing agencies in the relief of eczema are fresh air, sunlight, exercise for good circulation and for the upper spine, also for the dorso-lumbar vertebrae.

The internal treatment must be governed symptomatically and the causes and complications removed, as there is no specific for the disease.

In intractable cases of eczema, and when there are frequent relapses of the disease, the application of a counter irritant is helpful. Mustard leaves may be applied over the vasomotor centers of the parts. If the eczema affects the upper part of the body, apply the mustard leaves to the nape of the neck; if the lower part is involved, apply the leaves over the lumbar region.

In acute cases, frequent applications of hot alkaline water will relieve the swelling and pain. This should be followed by a soothing ointment.

Equal parts of glycerine, alcohol and tincture of benzoin is

excellent for eczema of the lips. The affected parts should be protected by a mixture of cold cream and white wax.

A soothing application, such as sweet oil, or oil of sweet almonds, mixed with one per cent carbolic acid is excellent. Stiff ointments should be avoided in regions where hair develops most on the body. Preparations containing glycerine, vaseline, oil, alcohol or water are best.

Bodily and mental rest cannot be too urgently recommended as a part of the treatment.

There are no specifics for eczema and much harm has been done by over-dosing with patent blood medicines and by the injudicious use of arsenic, potassium iodide, or potassium bromide, which aggravate, rather than relieve the condition.

In acute eczema, or when one is very full-blooded, or troubled with imperfect excretion because of constipation and gastric or intestinal dyspepsia, it is necessary to keep the blood circulating freely and the liver, bowels and kidneys thoroughly active. These latter ailments will yield more readily to exercise and diet than to the use of any amount of purgatives, stimulants, or tonics. The functional activity of the skin depends greatly upon the condition of the entire system. Occasionally a tablespoonful of castor oil, taken at night when retiring, will be found helpful in neurotic (extremely nervous) cases. This may be taken at regular periods for some weeks with helpful results.

If there is any renal (kidney) derangement, distilled or pure water taken in large quantities before and between meals will encourage proper elimination and act as a diuretic, keeping the kidneys well washed and free from impurities.

Diet in Eczema No positive rules can be followed for diet in the treatment of eczema, but the quantity and quality of food must be given that will best nourish the body, without interfering with digestion and elimination.

One who is anaemic, scrofulous or poorly nourished, must take foods containing a goodly proportion of protein, such as fresh beef, or beef juice, fish, mutton, eggs, cheese, beans, peas, cocoa and other good nourishing foods. Cod-liver oil, butter and other fats are excellent, when they can be readily digested.

If carbohydrates are not readily digested, some of the various malt preparations are of value.

When gouty conditions exist and there is a faulty digestion and elimination, in consequence, the diet, especially some foods rich in proteids, particularly red meats, should be restricted to the very lowest point possible, without depleting the health and strength. Meats should be confined to mutton, fowl and fish. An excellent diet for a gouty, eczematous condition is bread and milk, or milk alone for several weeks. Milk and seltzer water may be taken also, without other food, for several weeks, with helpful results.

The general diet for eczema must be modified according to conditions of the individual. Avoid starchy foods in excess, too acid fruits, hot breads and cakes, pastry, confectionery, much cheese, pickles and pickled meats, cucumbers, cabbage, (raw or cooked) parsnips, turnips, cracked wheat, shell fish, salted fish and salted meats, pork, veal and fried foods of any kind. Milk may be taken between meals. Coffee, tea and alcohol in any form are too stimulating and the discontinuance of them is necessary.

Baths in Eczema The less water applied to an eczematous surface, the better for it, therefore avoid bathing the affected parts except with warm milk, or olive oil, applied with a soft cloth. If there is a tendency to perspire freely, from heat or vigorous exercise, one should keep the skin dusted thoroughly with talcum powder and avoid external or internal irritants.

Massage in Eczema Massage is sometimes of value in chronic forms of eczema. The stimulation of the absorbents dissipates the exudation, decreases the thickening and lessens the itching.

Erysipelas Erysipelas is an acute inflammation of the skin, of a contagious character. The inflammation often commences with one or more chills, a feeling of general depression, headache, and sometimes vomiting. There may also be a feverishness followed by a high temperature. The eruption usually begins at one of the muco-cutaneous outlets of the body. The face is the most common point of attack and the disease will generally appear first on the eyelid, angle of the mouth, or side of the nose. It sometimes attacks the lobe of the ear, after it has been pierced for ear-rings.

In severe cases, or when the disease is not checked within a week or ten days, complications may arise involving the lungs, pleura, heart, intestines, kidneys, peritoneum, or joints, with delirium and other grave symptoms; oftentimes the entire head becomes greatly swollen, appearing almost twice its normal size. Erysipelas of the head and neck often becomes serious from cerebral complications, or infection of the mucous surfaces.

The disease may last from one day to several weeks. In mild cases, internal treatment is rarely necessary, the best plan being to

use a preparation that will protect the affected parts from external irritation. Flexible collodion is excellent for this purpose.

This form of skin difficulty is especially severe
Prickly Heat with people who are obese and with infants whose delicate skins and bowels cannot stand sudden and severe thermal changes. It affects equally the vigorous and the debilitated. The disease is aggravated by all external and internal irritations, such as indigestion, the use of opiates, or alcoholic beverages, flannels or chemically dyed garments worn next to the skin, undue exertion causing over-heating of the blood, fatigue, etc. Prickly heat may last for a few days, or for a week or more. The lesions are very numerous and in severe cases cover almost the entire body.

Hives, or Nettle-rash, is an inflammatory
Hives or Nettle-Rash disorder of the skin, characterized by the development of wheals of various sizes in a bright red, or whitish color. They burn and itch in an irritating manner and develop very rapidly, sometimes scattering and again extending all over the body.

The wheals may appear suddenly without apparent cause, in large or small numbers, sometimes remaining a few minutes, sometimes a few hours, or a few days, and then disappear as suddenly as they came, leaving but slight traces behind.

In acute cases, there will be a rapid pulse and fever, 101° to 102° , gastric irritation, headache and prostration. The eruption may not appear for a few days, and will then come out profusely over the entire body. Usually when the gastric irritation is relieved, the wheals subside and disappear.

Hives or nettle-rash may be due to a direct (idiopathic) or indirect cause (symptomatic). Among the former may be mentioned external irritants such as the bite of an insect, certain medicines, climatic influences and injuries. Among the latter are improper diet, medicines, gastric and intestinal disorders, certain fruits and fish, pulmonary diseases, malaria, uterine, renal and nervous difficulties, pregnancy, menopause and gout.

The majority of cases of hives need no special treatment. If the diet is studied and changed, the stomach rested, the intestines freed of retained waste matter, and the skin bathed with alkaline solutions, such as soda, the trouble will soon disappear. Should it prove obstinate, additional treatment will be necessary.

In treating the skin in these cases, externally, all sources of irritation must be removed. Let the under clothing be soft and light and talcum powder applied freely.

Dermatitis
(Skin Inflammation) The effect of different degrees of heat and cold upon the skin expresses itself in such common difficulties as burns, scalds, sunburn, frost bites and chilblains. The symptoms in these cases are similar, whether caused by heat or cold, and there may be different degrees of disturbance from simple congestion to gangrene of the skin.

Skin irritations often follow the taking of too many drugs. The salts of iodine or bromine, if taken for an extended period or in large quantities, will almost always produce skin eruptions.

The causes and number of substances that excite inflammation are large and the mineral irritants are numerous; often the coloring in some piece of wearing apparel, or the chemical substance in soap is the cause of an attack.

There are said to be over sixty plants found in the United States that may cause different degrees of dermatitis. Several species especially cause active inflammation of the skin, as a result of exposure or contact. Among these may be mentioned Poison Ivy, Poison Oak, (*Rhus Diversiloba*), Poison Sumac (*Rhus venenata*), a very poisonous variety of dwarf sumac, Poison Dogwood and Poison Elder (found in South Carolina).

The effect of *Rhus* poisoning upon the skin varies in intensity, with pronounced sensations of burning and itching. Sometimes the entire surface is affected, but usually the face, hands and genitals only, are involved. The disease may run from one to six weeks, and in the early stages, it may spread or be communicated, but after the poison has been absorbed, or reduced by applications, there is no danger of contagion. It takes the disease from a few hours to four or five days to develop.

After the susceptibility to *Rhus* poisoning has been once established, it is difficult to prevent it from becoming chronic. The treatment of all forms of inflammation of the skin, produced by external irritation, either from the animal, vegetable or mineral kingdom, should be based on general principles and the source of irritation removed.

Some skin diseases are worse in summer, such as hives, (urticarial), acute eczema, and prickly heat, (eczema solare) and some are worse in winter, as chronic eczema, itching, (Pruritus) and the itch, (Psoriasis). This may be due to improper diet, which should then be different in warm than in cold weather, or to outdoor life, which brings one more in direct contact with vegetation.

Psoriasis is helped by sea baths and warm salt baths may be taken in the winter for this disease.

For nervous or over-worked persons, plenty of sleep, regular hours and as much rest as possible is necessary, especially a complete mental and physical relaxation of ten minutes before each meal, with one-half hour's rest or inactivity after meals.

These growths are of a small fibrous nature. They
Skin Tumors
(Fibroma) are usually few in number and cause no serious inconvenience. They vary in size, sometimes being not larger than half a pea, and again as large as an egg. They also vary in shape and consistency. They may be round and embedded in the tissues, or they may be pendulous, soft and gelatinous, or hard and fibrous.

They are most frequently found on the face or neck, and as they give no special physical inconvenience, the relief sought is more for unsightliness than discomfort, except in cases where the growths increase to abnormal size. Then the annoyance is great. The small tumors may often be absorbed through the blood or circulatory channels.

Facial massage will be found valuable in keeping the involuntary muscles of the skin active, the pores open and the circulation good. All tumors are due to imperfect or impeded circulation, so if the skin is properly cared for, massaged and fed, and the circulation normal, these little tumors will many times disappear.

Beware of any medicine, lotion or powder advertised to stop excessive perspiration. A deodorizer and absorbent may be used, but the sweat glands are Nature's outlet for the poisons of the system and if clogged or closed, the poisons will be hoarded; the kidneys will be over-taxed in an effort

to do their own work and that of the skin, also; in that case, some form of renal disease might result.

Sometimes excessive perspiration is caused by a weakened condition of the nerves. In that event, the relief lies in strengthening the nerves by rest, exercise, sunshine, breathing and diet. When the face perspires freely the complexion is usually clear, the perspiration serving to carry away impurities; but it is sometimes necessary to use a slightly astringent lotion to prevent the pores from becoming too large.

**Care of Feet
Affects Complexion** The importance of keeping the pores of the soles of the feet open as a means of preserving a good complexion must be fully dwelt upon. The sweat glands in the palms of the hands, the soles of the feet and under the arms are more numerous than on any other equal area of the body. The amount of impurities which are thrown off through the pores of the skin, and which are hoarded within the body, if not emitted, may readily be judged by the odor of the perspiration here. When the time comes that the American woman wears sandals or ventilated shoes, there will be a marvelous clearing of complexions.

The hose should be changed frequently, and if worn two days in succession they should be dried and aired each night, the soles of the feet should be rubbed very briskly with a good flesh brush, and otherwise treated as suggested in "Treatment of the Feet," in this series of lessons.

**Effect of Bath
Upon Complexion** The daily bath, followed by a thorough friction of the skin, is important to every woman who would have a clear skin. It has a very noticeable tonic effect upon the complexion. By the daily baths

the nerve force of the entire body is evenly distributed; in consequence the circulation is uniform throughout the body and the complexion reflects this relaxation and distribution of force, by at once becoming clear, while the face reflects the *rest* which is another word for physical harmony, resulting from the even and natural distribution of force. The warm bath relaxes nerves, which are too tense, and the cold bath, where the nerves are sufficiently strong to react, is the most effective nerve tonic.

Hot baths are too enervating; they should not be indulged in except upon the advice of a health specialist, who understands the nerves and their power of reacting.

Cold baths drive the blood from the surface to the deeper veins and arteries flushing and nourishing them with blood, setting free, blood corpuscles and returning to the surface with a strong reaction. There is no better skin tonic than a bath in cold soft water, followed by a brisk rub.

The skin is constantly throwing off the impurities of the body and if the dust and dirt which has accumulated during the day is not removed, it clogs the pores and a great deal of the impurities are retained in the system. These impurities have, of course, their direct effect upon the blood, which in turn affects the color of the skin, its smoothness and its vitality.

A warm bath should always be followed by a cool or cold bath or an alcohol rub, that the pores of the skin may be closed.

Thin and
Fat Faces The massage for the face, together with proper attention to a diet which puts on flesh, and to exercises for circulation, so that the system may assimilate the food, are the only means of permanently plumping the face.

Regular attention to exercise, and diet to correct the tendency to store up too much fat, must be the permanent method of reducing fat faces, but they may also be reduced by massage; the work for reduction is more firm and more vigorous, and should be applied more frequently, than for plumping the face; where the same exercises are carried to a point of fatiguing the muscles and overheating the face, they assist in carrying away the fat.

When massage is followed for the relief of too much fat in the face, attention must be given to the free use of cold water, and after that an astringent wash may be used to assist the cold water in tightening the skin.

Superfluous hair originates in unnatural capillary growth. The condition may be acquired or congenital. The most distressing cases are the facial hirsuties of women, which appear most frequently upon the lower jaw and the upper lip. It is not only mortifying and disfiguring, but many times mental depression and melancholia are accompanying symptoms.

It has been generally observed that unusual growths of hair accompany derangements of the nervous system, and in fully one-half of the cases there will exist some sexual derangement, amenorrhea being the most frequent. In many cases the hairs first appear at the menopause, thereby strengthening the theory that the menstrual function possesses no little etiological importance. The apparent causes are, however, not by any means uniform, being more or less obscure in origin. Racial tendency, so-called heredity, and nervous influences are probable factors.

Constant applications of poultices will sometimes cause a growth

of hair, also constant exposure of the arms or any part of the body to extreme heat or to the sun.

The electric needle is the only safe and permanent method of destroying superfluous hair, but this treatment must be given by a thoroughly competent manipulator or the root of the hair may not be destroyed, in which event the hair may grow again.

The immediate after-effect of electrolysis is a formation of urticarial wheals, with more or less inflammation. It is advisable after each electrical treatment to bathe the parts, where the hair has been removed, for ten minutes at a time, three or four times a day, with water as hot as can be borne. This will reduce the local disturbance of the skin noticeably and allay inflammation. If care is used by the operator of the electric needle, no scars will result, but when the skin is very thin on the upper lip, and the hairs numerous, minute pits are sometimes formed.

Twenty to sixty hairs are generally removed at one sitting, the time of each treatment varying from one-half to three quarters of an hour.

When the hair root is thoroughly destroyed, the superfluous hair will not return, but if the destruction is not sufficiently effective, it necessitates repeating the operation.

Shaving, epilation and depilatories give no permanent results; they usually stimulate the growth and do more harm than good.

The X-ray method of treatment is very difficult and tedious and not advisable, except in cases of exaggerated type or those to which electrolysis is not applicable. The long, fine, downy hairs will not usually yield successfully under the X-ray treatment, and exposure to the X-ray is often followed by a development of more hair. Many

of the X-ray cases are known to have been under treatment for months and even two or three years, while a return of hair is known after 106 treatments. The dangers are so many, and the results so uncertain with the X-ray, that the conditions do not seem serious enough to justify the risks, and the electric needle is preferable, for the majority, if not all cases.

To Bleach Hair Peroxide of Hydrogen may be used to bleach the hair on the face and arms and make it less conspicuous.

Before applying, first thoroughly wash the parts with warm water and soap to completely remove the oil; then bathe with two or three applications of warm water to remove all traces of soap; next apply the peroxide freely over the surface. It is not necessary to dilute it. It may be necessary to repeat the process two or three days in succession. Be sure that the hairs are thoroughly clean before applying the peroxide. Where hairs are not too annoying it is as well to bleach as to remove them,—there is absolutely no danger in bleaching as above. (See page 81.)

Wrinkles Wrinkles are not always indicative of old age. In fact, many women reach the age of sixty years or more, with scarcely a line on their faces. Just how soon wrinkles develop, depends upon the physical condition of the woman, as well as upon the care she takes of her skin,—especially after she passes thirty or forty years.

There is no reason why one should grow prematurely wrinkled and old. If care be given to watch the thoughts, with simply patient, every day following of a few directions, and attention to a good circulation and good blood all wrinkles can be removed. Good blood is gained by attention to exercise for the vital organs, that the food

may be digested, assimilated and the waste from the system eliminated; attention to deep breathing, that the blood be fully purified; and to a diet which does not overload the system.

If one is in moderately fair health, no woman need despair of eradicating every wrinkle in her face; but, remember that it takes *months* and not *days* of every day massage.

If the eyes are weak or seem sinking back into the head, one needs to attend to a few eye exercises to strengthen the muscles about them.

Wrinkles are caused by frequent muscular contractions, which continuously crease the epidermis and crowd the papillae of the true skin in the direction of the muscular tissue, drawing with it the epidermis, which dips down in waves over the papillae. (See Fig. 1, illustrating the skin). If continued for any length of time, and if the skin is inelastic so that it will not contract to fit the tissues beneath, the epidermis is drawn as deep as the muscular tissues and if it remains in this shrunken condition, it becomes almost atrophied and wrinkles result.

These tissues can be brought back to normal condition and the papillae developed, if a good circulation of nourishing blood be brought to them and the habits, which have assisted in the formation of the wrinkles be corrected; the old skin will be shed, the new skin growing from beneath, can be made to retain its normal condition and elasticity,—if the tissues be well nourished and the skin properly cared for.

The removal of the epidermis, as practiced by some dermatologists, eradicates wrinkles for the time being, but unless the cause of the wrinkles be removed, they will return. It seems more sensible,

more natural and is much safer, to remove the cause by strengthening the tissues and regaining their elasticity through the normal facial exercise, though it takes longer. As Nature is constantly shedding the cuticle the above extreme method of entirely removing it by chemical process seems cruel and unnecessary as well as being dangerous, uncertain and temporary in its results. The outer skin is being shed every day, the true skin continually working nearer the surface and growing into the epidermis, as shown on page 275.

The permanence of wrinkles depends upon:

the elasticity of the skin;

the tone of the nerves and the resultant tensivity of the mental attitude;

hygienic living;

proper amount of sleep and relaxation;

freedom from sickness;

and the development of sufficient fatty globules beneath the skin to supply a natural cushion.

The elasticity will be promoted by exercises, which work the tissues until flexible and bring a circulation of nourishing blood to the skin.

Hygienic living which promotes better blood, stronger nerves, and a more normal functioning of every vital organ, has everything to do with the condition of the skin. If one is deprived of sufficient sleep the skin will soon take on a wrinkled appearance. Food must be sufficiently nourishing to make good, rich blood, which is needed by all tissues and for forming a good "cushioning" for the epidermis.

A good circulation of nourishing blood to every tissue of the body, the nerves toned and kept under good control, and simple daily

exercise movements for the face and neck, will cause the skin of the face to regain its tone and elasticity. Then it will not wrinkle any more than the skin on any part of the body.

A tendency to wrinkle is, of course, aggravated by illness, which usually lowers the vitality of the blood and prevents the skin from being properly nourished.

It must be borne in mind that wrinkles cannot be relieved, if the tense mental attitude and habits, which contribute so much toward their formation, are persisted in. A normal mental poise quickly effects the facial nerves and is a prime agency in the removal as well as the prevention of wrinkles. If a certain line of thought be maintained a long time, certain facial nerves contract and the flow of blood is retarded, which means restricted nourishment. The skin here adjusts itself to the depressions caused by the nerve contraction and the result is, first a little line, and then a pronounced wrinkle.

Disagreeable and depressing thoughts cause vertical, as well as drooping lines in the face, while thoughts of brightness, good will and cheer cause horizontal, or uplifting lines. No one need worry about the little lines which are so often found in the face of the happy, jolly woman, whose laugh cheers every one she meets and whose advent is always welcomed.

How we cherish the peaceful lines on the dear old faces of those who are nearing home! They tell of a mind at peace with the world and of the kind thoughts held toward those around them for years. They are the sunbeams pointing to the light beyond.

Intense thought contracts the brows and, if sustained any length of time, will create a vertical line between the eyebrows. This is sometimes called the "Thought line," but as it often results from

incessant worry, or nerve tension, it may be called the "worry line" as well. The line between the eyes results also from weak eyes. In the effort of Nature to shield the eyes, the brows contract. Sleeping in a light room will also cause these vertical lines. The eyelids will not shut out all the light; therefore, opaque shades should be used in all sleeping rooms.

A person who is *obliged* to sleep in a room partially lighted, or into which light streams in the morning, may protect the eyes by a band of black velvet ribbon, leaving the ends joined by three inches of rubber tape. This can be adjusted instantly when once made to fit easily and will be found a boon to those desiring sleep when light cannot be shut out. Be careful in adjusting the band not to allow it to draw the face in such a manner as to deepen lines.

The so-called "crow's feet" at the corners of the eyes are usually caused by laughter, but can be kept from becoming permanent or disfiguring by relaxing the facial nerves and muscles and keeping the skin well nourished by a good circulation.

The horizontal lines across the forehead are frequently caused by the habit of lifting the eyebrows constantly when talking animatedly, thinking seriously or reading anything exciting; yet they come frequently from the habit of meeting a proposition which is not pleasing, with a protest, rather than with cheer. The defect becomes all the more pronounced if the skin is not elastic and the scalp free. The skin and muscles of the head should be sufficiently free to respond to the movements of the forehead.

Mothers should carefully watch the facial habits which the child is forming. Unnecessary lifting or contracting the brows should be

corrected in children and young people, else the lines will become deeper as middle life is reached.

Cultivate a calm mental poise, and do not form habits of "screwing" the face up, as it creates unnecessary lines, which it is difficult to relieve, even by the best of care. The "ounce of prevention" in the case of wrinkles, is far better than "the pound of cure."

Remember that ill health, which, of course has much to do with the formation of lines in the face and neck, can be taken philosophically. Resignation to the inevitable and a perfect relaxation of every nerve and muscle will have their effect in softening the lines of the face.

Do not carry the problems of the day to bed with you. Sixteen out of twenty-four hours are sufficient to devote to them. Thoroughly relax your mind, as well as your body, when you lie down for sleep, leaving the unfinished problems for solution to-morrow. The night gently covers all nature with a soft, subdued coverlet of sleep. If the brain is properly rested during sleep, problems, which seemed mountainous before retiring, will become as mole-hills in the morning. Try to fall asleep each time, with some wholesome, pleasing thought in mind, after taking out from the face the lines of the day by light facial exercise. Just a few minutes will do for this.

Sleep, in judicious amount, is one of the best possible preventives of wrinkles. Nature requires fully eight hours and whenever possible, a short period of complete relaxation should be taken in the mid-afternoon. At least the eyes should be closed for a short period each day. Think how little chance we give the eyes for rest!

Let it not be forgotten that it is much easier to prevent than to remove wrinkles and that if the skin be undernourished by poor blood,

the treatment for wrinkles must be preceded by exercise and diet before local treatment will be effective.

Any woman can care for her skin as well as the masseuse, by exercising it a few minutes each day, so that the circulation may be promoted and tissues developed, but the work must be regular, not spasmodic. Once a week at a beauty establishment will not accomplish nearly the results that a few minutes daily before your own mirror will do.

Remember that no one can do for you what Nature intended you should do for yourself; therefore, use your God-given intelligence in the development and preservation of the physical charms of which you are possessed.

Facial Exercises Facial exercises are not printed here, because each individual must be guided according to the work her face needs. If a face is firm and plump it should not be massaged. Many young girls imagine they need massage, when it is better to let their faces alone.

The face should not be exercised indiscriminately, at any time of the day, but systematically, as directed, *at a definite time*. At night is the best time, because it removes the lines and the dirt of the day and leaves the tissues free and the skin smooth for the night. If evening engagements prevent the time at night, exercise in the morning, or at some other time during the day, but always, at least, cleanse at night and apply a little cold cream or skin food. Leave this on the face about ten minutes and wipe off thoroughly with a clean, dry cloth. Enough will remain after the surplus is thus removed to keep the skin soft. A thorough cleansing of the face before retiring should not be neglected.

Remember that by working with the muscles until they become invigorated, the effect will be salutary, more nourishment will be brought to them and the result be gratifying; but if the work be continued too long, the nerves will become fatigued and the muscles will relax so that the effect for which one is working is lost. This shows the value of a little regular work at home every day, rather than extended treatment at the beauty establishment once a week.

Six to ten minutes is about the amount of time necessary to exercise one's face daily.

The same principles, in regard to the general direction of movements, are not followed for facial massage as are followed for massage of the scalp or other parts of the body. The general principle here, in quickening the circulation, is to empty the veins and lymphatics by working toward the heart; if this principle were applied to the face the muscles would be dragged downward, while all work with the face should be to counteract the downward tendency and the movements are all upward and outward. By following this principle the circulation is quickened through the arteries, which forces a better action through the veins.

For soothing the nerves it will be noted, that the movement should be made from the ears toward the nose, but this direction is not followed on the face because it would deepen wrinkles and the whole purpose of facial work is to quicken through renewed circulation gained partly through quickened nerve impulse. In working with the cheeks and forehead toward the ears, the nerve impulse is quickened.

Do not stand for facial massage. Sit before your mirror. During the process of massage the nerves should not be too tense, and

they will be more relaxed if the massage is taken in a sitting position and as a pleasure, rather than as a mere duty. Never attempt to massage your face without watching your work to see that you do not create one line while eradicating another.

Always treat the neck with the face, or it will leave a noticeable difference in the texture of the skin.

The use of plenty of cold water on the face and under and about the chin helps to keep the skin firm.

The hands and face must always be thoroughly cleansed before beginning the massage; but whether the cleansing be done with soap and water, a cream, or some other ingredient, will depend upon the individual case.

The scalp should be thoroughly loosened about the hair line, as directed under Scalp Massage, so that the tissues about the forehead move more freely.

Sufficient skin food or face cream, or whatever lubricant is directed for you, should be applied, just enough so that the hands will move smoothly over it and the skin will not be drawn. Do not massage the face at any time without a lubricant, because it stretches the skin too strongly and do not apply too much.

There are various ideas in regard to rubbing, with or across wrinkles, but it should be borne in mind that the whole effort in all work is not to deepen the crease of the wrinkle, or to create new lines.

In ironing out wrinkles in clothes, you do not iron across the wrinkle and force it deeper, but in the direction of the wrinkle, with the point of the iron rubbing in the direction of the crease; or if you rub across the creases, with one hand you stretch the crease open, so

that the iron will reach the deep part of the fold. The purpose in moving the fingers in the direction of the wrinkle is to get at the tissues in the crease. If at any time the movement is made across a wrinkle, a movement in the opposite direction is made with the other hand.

If the neck is thin, the carriage of not only the head
The Neck but the shoulders, hips, knees—and, in fact, the entire body must be carefully studied. Sometimes the chest must be developed and chest carriage taught before the neck will be filled out and sometimes the digestive and nervous systems must be built up, so as to encourage flesh over the entire body.

In the reduction of a double chin and in bringing a fat neck to lines of grace and symmetry, one must often reduce the entire body and learn bodily poise. If the head be carried too far forward, as is the case with the majority of people, it is usually due to faulty carriage of hips and chest. Faults such as these must be corrected by exercise.

The muscles and ligaments of the neck are best developed and the vertebrae and spinal cord freed, by exercise for bending, twisting and stretching. Exercise for the neck is of the utmost importance in the relief of headaches, eye-strain, deafness or catarrh,—or, in fact, any difficulty with the head, which depends upon a free elimination of the waste from it, and upon a toning of the nerves and sufficient nutriment brought to the nerves and other tissues. Exercises of the neck materially affect the vagus nerves which control the breathing, the heart and, to a certain extent, all digestive functions. The most effective way to reach the medulla oblongata (one of

the most important nerve centers at the base of the brain) and the centers controlling the vagus nerves is by flexure of the entire spine.

The circulation through the head is fairly easy to control, by massage exercise, because the veins and the lymph channels lie so close to the surface in the neck. The location of these is illustrated in Figures E and F.

It must be borne in mind, always, that the quality of blood has everything to do with the development of tissues and that no amount of exercise or massage can develop them, unless the blood be rich in nutriment.

**Face Creams, Skin Foods
Powders, etc.**

While recognizing the fact that the condition of the skin depends upon the health, and that when the bodily condition or ill health is corrected the skin will respond, yet the condition can also be helped by outward applications to the skin itself, and the purpose of this work is to help the woman to correct the condition as it is, as quickly as possible, and not merely to theorize upon it.

Water, air, exercise and sunshine are God's free tonics and are unexcelled. *Use them freely.* Some lose sight of this and try to patch themselves up with creams and powders, while others decry creams and powders as agents of vanity. There is an extreme in the use of any cosmetic but there is also a happy medium.

One cannot be too careful about the *indiscriminate* use of creams, skin foods, powders, soaps, etc. It is difficult to know, always, what is good for the individual face, because where conditions seem equal a food or lotion which agrees with one face will not agree with another; when one has found the cream, soap or powder adapted to her face, she should cease to experiment.

✓ My hope is that each of my pupils will simply realize that by a thorough cleansing of the face at night, a few minutes devoted to exercising of the face in the morning, and the selection of a cleansing cream and a skin food adapted to her, individually, she will have all that is necessary. She should then cease to be concerned about the things which are good for the face of this friend or that friend.

After the normal activity of the skin has been regained, if the face be regularly exercised and the physical condition be kept normal, all your dressing table needs is a face cream and a good powder.

Much of the printed matter upon the face, the removal of wrinkles, facial blemishes, etc., which falls into the hands of most women, is written by those who make or sell face creams, powders, lotions, etc., and they naturally dwell upon the importance of the goods they have to sell, giving little or no information as to the ingredients.

We all know that the *real food* for the complexion is the blood. By massage we bring this food to the skin and thus nourish it. The masses of the people do not come in contact with medical works upon those subjects and having seen creams, etc., exploited as remedial agents, the average woman has quite naturally come to feel that by simply putting on a face cream or a skin food, she may correct all sorts of ills to which the skin of her face is heir. If the skin is burned by reason of excessive exposure to the air or sun, as is the case with a burn on any part of the body, the soothing lotion will assist in this healing, or will keep the air from it while Nature does the healing; but the real remedy comes through the blood and is regulated by diet, rest, fresh air, sunshine and exercise; therefore, *it must always be borne in mind in treating the face that the*

nourishment to the skin comes from within—not from without,— and that no skin food actually nourishes. It softens and supplies oil in the glands where Nature is not supplying a sufficient amount. This artificial supply is but temporary, and must be applied daily. ✓

Many writers expounding face creams, etc., will tell you to prepare your face in such and such a manner, that the ingredients in the skin foods, creams, ointments, etc., may penetrate the skin. Let me call your attention to the fact that the skin is a *protective* agent, and nothing *penetrates* the healthy skin, with the exception of alcohol and the air which the skin “breathes.” Oil which is put upon the skin will go into the glands, but no farther, and when one thinks of the thinness of the skin it will be realized that these glands are very shallow. Oil very often oozes out again. ✓

The alcohol will penetrate so far as to affect the delicate nerve filaments throughout the skin and about the capillaries and thus encourage a better activity of the nerves here and a better flow of blood through the capillaries. The skin thus becomes better nourished through the more copious blood supply.

If it were true that all sorts of ingredients permeate the skin, then bacteria, poisons and chemical elements of every description would enter into the blood stream from the surface and very seriously affect the health. If a physician wishes to affect the body from the surface, he pricks *through* this protective covering, as in the case of a hypodermic injection, or, where another remedy is desired, he scrapes *through* the skin before applying the ingredient which he wishes to be absorbed by the blood stream.

Keep the tissues free, use sufficient cold cream in massage to allow the hands to move smoothly upon the skin, that it may not be ✓

stretched too much in the massage movements,—this is the chief value of cream upon the face during massage. If the face seems dry and there is not sufficient lubrication within the oil cells, a little skin food may be used for a few times. It will be noted that almost all of the ingredients of the skin food are oil, with just a little gum to make it seem not quite so oily and to enable the fingers to apply it better.

Nothing is gained by going to extremes with the face. A little daily intelligent care is all that is required and when the habit is formed it is easy—habit requires no conscious effort.

Just a few minutes' care morning and night will awaken the tissues, bringing good circulation to the skin and if it has been exposed to drying winds, a little cream to lubricate it; but as one progresses with the massage movements, bringing a better circulation to the skin and better activity of the oil glands, less cream will be required. Nature will soon provide the quantity sufficient for one's needs.

When the skin is too oily, it is because the sebaceous glands are not retaining their normal amount of oil—it is all being forced out upon the surface. Lotions containing salts, which extract the moisture from the face, or alcohol in any form, are often recommended for drying the skin, but the best relief for an oily skin is massage.

If the skin is dry and shriveled, a good "skin food" should be used, and when the skin is dark, discolored, and freckled, exercise and a whitening cream will bleach it.

A skin food is intended to fill the sebaceous glands, where the natural secretions of oil in the glands is not sufficient; but where the face is worked thoroughly, the glands will excrete their natural amount of lubricating oil and the skin foods will not, under ordinary

conditions, be necessary. However, where one is exposed regularly to winds, which unduly dry the moisture from the skin, a face cream or skin food should be applied to replace that which is abnormally removed by the drying winds; or, if by reason of the blood condition, the skin be too dry, they keep it soft.

Skin foods, as a rule, contain animal oil, such as lanolin (the oil from the sebaceous glands of sheep) and spermaceti (oil from the head of the sperm-whale).

Many authorities claim that animal oils promote the growth of hair, while vegetable oils (olive oil, almond oil, etc.) do not; but vaseline is a purely vegetable oil, made from petroleum, a product of the coal beds, and thus made from fossil organisms largely vegetable, yet there is no better agency in the promotion of growth of hair than vaseline, so that the theory that animal and not vegetable oils promote hair growth, does not hold.

It is probable that, where hair does not by nature grow long, the application of oil will not promote its growth. If hair grows on the chin after oil has been applied, this hair would doubtless have grown without the oil. This will probably always be a question, however, and the woman on whose face the hairs are beginning to grow, will be safer, when applying either skin foods or face creams, to avoid the chin and the upper lip.

A good cream should be always applied to the face before going out of doors, if one is to be out and exposed to the winds for any length of time; after the cream is wiped off, a good face powder should be used; this will help to protect it from the dust. In the absence of a good prepared cream, or skin food, the cream of cows' milk will answer the purpose. ✓

A good cream or skin food should always be used, also, in connection with exercise, and many prefer to use it in place of water for cleansing the face. It is preferable to *hard* water, but as a cleansing agent nothing equals *soft* water. The oxygen in the soft water is an actual tonic to the skin, but the lime in hard water is most injurious to a soft, smooth skin. The exhilaration of a cold bath of soft water expresses itself in the deep breath of satisfaction, which nature instigates as the fresh water touches the face or body.

✓ Creams should not be left upon the face over night, as too much oil prevents the excretions of waste which, in a healthy skin is constantly being given off by the sebaceous and sweat glands and the oil prevents the absorption of oxygen.

✓ Astringent washes are used where the pores are too large or the skin is loose and flabby. Astringents should never be used until the face has been thoroughly cleansed. In case of a dry and wrinkled skin they should never be applied until after the face has been thoroughly cleansed and massaged to make the skin elastic.

If the skin be kept in a normal condition, however, and be regularly exercised, it will be elastic and will so contract as to snugly cover the tissues beneath, without the use of astringents. Cold soft water with a little salt in it, is as good an astringent as can be used.

Too much cannot be said in favor of exercise of the face to bring natural nourishment to the skin through the blood, instead of the indiscriminate use of face creams, skin foods, etc., because "It has helped So and So," or "So and So says that such and such a cream is good," etc.

There is no experiment in bringing Nature's tonic of good blood to the face, while there is always an experiment in putting on a face cream, unless you know the elements contained in the cream, and it is impossible for you to know the ingredients in the creams you buy, because manufacturers of skin foods, face creams, etc., naturally will not give their secret to the public.

One of the leading manufacturers of skin foods states that where they *do* give their formulas, they include some particular chemical, which cannot be gotten at the ordinary drug store, so that the individual is not able to have her druggist put up the cream. The simplest cream, containing the simplest ingredients, is best. Many women are clever in compounding their own skin foods and face creams and can often do so as well as the manufacturers. The danger here lies in making too much at a time so that it becomes rancid before used. For this reason, also, it is well to buy these things fresh from the manufacturer, or from a druggist who sells such quantities that his supply is fresh.

Many women use successfully upon the face, pure witch hazel, or Pond's extract, which is another name for the same thing. The effect of either of these rubefacients is a stimulation of the tiny nerve ends in the skin, resulting in a contraction of the capillaries; this instigates a better flow of blood to them. It will be noted that, after all, it is the better blood current which is most to be desired. The muscles of the face are invigorated by exercise and a better tone and strength brought to them by the fresh blood flowing through and around them. The skin is thus made more elastic, also, because the oil glands and the capillaries are awakened.

It is evident therefore that *the more we rely upon good blood being brought to the skin by exercises and the less we rely upon outward applications, the quicker the skin will be free from blemishes and the rosier will be our cheeks.*

No amount of rouge can take the place of Nature's coloring and there are very few women so skilled in applying the rouge that it cannot be detected.

Face
Powders There is a general belief among some people that powders cause large pores. If rice powder is used upon the face, without first anointing the face with a cream, this may be true. The little granules of rice, coming in contact with moisture, swell to twice their size, and if the rice powder enters the pores, as it comes in contact with the moisture of the flesh, it may expand and distend the ducts. This would also apply to the use of starch. As a matter of fact most toilet powders purchased are less harmful than these seemingly simple applications. The best powders are not made of cereals for the above reason, being principally composed of mineral substances, such as talcum, which do not swell under the influence of moisture.

Before powder is applied to the skin, any danger of enlarging the pores will be avoided if the skin is moistened with a cold cream. The powder will thus be prevented from entering the pores. If one lives in a smoky city, or is to be exposed to dust or cinders, the application of a face cream, with a little powder dusted over it, is much more cleanly and far less irritating to the skin and less liable to cause large pores, than are the soot and dust.

General formulas are not given here because it is believed that each individual's skin requires its own treatment.

**Ingredients of Skin
Preparations and
Ointments**

Arsenic has been used freely for years for the relief of cutaneous disorders. Its effect, if taken internally, is to blanch and clear the skin, but in larger doses it creates skin eruptions.

It should be one of the last remedies used, therefore, and certainly never used except upon the advice of a physician, or a health specialist, who understands your case.

Cod Liver Oil is especially valuable in the treatment of eczema, scrofula, syphilis and all skin diseases that require a nutrient for the general system. It is highly valuable in the treatment of children afflicted with cutaneous diseases.

Stimulating Lotions are used principally in acne rosacea, papular eczema and seborrhea of the scalp. The ingredients are mostly cantharides, sulphur, mercury, oil of tar, salicylic acid, thymol, resorcin, menthol, ichthyol, oil of tar, cade, white birch or juniper.

Astringent Lotions contain tannin, alum, acetic acid, salt, opium, salts of silver, iron, formalin, alcohol, etc. Since alcohol is astringent it must be borne in mind that lotions containing alcohol come under this head:—Tincture of benzoin is eighty per cent alcohol, while witch hazel, bay rum, Eau de Cologne and Pond's extract probably contain a larger proportion. To guide in judging these,—if a lotion dries quickly when applied to the skin it is safe to assume that the astringent is the drying agent.

Face Ointments, soothing and slightly astringent lotions contain lead, boracic acid, bicarbonate of sodium, oxide of zinc, (usually dissolved or mixed in water) glycerine, liquor calcis, etc.

When there is a severe itching or burning sensation of the skin, soothing ointments are used.

The bases of *Face Creams* are usually lard, vaseline, cold cream, lanolin, cocoa butter, spermaceti, almond, cod liver and linseed oil and oil of sweet almonds. For modifying agents, spermaceti, wax, oils and suet are used in different proportions. White vaseline is one of the most satisfactory, especially for the scalp. Lanolin is too stiff, unless softened with oil of sweet almonds or cold cream, but it forms the basis of many skin foods, as the sticky character enables the fingers to better take hold of the skin in massage.

Almond oil furnishes the best base for a fine face cream. As a cream made from any of the nut oils, or inferior grades of oil, becomes rancid very soon and irritates the skin badly, it is advisable always, if one makes her own cream, to mix only a small quantity at a time, so it will be fresh. It should always be kept in a cool place and the jar tightly covered.

Alkalis are very helpful in all cases of gouty disorders, and also in acne and some forms of eczema. Sodium bicarbonate (saleratus or baking soda), potassium and lithia are the best.

Glycerine is derived from certain fats—mainly palm oil—by decomposing them with superheated steam. Pure *glycerine* is soothing; the impure article is irritating to any skin. Pure glycerine is a most useful adjunct when diluted and added to lotions and ointments. It may be combined with starch, in different proportions, forming a glycerolate, and may be medicated and used as a protection to the skin, as in Glycerole of Lead Subacetate.

Bay Rum contains oil of bay (a volatile oil of the Bayberry of the West Indies, used chiefly as a perfume) 16 parts; oil of orange peel 1; oil of pimento 1; alcohol 1000; water 782—mixed and filtered through carbonate of magnesia. It is astringent and drying.

Pastes are especially valuable in open skin affections, when *salves* prove irritating. The *pastes* form a protective and adhesive dressing.

Rose Water is water tintured with oil of roses. It is used largely on account of its aroma.

Tincture of Benzoin is twenty per cent benzoin and eighty per cent alcohol. Benzoin is a resin obtained from a tree native of Sumatra and Siam. It is a stimulant, is antiseptic and a disinfectant. The tincture is a strong astringent.

Alcohol is obtained by the distillation of fermented grain or starchy substance. It is used in pharmacy as a solvent for resins and as a base for all tinctures. Commercial alcohol contains nine per cent water. It is used externally as a nerve stimulant.

Alcohol, carbolic acid, boracic acid and peroxide of hydrogen are valuable as disinfectants or antiseptics. Formalin is also excellent for antiseptic purposes. This, as well as formaldehyde (of which it is a solution) is very valuable in the treatment of acne, dandruff and eczema.

Sulphur is often used in the precipitated form in *salve* for the treatment of cutaneous diseases.

Potassium Permanganate may be used in solutions of from two to ten per cent in weeping eczema, and in Ring Worm. It may be painted on the affected surface once or twice daily. It is an antiseptic and germicide.

Ichthyol is widely used in cutaneous diseases, especially in acne, eczema, pruritus and psoriasis (dry tetter). In solutions it may be used from ten to fifty per cent and in *salves* from five to twenty per cent strength.

Magnesium carbonate is a good absorbent powder.

Resorcin a substance produced from different resins, may be used in ointment at a strength of five to twenty per cent. It relieves itching and is an antiseptic and a germicide; it resembles carbolic acid in many of its properties. It may be used for disorders of the scalp due to dandruff, in lotions at a strength of five to ten per cent. It is also used locally as a lotion in diphtheria.

Boric or boracic acid is of great value in ointments and powders for the treatment of skin diseases, and is used very generally; it is antiseptic and healing. It is a crystalline substance found native in Death Valley, California, and in the volcanic lagoons of Tuscany.

Salicylic acid is more often used in salves or pastes, but is also used in lotions. It also forms a part of most of the corn and wart preparations. It acts directly upon the horny tissues of the epidermis, softening and separating them from their deeper connections. It may be used in a weak solution for diseases of the skin due to weak nerves. It occurs in free condition in the buds of a species of willow and in the oil of wintergreen.

Carbolic acid is used in treating almost all skin diseases in the form of a lotion, salve or paste, principally in lotions having a strength of from ten to twenty grains to the ounce. It is produced from coal tar and is very poisonous.

Tincture of Iodine, which is an eight per cent solution of iodine in alcohol, is used in certain scalp diseases and as a germicide. It is a skin irritant and much used to produce counter irritation.

Fatty and oily substances should be applied to the skin directly or by friction. When applied as a compress or bandage, a soft cloth should be saturated with the oil; or it should be spread on liberally

before applying to the affected part and then covered with a soft cloth. Absorbent cotton takes up and retains too much of the ointment.

For weakly persons, with greasy skins, or a tendency to scrofula, poor circulation and cold hands and feet, malt extract or cod liver oil is excellent, but regular exercise, baths and deep breathing are more effective.

Maltine and other preparations of malt, alone, or in combination, are of great value in promoting nutrition of the skin, and are especially valuable in acne.

DON'TS FOR THE COMPLEXION

Do not steam the face.

Do not allow yourself to neglect daily exercise.

Do not use hard water.

Do not use soaps containing alkali or animal oil.

Do not use soap or warm water upon the face just before going out.

Do not use perfumed soaps.

Do not overtire yourself frequently.

Do not eat pastry, fried foods, tea, coffee, too rich food, or much confectionery.

Do not overeat, or eat late at night.

Do not eat between meals, unless directed by a physician and then at regular hours.

Do not wipe the face roughly or use a wash-cloth carelessly.

Do not go out in the wind without first applying a face cream.

DO'S FOR THE COMPLEXION

Keep the bowels regular.

Keep the liver active.

Keep the nerves strong and rested.

Keep the stomach strong.

Learn to breathe correctly.

Keep the blood circulating well.

See that your soap is pure.

Use soft water.

Use fresh face cream or skin food. (If rancid, they will irritate the skin).

Know the ingredients in the creams you use, when possible.

Be judicious in eating.

Eat at regular hours.

Drink two quarts of water, daily.

Take a daily bath with a brisk rub after it.

Get at least eight hours sleep each night.

Sleep with plenty of fresh air in your room.

Exercise the face a little every day.

Be sure that the hands and face are thoroughly cleansed before beginning your exercises requiring the use of the hands.

Keep up a good circulation.

Keep the bowels, stomach and liver active by daily exercise particularly directed to them.

Take daily exercise for the spinal nerves.

EXERCISE AND MASSAGE

As there are fashions in dress, so there are fashions in faces. Today the fashionable face is one which in line and color, shows that it belongs to a healthy body. There was a time when fragile beauty was in vogue, but that day is past. Few persons admire a face that is not animated by health. There is nothing that can take the place of exercise and massage as producers of that buoyant beauty which today is so much admired.

Twenty years ago massage, as a therapeutic agent, was considered by the American medical profession and by the laity as little short of quackery. Physical exercise as a remedial agent, was also considered quackery.

This was partly because the entire study of health principles was confined to medical colleges and their work based upon the study of *materia medica*. Just why modern practitioners apparently lost sight of the value of the natural agencies is incomprehensible. Happily, to-day, the natural methods of relieving all sorts of diseases, dependent upon good circulation of pure blood, are growing in favor.

Dr. S. Weir Mitchell of Philadelphia and Dr. J. H. Kellogg of Battle Creek, Mich., have been the pioneers among American medical practitioners in using exercise and massage even more freely than medicine.

Most advanced medical colleges and schools are now recognizing physical exercise, massage, correct breathing and diet to be stronger agents in the permanent relief of many chronic bodily ailments than medicine, but there are many old medical schools and many practising physicians who have not advanced. These are inclined to discredit any remedial treatment other than *materia medica*. However,

physicians of more advanced thought, who keep up with the progress of the age and those who have graduated within the last few years, believe in therapeutic agencies.

Exercise and massage work wonderful results. These aids to health have been employed from most ancient times by the Hindoos and Persians. Hippocrates, the renowned Greek physician, made extensive use of them. He learned both physical exercise and massage from his teacher Herodicus, who was the founder of medical gymnastics. Before the Christian era, Julius Cæsar employed exercise and massage as a relief from neuralgia. Pliny, the great Roman Naturalist, employed massage and exercise as a relief from chronic asthma.

All exercises for the face, hands, ears, eyes and the scalp should be given according to the requirements of the individual. It is not amiss here, however, to discuss briefly the effect massage and exercise have upon the health, since the condition of the skin, hair, eyes, teeth, nails, etc., are so directly and fundamentally dependent upon the condition of the body.

Physiological Effect of Exercise and Massage	Primarily, massage has to do with the circulation of the blood in the veins and lymph channels, since these are more accessible from the surface than the arteries. Massage deals with the nerves in a passive state, thus stimulating the muscles to activity without strongly stimulating the nerve centers.
---	--

Physical exercises reach deeper, working directly with the muscles and nerves of the vital organs, the deeper tissues, the arteries, the larger lymph channels and veins, and the larger and deeper nerve trunks and ganglia, stimulating energy in them. The stomach,

small intestines, pancreas, spleen, intestines, liver, kidneys and practically all of the large viscera may be reached partially by massage, if employed by a skilled operator, but they are reached more effectively by active physical culture movements, especially directed to them. The deeper massage should not be employed except by one who has a thorough knowledge of the location of all the vital organs, the nerve trunks, the lymph and blood channels. Few operators are so skilled, so the average operator does well to confine himself mostly to the more superficial venous circulation.

When the vital organs are reached through exercise directed by the mind, both the nerve centers and the circulation are stimulated and strengthened. The muscular toning of the vital organs and of the large protective muscles is maintained and strengthened by the improvement in the nutrition brought to them through exercises; the blood is made to flow with a stronger current and with greater rapidity, thus picking up more completely all the toxins, which have been liberated by the exercises, and where the latter are accompanied by deep breathing, this blood is fully purified as it passes through the lungs; the pure blood loaded with fresh oxygen is forcefully sent out to every part of the body. The oxygen puts all the poisons and waste matter in condition to be carried into the blood stream whence they are expelled from the body.*

Judicious exercises for the stomach and abdomen, cause a freer excretion of the digestive juices in the stomach and intestines; they thus more strongly and more promptly act upon the food during the process of digestion.

*The manner in which oxygen acts upon the waste matter is described in the author's book upon "The Circulation, Lungs, Heart."

They open up the suction cells of the intestines and the nutriment from the food is more quickly absorbed. They aid the peristaltic movements of the stomach and intestines and the food is more readily moved down the digestive tract, so that it comes in contact with more of the digestive fluids.

Exercise of the legs acts directly upon the portal circulation through the abdomen and liver by forcing the blood through the portal veins more strongly. This is especially true of exercises in a recumbent position.

Abdominal movements relieve constipation, aid stomach, intestinal and liver digestion, increase the action of the kidneys, strengthen the uterus and ovaries, remove abdominal fat, develop weak muscles and promote circulation.

Massage and exercise are particularly valuable for the liver. In its office as a sieve, the liver eliminates the poison in the blood, thereby acting as a purifying agent, therefore it is especially necessary that the proper amount of oxygen be brought to it.

Any exercise for the abdominal organs increases the flow of blood through the liver by forcing the blood through the portal veins.

The importance of a normal liver activity will readily be seen, also the importance of exercise for the abdomen and for the entire middle zone of the body.

The corset, to a very great degree, retards abdominal activity and while the straight front corset allows greater freedom of the diaphragm, it restrains the activity of the abdomen, so that the circulation through the abdomen and liver is retarded and women who wear corsets should be particular, each day, to bring a thoroughly good circulation through the portal veins by active exercises for this purpose.

The influence of exercise and massage upon the lymph channels is to drain all of the muscle fiber. The external tendons of the diaphragm contain a large number of lymph channels.

There is a metabolic change occasioned by movement whereby waste matter is relieved and nourishment given to the flesh tissues. The scope of this work, however, does not necessitate a minute explanation of the process of anabolism or catabolism.

The muscles constantly receive a certain amount of blood, but this is comparatively small, excepting during activity, so that the expression that the muscles are well fed only when exercised, is true. While actively at work, they receive one-fourth of the blood of the body.

Where the digestive system is sluggish, there can be no better medicine than a good quantity of nourishing blood brought through a good circulation to the muscles and tissues. By the better blood supply occasioned by exercises directly calling this blood to them, the tissues are strengthened and the organs do strongly the work which Nature intended; consequently indigestion, constipation, torpid liver, weak kidneys, weak hearts and lungs, etc., are relieved and strengthened.

Medicine relieves the difficulty for the time by simply stimulating the nerves which supply them, quickening their action; but this is a temporary, unnatural stimulus. The tissues are but little nourished by this forced nerve stimulation. The effect of exercise is more permanent, because more natural, and because it brings a more copious blood supply, hence more strength to both nerves and tissues.

There can be no question but that remedial physical exercises directed to the vital organs and nerve centers, are very much more

effective than massage, because they work with deeper tissues and cause a regular suction of the organs, bringing out the impure blood from the veins and filling the vacuum with pure blood from the arteries.

Effect upon
Respiration Massage and exercise have a powerful effect upon the circulation by simulating the action of the diaphragm; this forces the natural exercise of the heart, lungs, stomach, spleen, kidneys and pancreas by promoting deep respiratory movements.

Of course, the blood is more thoroughly purified as it is brought through the lungs, where the waste product is thrown off and fresh oxygen taken on.

When respiration is increased, the flow of lymph in the thoracic duct is increased and the functions of the brain are more easily performed, on account of the more perfect movement of venous blood and the better supply of oxygen.

The lungs and heart are strengthened by massage, but more directly by the remedial exercises, which bring the nutrition direct to these organs.

Effect upon
the Blood One point in favor of exercise and massage, of vital importance in the present day, is their effect upon the blood-making process, increasing the number of red corpuscles and the amount of hemoglobin. The total amount of blood contained in the adult normal body is about ten pounds.

The importance of good blood is readily realized. When it is known that there are 20,000 times more corpuscles in the blood of one person than there are people in the world, and that each corpuscle must pass through the lungs every 22 seconds in order to secure

the proper amount of oxygen for the tissues, it will readily be seen how great a loss must be suffered when the activity of the blood is diminished from ten to twenty-five and even seventy-five per cent, as in cases of anaemia. It will readily be seen also, the importance of patients troubled with anaemia, attending very definitely to exercises to create an active circulation and to taking in all of the oxygen possible through deep breathing, because, where the number of red corpuscles is lacking, the remaining ones must do over-work, in order to supply the system with sufficient oxygen to put the waste in condition to be relieved.

It must not be inferred from this, that exercise makes red corpuscles, but it does stimulate their making and brings into circulation a large number, which have previously been retained in the vascular viscera of the interior of the body, especially in the spleen and liver. Here these little blood corpuscles accumulate in great numbers and are destroyed. When they are brought into the blood stream by exercise or massage, they are saved from destruction by the organs devoted to this purpose.

Cold baths also increase the number of corpuscles in the circulation from twenty-five to fifty per cent by causing a vigorous reaction, driving the blood from the surface and flushing the vital organs.

It has been shown that in about half an hour after exercise and a cold bath, the number of blood corpuscles sometimes increase 1,800,000. This is a strong argument in favor of exercise and cold baths for anaemic patients.

The white blood corpuscles are increased in much greater proportion than the red ones. By their increase, the resistive power of the body is greatly strengthened, because these white corpuscles are

actually an army within the body, constantly fighting to completely destroy all foreign bacteria with which we are constantly surrounded. They march up and down the body constantly as guards, forcing out or annihilating any foreign matter.

In tuberculosis, it is particularly desirable that the white blood corpuscles be strong and in good numbers, because it is these corpuscles which destroy the tubercular bacteria. When the latter become too great in number for the white corpuscles to destroy, the disease gets the upper hand.

All of the above tends to show how both massage and exercise effect the body through quickened release of the waste and re-supply of new nourishment, occasioned by renewed circulation through blood vessels and lymph channels.

Both exercise and massage, if not carried to a point of too great exhaustion, act as a tonic for the heart.

As a preventive of arterio sclerosis, massage is a very valuable agent, but it is not to be commended for relief.

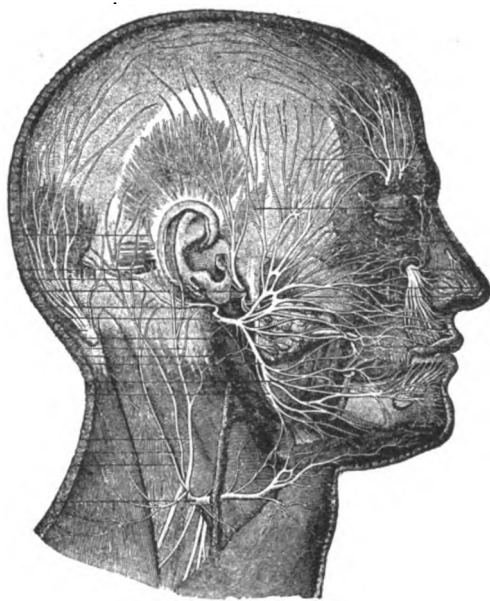
Effect Upon Nerves The above explains the mechanical and physiological effect of massage, but there is also a reflex activity of the nerves, which plays as important a part as does the mechanical. The impression made upon the ends of the sensory nerve fibres, connected with the nerve centers of the cerebro-spinal and sympathetic systems, is transmitted to their related nerve centers, and through these centers to the related nerves, directing a quickened activity of all forces of the skin.

The benefits from massage in nervous diseases are little less than marvelous, especially in cases of neurasthenia (tired nerves) and this is particularly true when the massage can be given by one

who is congenial and consequently pleasing to the mind of the patient.

There is a peculiar influence resulting from the mere touch of some people. This may be due to an electrical current which passes from one body to another. There is probably no occult, hypnotic influence about it. If the touch be gentle, and the contact of one's hand upon the body warm and the person congenial, so that the mind welcomes the contact, the effect is soothing. The very gentleness and softness of touch has much to do with this, because when agreeable, the nerves of the patient are in a receptive state; if disagreeable, the nerves are braced more or less for resistance;—to get the best results, they must be relaxed and responsive. For sedative effects, the mind should be relaxed; it is advisable for the patient to close her eyes, so that no vision may disturb the relaxed brain.

In cases of facial neuralgia, relief is often obtained by pressing upon the nerves affected at the point where the nerve comes from the skull.



It must be borne in mind that the nerves and tissues can be exhausted. The wise operator for face, body or scalp, therefore, is she who knows when to stop. From the point of being well stimulated and aroused, the nerves respond and the tissues rebuild; from a point of exhaustion, the nerves relax and the muscles become flabby. This is one argument in favor of massage of face and scalp being regularly done at home for a few moments once a day, rather than for an hour once a week at a beauty place. The operator feels she must give you your money's worth and she knows that you expect just about so much time, while the woman feels she must get the full benefit of the treatment and often the facial and scalp nerves are so tired that shortly after the operation, they relax and the tissues fail to receive the nourishment they would otherwise get. A good way to test the result of a facial massage is to note the result the day following the treatment.

Fatigue and Its Relief Fatigue of muscle is due to a toxic substance, which is relieved by physical activity, either of muscle or of the brain, and fatigue continues until these toxins have been carried away through the circulation. This explains the phenomenon by which general exercises for the entire body, which cause a quickened circulation and a quickened removal of toxins, relieve fatigue.

Rest is simply harmony of the circulation and of nerve currents, and this harmony is re-established by regular exercises, which call the undue circulation from the part, which has received too much toxin and has thus become fatigued, and distribute it throughout the body, forcing it through the lungs and bringing it into contact with fresh oxygen. Thus a re-supply of blood, loaded with oxygen,

is sent to all parts of the system. This explains why, when one has become tired from exercise in one particular part, general exercises to distribute the circulation relieve the fatigue.

Downward massage about the neck and shoulders decreases the blood supply in the brain and is particularly restful after excessive mental work, which has called too great a supply here. Exercises of the neck and spine, followed by a downward stroking movement upon the neck, shoulders and spine, are particularly soothing after excessive mental labor. The blood current will rapidly take away the waste matter and bring a new supply of blood to the nerves and tissues. In fact, the entire nerve system responds to renewed circulation as a result of exercises, either voluntary or passive.

In all massage movements where the effort is to excite activity and bring a better circulation, the movements are in the direction of the flow of blood through the face and lymph channels, toward the heart. Where the effort is to soothe and retard the circulation, the movements are in the direction of the arteries from the heart. Thus it is that after excitement, one is "rubbed down," but this rubbing down needs an explanation;—the movement is downward from below the heart and upward when rubbing in the vicinity of, or above the heart.

For Inflammation and Sprains	Massage for absorption is particularly valuable in cases of sprains, enlargement of the joints, dropsy, rheumatism, gout, enlarged glands, congested blood or lymph from any cause, or in the treatment of inflamed joints, pelvic pains or local congestions.
---	--

When there is inflammation of a deep-lying organ or tissue, the heat is diminished by calling a stronger blood supply to the over-

lying tissue, thereby causing the blood to go around, instead of through the tissues which have been receiving too much. Consequently, a proper massage *about* an inflamed organ will tend to decrease the inflammation *in* the organ.

This same principle applies to the application of hot water upon the skin over an inflamed organ. It calls the blood supply to the skin, thus decreasing the supply in the capillaries of the organ.

Massaging or exercising the joint or tissue next above the inflamed part (nearer the heart) will relieve the inflammation by emptying the veins and lymph channels of the affected part.

One other reason for the free use of massage after a sprain or bruise is that if it be rightly done, it carries away the waste matter, which is broken down by the sprain, through the lymph channels and veins.

It should be borne in mind that massage for a sprain, or inflammation of any kind, should work toward the heart. The inflamed part itself should not be manipulated; the work should begin a little nearer the heart than the part affected,—the purpose being to force the lymph and venous blood toward the heart.

Building and Reducing Flesh	Experience shows that both exercise and massage will materially increase the size of any part, bringing nourishment to it, especially if the part be undersized. Exercise builds up the flesh of the body by improving the appetite; the waste of the system being freely thrown off, calls for more nutriment in the body. (This is what we call appetite.) In a case where the appetite is waning, it is a pretty sure sign that the system is being clogged with waste and one should at once take as vigorous exercise as is judicious to carry this away.
--	--

In building up the body through exercise, it must be remembered, however, that it takes two or three months to show much increase in size.

Excessive exercise will even increase the size of the joints, as is shown in the large ankles, wrists and knuckles of those who are engaged in manual labor.

If a part of the body be too large, by reason of too much fat, exercises will work it away and bring the muscles to normal, by consuming the glycogen (animal-starch) in the liver and blood, which readily turns into fat. The muscles are the actual furnace of the body and the body heat is manufactured here by combustion of the glycogen.

It is of the utmost importance in exercises for reduction, that they be accompanied by deep breathing, so that the blood be fully loaded with fresh oxygen to act upon the glycogen.

While both exercise and massage increase the heat of the body, they do not of necessity increase the body temperature, because they cause a freer perspiration and thus the body heat is thrown off.

Effect upon the Skin The effect of massage upon the skin is to stimulate the sweat and sebaceous glands and the hair follicles. ✓

Through reflex influence upon the vaso-motor nerves, it increases the supply of blood through the skin, thus promoting and increasing the glandular activity. The increased respiration and redness of the surface both indicate this. When the skin is dry, massage promotes a normal flow of oil through the sebaceous glands. Many wrinkles are caused by the skin becoming too dry, thus losing its elasticity and tone. The skin is often too oily because of a restriction of the sebaceous glands, in consequence of which they will not ✓

retain the oil and it is forced out upon the surface of the face. Constant immersion of the face in oil has a tendency to toughen the skin.

It must also be borne in mind that the skin is an organ of respiration and its activity is thus necessary to enable it to take in oxygen and to throw off its share of bodily impurities. By increasing the tone of the skin, it is enabled to resist the changes in temperature.

Tapping and slapping the face and scalp are the most powerful means of exciting the nerve trunks, while the sedative and restful effects are more especially produced by gentle stroking. Successive blows and tapping is one of the best means of causing a contraction of a muscle or of the skin. These successive blows, followed one upon another rapidly, cause a tetanic contraction of the muscles and this brings a better tone and better elasticity, enabling the skin, in cases of a wrinkled or flabby condition, to contract to the size of the tissue beneath. Strong vibration will also cause this contraction.

However, massage to build up the muscles of the face and scalp must be deeper than stroking or tapping.

Friction is one of the most reliable and effective means of awakening to activity dormant nerves and nerve centers, as well as dormant muscles; in fact, when the nerves are awakened, they are sure to awaken the muscles.

For circulation and exciting the tissues to activity, remember that friction is applied in the direction of the veins and lymph currents.

Where sedative effects are desired, the friction is in the opposite direction to the flow of the blood through the veins,—thus the circulation is retarded.

Where it is desirable to draw the blood from the brain, the movements in the neck and the upper spine are downward toward the heart, to empty the veins and lymph channels in the body below the heart, and in the lower extremities the movement is downward, or opposite the direction of the flow of the venous current; this holds a larger amount of blood in these parts, thus preventing the freer flow in the head. In case of headache, or cerebral congestion the rubbing should be away from the heart in the lower extremities, to impede the flow of the venous blood.

After a treatment in massage, the movement of stroking is restful, not only because of the so-called hypnotic effect, but because of the reflex influence upon the nerves acting upon the centers of volition. The stroking of the head will often relieve sleeplessness and many forms of nervous headaches

Dr. J. H. Kellogg, of Battle Creek Sanitarium, gives the following directions:

“In applying friction for renewed circulation and for the absorption into the circulation of the waste matter, rub:

“Head—from the forehead and temples backward and downward to the ears, from the top of the head downward, and down the neck.

“Neck—downward and circular.

“Back—above shoulder blades, circular; from shoulder blades to the sacrum, or about opposite the hip joint, downward; in the region of the loins, from the sides toward the spine.

“Hips—circular.

“Chest—from the sternum toward the axilla.

“Abdomen—upper part, downward and outward; lower part, from the center downward and outward.

“Arms and legs—upward.

“For sedative effect upon the viscera and nerve centers of the viscera, rub downward. This decreases the vascular activity.”

In massage, either of the face or of the body, some lubricant should always be used. Vaseline, cocoanut oil, olive oil, cocoa butter, or cream from milk will do.

Headaches are often relieved by friction of the spine; pelvic pains by friction of the lower part of the back; cerebral congestion by friction applied to the extremities.

The most scientific method of treating the face is undoubtedly by means of facial exercises. Through the habitual use of the same expression day after day or the falling away of the subcutaneous tissue, the muscles of the face are prone to become relaxed and drooping while the rest of the body remains young, firm and youthful. Massage treats only the surface lines and, if applied too deeply or vigorously, it may stretch the skin.

The purposes and object of facial exercises are as follows:

First, to restore and insure a firm tone and elasticity to the muscles of the face and neck, so there may be no drooping lines, no falling away of the under skin tissue to result in hollow and sagging cheeks and chins. This causes a wonderful improvement in the expression of the face, uplifting it, filling out hollows about eyes and temples and smoothing out the forehead.

Second, to awaken the capillaries and nerves of the skin, by reflex action, thus taking more blood and nutriment to it. This

makes it more flexible and more elastic, so that it readily adjusts itself to the tissue beneath.

Third: to free the oil (sebaceous) glands, so that the skin may be supplied with sufficient oil to keep it soft.

Fourth: to open the glands of perspiration, so that the impurities may not be hoarded within the skin to choke and distend the ducts of perspiration and sebaceous glands, causing irritation and pimples.

When the skin becomes hard and dry by hoarding poisonous matter (toxins), the condition may be relieved by the opening of the glands.

The arteries and nerve trunks of the scalp are not far below the surface and can be readily reached, yet the best results in work for renewed circulation will be affected by directing the movements downward with the current through the veins and lymph channels. Massage movements downward empty the veins and lymph ducts, and the blood flowing in from the arteries quickly fills the vacuum.

The arteries in the face lie somewhat deeper, but the same principle of emptying the veins and the lymph channels applies to the face as to the scalp. However, the downward movement of the facial muscles should always be succeeded by an upward movement, because a continued downward stroking would aggravate the tendency of the muscles of the face to sag.

If the waste matter in the lymph channels and the impure blood in the veins is forced toward the heart, they are quickly refilled with arterial blood, which nourishes the tissues; this means an elasticity and tone, not only in the muscles, but in the skin.

Facial movements stimulate the nerves of the skin, but their

chief value is in stimulating the blood and lymph circulation, thus encouraging the flow of pure blood for nourishment and removal of waste products. The stimulated nerves, of course, instigate the stronger blood current.

Exercise for the face, therefore, is quite as necessary as exercise is for the body. One reason that the faces of men are more ruddy, and the facial muscles more firm, is because in the regular shaving of the hair from the face, the circulation is quickened, the glands of the face are exercised by the movement of the hairs and the muscles are exercised.

SUMMARY

The effect of exercise and massage may be summed up thus:

1. They relieve waste through the veins and lymph channels.
2. They aid ~~and~~ assist the body to tear down its waste and to build up new tissue.
3. They develop the muscles and ligaments and strengthen the tone of the muscles of the skin.
4. They increase the activity of the skin, thus promoting the elimination of waste through the system.
5. They increase the body heat.
6. They have a reflex effect upon the sympathetic and vaso-motor nerves and, through them, upon the large internal organs,—the liver, spleen, stomach, intestines, kidneys and all glands of the body.
7. They relieve restriction to the nerves, assist in relaxing them and, by promoting a better assimilation, strengthen and nourish them.
8. They reduce fat and build up body tissue.

APPENDIX

**Treatment of
Hard Corns** First soften the corn by immersing the foot in water as hot as can be borne for thirty minutes— or bind the end of a lemon an inch or two thick over the corn and leave on over night. Either method will thoroughly soften. Next scrape or cut off the callus until the surface is level with the adjacent skin. Dry the foot and cover the entire surface of the toe, including the corn, with many narrow strips of rubber plaster. Cut the strips narrow and adjust them nicely so as not to interfere with adjacent toes. The plaster remains until it separates of itself, usually in three or four days. Apply vaseline for a night and then repeat the process until entirely relieved.

If you are unable to scrape the toe smooth, so that the corn is level with the surrounding flesh, repeat the softening process daily until this is accomplished before applying the rubber plaster.

This process is entirely successful if the shoes do not constantly aggravate.

Hard corns may also be removed by applying salicylated colodion sold by all druggists.

**Treatment of
Soft Corns** In the first place all pressure must be relieved and the feet be kept clean and free from perspiration, or the perspiration be absorbed. To accomplish this keep medicated cotton between the toes day and night. Apply acetic acid or the silver nitrate crayon night and morning and dust boracic acid powder between the toes.

Mal-odorous feet cannot be corrected by outward applications. The general health must be regulated. The feet should be immersed first in hot and then cold salt water night and morning. This stimulates and strengthens the skin.

Chilblains Treatment of chilblains must be directed to the general health. Exercise to promote a good circulation, brisk friction; immersion in hot and cold water, as directed above, is a prevention. Bathe the affected parts in vinegar or with bay rum.

Of late, chemists have made Russian oil the base of cold creams. This is a mineral oil and will not turn rancid. It has little value for the skin except as a cleansing agent. All creams containing animal oil will turn rancid in time, depending upon the amount of such oil contained.

All creams, skin foods, etc., are best kept in a cool place.

Since the war difficulty in obtaining Russian oil, the Standard Oil Co. has manufactured an oil called Stanolax; this is as satisfactory in every respect, though it has not yet the same specific gravity as the Russian oil, so not quite as beneficial for medicinal purposes.

Lanolin, the oil from the sebaceous glands of the sheep, is the only oil known to absorb into the sebaceous glands of the skin and it is used in all "skin foods" or massage creams. This makes the cream slightly yellow and much stiffer than cold cream. A cream that is not sticky has no more value as a skin food than the cream of cow's milk, which, when sweet and thick, makes an excellent massage cream. Kept in a cool place, a proper skin food will keep for several months.

SKIN FOOD OR MASSAGE CREAM FORMULA

Spermaceti	1/2 oz.
White Wax	1/2 oz.
Cocoonut Oil	1 oz.
Lanolin	1 oz.
Oil of Sweet Almonds.....	2 oz.

Melt gently in a porcelain vessel or double boiler over a slow fire. Remove, and when nearly cool add drop by drop

Orange Flower Water..... 1 oz.
Tincture of Benzoin..... 3 drops

and a few drops of some concentrated perfume. Beat with an egg beater until creamy.

COLD CREAM OR CLEANSING CREAM

Almond Oil..... 4 oz.
Rose Water 4 oz.
Spermaceti $\frac{3}{4}$ oz.
White Wax $\frac{3}{4}$ oz.

Melt the spermaceti and white wax over a slow fire, remove and add the almond oil drop by drop, beating the mixture all the time. Add the rose water last.

I purposely refrain from giving you a formula for a Bleaching Cream, for all formulæ contain some form of mercury, and mercurial solutions are not safe to use upon all faces. The U. S. government is taking steps to prevent such use.

I know of but one bleaching cream which does not contain mercury (corrosive sublimate) and that cannot be given.

The base of face powder is rice flour or talcum powder. Zinc oxide, about 18%, is used to produce a texture necessary to cause it to adhere to the skin, and whatever perfume is desired.

No woman can satisfactorily make her own face powder, for it must be sifted many times through the finest of bolting cloths. It requires machinery to do this satisfactorily.

THE INDEX

	PAGE		PAGE
Abscesses.....	218	Cod liver oil.....	323, 351
Acid fruit for the complexion.....	293	Coffee, harmful effects of.....	293
Acne.....	313-16	Cold sores.....	190
Aconite.....	89	Comb and brush, cleaning the... 52	
Adenoids.....	178	Combing the hair.....	49
Alkalis.....	72, 352	Comb, tonic.....	87
Almond oil.....	352	Complexion, acid fruit for the. 293	
Anaemic conditions.....	323	Complexion, don'ts and do's for the.....	355, 356
Asthma.....	176	Complexion, effect of fatigue on 291	
Astigmatism.....	144	Complexion, how thought affects 289	
Astringent lotions.....	351	Complexion soap.....	295
Attraction versus beauty.....	14	Corns, hard and soft.....	258
Baldness.....	64-68	Corns, treatment of.....	377
Baldness, consumption accom- panied by.....	68	Creams, facial.....	343, 378
Baldness, premature.....	69	"Crow's feet".....	337
Baldness, rheumatism a cause of.. 68		Curling, artificial.....	36
Baldness, treatment for.....	70	Curl, to keep the hair in.....	114-15
Bay rum.....	89, 352	Cuticle, care of the.....	232
Benzoin, tincture of.....	353	Daily care of the hair.....	91
Blackheads.....	307	Daily care of the teeth.....	199
Bleaching and dyeing the hair. 81, 333		Dandruff, causes and removal of.....	59, 60
Bleaching the hair on the arms... 81		Dandruff, or seborrhea.....	58, 59
Blood, impurities taken by the... 286		Deafness, causes of.....	215
Blood purified by exercise.....	362	Dermatitis.....	326
Blood vessels and lymphatics.... 284		Dermis, the.....	275
Boracic solution for the eyes.... 157		Diet, effect of, on teeth.....	198
Boric acid.....	354	Diet for complexion, proper... 291-95	
Breath, bad.....	191	Diet in eczema.....	323
Breathing through the skin.....	283	Don'ts and whys.....	92
Brilliantine.....	115	Don'ts for the eyes.....	164-65
Brushes, hair.....	51, 52	Don'ts for the teeth.....	203
Brushing the hair.....	50	Drying the hair.....	48
Building and reducing flesh.....	368	Dry shampoo.....	45
Bunions.....	260	Dry skin.....	306
Canities (grey hair).....	76	Dyes, hair.....	82, 83, 84
Cantharides.....	88	Earache.....	217
Carbohydrates.....	323	Ear, anatomy and physiology of 207-10	
Carbolic acid.....	354	Ear drum.....	207
Cataracts of the eye.....	148	Ear wax.....	213
Catarrh.....	176	Ears, catarrh and the.....	214
Cells, fat.....	278	Ears, cleaning the.....	205
Chapped lips.....	189	Ears, noises in the.....	220
Character and bodily expression.. 272		Ears, shape of the.....	206
Cheerfulness a tonic.....	273	Eczema.....	62, 317
Chilblains.....	262, 378	Papular.....	319
Circulation necessary for com- plexion.....	292	Vesicular.....	319

	PAGE		PAGE
Eczema faciei.....	318	Facial creams.....	343, 378
Eczema of the ears.....	220	Facial exercise.....	339, 372
Eczema of the eyelids.....	148	Facial expression.....	271, 339, 372
Eczema of the hands.....	226, 320	Falling hair.....	64
Eczema of the lips.....	192	False hair, judicious use of.....	105
Eczema of the nostrils.....	179	False teeth.....	201
Eczema, treatment of.....	321-324	Fat cells.....	278
Electricity for the hair.....	74	Fatigue, its effects on the com- plexion.....	291
Epidermis, the.....	275	Fatigue, relief of.....	366
Erysipelas.....	324	Features, analyzing your.....	117
Erythematousum.....	320	Feet and the complexion, the.....	253
Eustachian tube.....	172, 210	Feet, clammy.....	263
Excretory organs.....	279	Feet, club nails on the.....	261
Exercise aids respiration.....	362	Feet, daily care of the.....	266
Exercise and massage.....	357	Feet, diseases affecting the.....	256
Exercise, blood purified by.....	362	Feet, diseases of the.....	258
Exercise, its effect on the hair....	29	Feet, don'ts for the.....	267
Exercises, eye.....	162	Feet, elimination of waste in the.....	253
Exercises, facial.....	339	Feet, fissures of the.....	260
Exercises for nose breathing.....	173	Feet, instruments for care of the.....	256
Expression of the mouth.....	186	Feet, mal-odorous.....	259
Eyebrows.....	160	Feet, massaging the.....	255
Eyebrows, coloring the.....	163	Feet, salt bath for the.....	265
Eyebrows, promoting growth of.....	163	Fever blisters.....	190
Eye, cataracts of the.....	148	Flabby or withered skin.....	304
Eye cup.....	156-57	Flat foot, the.....	261
Eye drops.....	151	Flesh, building and reducing.....	368
Eye exercises.....	162	Foods, medicinal value of cer- tain.....	293-94
Eye glasses.....	143	Foot baths.....	264
Eye tonics.....	158	Foot, the flat.....	261
Eyelashes.....	160	Footgear.....	245
Eyelid tumors.....	149	Foot troubles and nervousness.....	254
Eyelids, eyebrows, and eyelashes.....	160	Foot ventilation.....	251
Eyelids, inflamed.....	158	Freckles.....	307
Eyelids, slitting the.....	161	Frost bite.....	262
Eyes, abuse of the.....	140	Fruit for the complexion, acid.....	293
Eyes affected by the circulation.....	140	Functions of the skin.....	281
Eyes affected by the digestion.....	138	Germicides.....	88
Eyes and nervous system.....	137	Glycerine.....	352
Eyes, control of the.....	141	Granulated lids.....	146
Eyes, dark circles under.....	153	Grey hair (canities).....	76
Eyes, diseases of the.....	147	Grey hair, premature.....	79
Eyes, don'ts for the.....	164-65	Grey hair, reason for.....	77
Eyes, enhancing the color of the.....	164	Grey hair, shampoo for.....	46
Eyes, hygienic treatment for.....	155-59	Gums, receding.....	195
Eyes, puffs under the.....	151	Hair, anatomy and physiology of.....	32
Eyes, the.....	131	Hair, bleaching and dyeing the.....	81
Eyes, tired.....	150	Hair, brightening the.....	44
Eyes, treatment of the.....	135		
Eyes, weeping.....	151		

	PAGE		PAGE
Hair, brushing the.....	50	Iodine.....	354
Hair, causes of unhealthy condition of.....	24, 71	Irregularities of the skin.....	301
Hair, chemical constituents of the.....	31	Jaborandi (or jamborandi).....	89
Hair, children's.....	35	Joints, enlarged; dislocated.....	259, 260
Hair, color of the.....	31	Lanolin.....	281
Hair, combing the.....	49	Lead poisoning from hair dyes....	83
Hair, curling the.....	113-15	Lemon juice for brightening hair..	44
Hair, cutting and singeing the....	73	Lime water for the teeth.....	200
Hair, daily care of the.....	91	Lips, chapped.....	189
Hair, don'ts for the care of the...	92	Lips, purple.....	190
Hair dressing.....	94-130	Liver spots.....	309
Hair, dry.....	71	Long-sightedness.....	145
Hair, drying the.....	48	Lotions.....	226, 305, 351-354
Hair, effect of exercise on the....	29	Lymphatics.....	57
Hair, effect of sea bathing on the..	75	Manicure implements.....	228-230
Hair, electricity for the.....	74	Manicuring, instructions for....	230
Hair, falling; loss of.....	64, 65	Marcel wave.....	114
Hair, grey.....	46, 76, 77, 79	Massage and exercise.....	357
Hair, growth of the.....	33, 56, 57	Massage of the scalp.....	26, 53, 70
Hair, henna for dyeing.....	82, 83	Moles.....	312
Hair, how to arrange the.....	94-130	Mouth, exercise for flexibility of..	188
Hair, how to brighten the.....	44	Mouth, expression of the.....	186
Hair, oily.....	72	Mouths, causes of homely.....	185-86
Hair restorers and dyes.....	82	Myopia.....	144
Hair, rinsing the.....	47	Nails, care of the.....	227-31
Hair, superfluous.....	85	Nails, ingrowing.....	263
Hair tonics.....	86	Nails, polishing the.....	233
Hair, uneven and split.....	73	Nasal breathing.....	170-73
Hair, use of false.....	105	Nasal passage and the voice.....	167
Hair, why the, turns grey.....	77	Nasal passage, diseases of the....	175
Hamamelis.....	88	Near-sightedness.....	144
Hand exercises.....	223	Necks, dark.....	305
Hands, chapped; a lotion for, 225,	226	Nerves affect the skin, how the ..	288
Hands, daily care of the.....	224	Nerves, veins, and lymphatics....	57
Hands express character, how	222	Nervousness affects the hair, how.	28
Hands, red.....	226	Nervousness and foot troubles....	254
Hands, soaps for the.....	225	Nettle rash.....	325
Hare-lip.....	193	Nose breathing, exercises for	173
Hay fever.....	175	Nose, cleansing the.....	170
Henna for the hair.....	82, 83	Nose, red.....	180
Hirsuties.....	85, 331	Noses, changing the shapes of...	168
Hirsuties, X-ray treatment for....	332	Oily hair.....	72
Hives or nettle rash.....	325	Oily skin.....	305
Hosiery, proper kind of.....	251	Ointments, face.....	351
Hyperopia.....	145	Pale faces.....	302
Ichthyol.....	356	Palm, scientific reading of the...	235
Impurities taken by the blood....	283	Papillae organs of touch.....	277
Inflammation and sprains.....	367	Perspiration, excessive.....	328
Ingredients of skin preparations ..	351	Pigment in the skin.....	276
		Pimples.....	308

	PAGE		PAGE
Polypus.....	178	Snoring.....	174
Pond's extract.....	89	Soaps for the complexion.....	295
Pores, large.....	304	Soaps for the hands.....	225
Powders.....	343	Soap shampoo.....	45
Presbyopia.....	145	Soap substitutes.....	297
Prickly heat.....	325	Soft water for the skin.....	296
Pyorrhea.....	201	Sprains, inflammation and.....	367
"Rats" injurious to hair.....	65	Steaming the face.....	300
Receding gums.....	195	Styes.....	149
Red faces.....	304	Substitutes for wash cloths.....	300
Reducing flesh.....	368	Sunburn.....	302
Respiration aided by exercise.....	362	Superfluous hair.....	85, 331
Rheumatism a cause of baldness..	68	Sweat glands.....	278
Rinsing the hair.....	47	Tan and sunburn.....	302
Rose water.....	353	Tartar on the teeth.....	196
Sallow skin.....	303	Tea a nerve stimulant.....	293
Salt bath for the feet.....	265	Teeth, anatomy of the.....	194
Salt rheum.....	226	Teeth and digestion, the.....	198
Scalp, care of the baby's.....	34	Teeth, bacteria of the.....	197
Scalp, cleanliness of the.....	37	Teeth, cavities in the.....	196
Scalp massage.....	26, 53, 70	Teeth, crooked.....	194
Sebaceous glands.....	280	Teeth, daily care of the.....	199
Seborrhea, or dandruff.....	58, 59	Teeth, don'ts for the.....	203
Shampoo, dry.....	45	Teeth, effect of diet on the.....	198
Shampoo, egg.....	42, 43	Teeth, effect of medicines on the..	197
Shampoo, grey-hair.....	46	Teeth, false.....	201
Shampoo parlors.....	39	Teeth, lime water for the.....	200
Shampoo, soap.....	45	Teeth, tartar on the.....	196
Shampooing.....	38, 40	Thick lips, exercise for.....	188
Shampooing, materials for.....	41, 42	Thin lips, exercise for.....	189
Shoes, changing.....	250	Thought affects the complexion,	
Shoes, children's.....	250	how.....	289
Shoes, ventilated.....	252	Toe nails, care of the.....	263
Shoes, wrong kinds of.....	248	Tongue, cleansing the.....	200
Skin absorbs oxygen, how the....	282	Tonics, hair.....	86-89
Skin an eliminator of waste, the..	283	Touch, organs of (papillae).....	277
Skin, breathing through the.....	283	Tumors, skin.....	328
Skin diseases.....	301	Vegetables for the complexion....	295
Skin, dry.....	306	Veins.....	57
Skin foods.....	343	Walnut hulls for dyeing hair.....	84
Skin, flabby or withered.....	304	Warts.....	311
Skin, functions of the.....	281	Wash cloths and towels.....	299
Skin inflammation.....	326	Wens.....	312
Skin, irregularities of the.....	301	Whitening cream.....	379
Skin, oily.....	305	"White spiders".....	309
Skin preparations, ingredients of.	351	Witch hazel.....	88
Skin's protective function, the....	282	Wrinkles.....	333-39
Skin, sallow.....	303	Xanthopsia.....	147
Skin, structure of the.....	274	Xeroderma.....	314
Skin tumors.....	328	X-ray treatment for hirsuties.....	332