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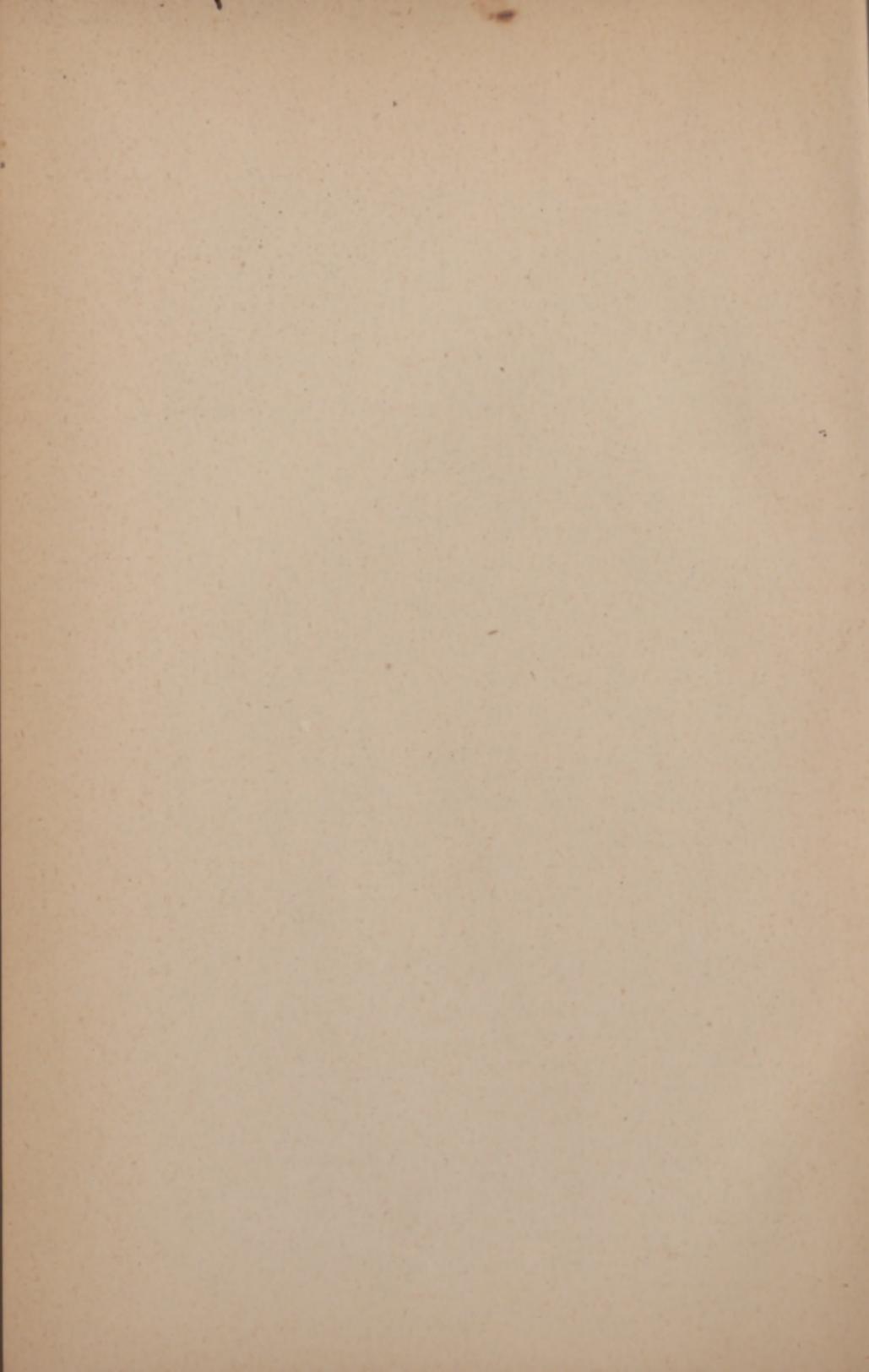
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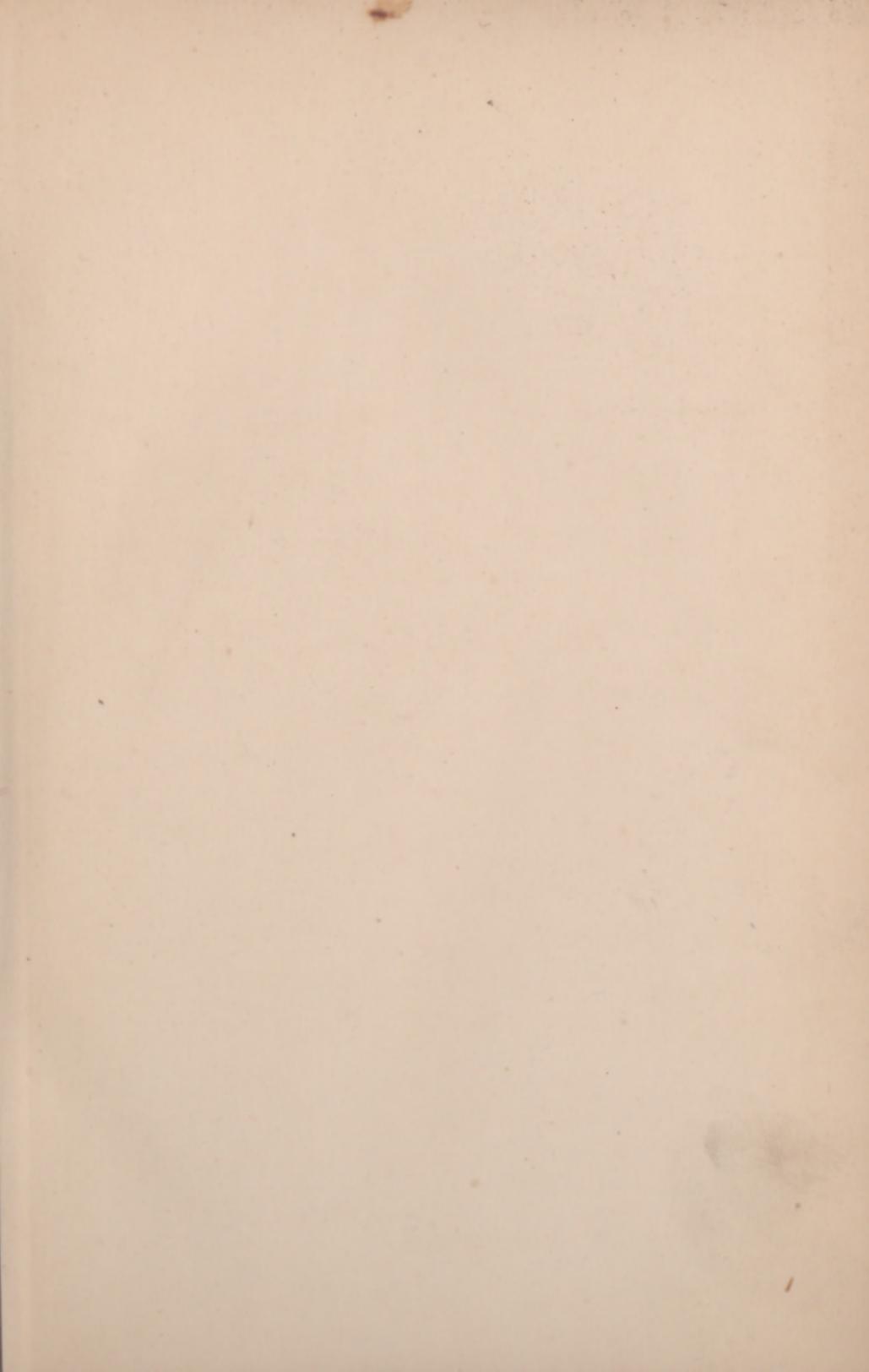
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B. M. Dewey

SPECIAL
Hygienic  Medical Information

FOR PARENTS,

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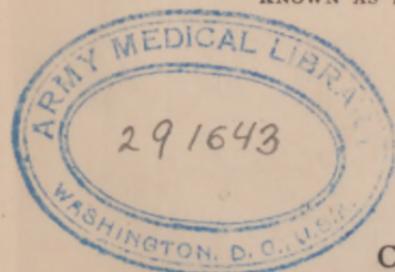
HEALTH AND DISEASES OF THE REPRODUCTIVE ORGANS,
URINARY APPARATUS, RECTUM, DISEASES OF CHILD-
HOOD, EVERYDAY EMERGENCIES, HOUSEHOLD
RECIPES, AND COMMON DISORDERS
AND WHAT TO DO.

WITH COPIOUS INDEX AND GLOSSARY.

BY

B. M. DEWEY, M. D.,

KNOWN AS THE LIGHTNING LECTURER.



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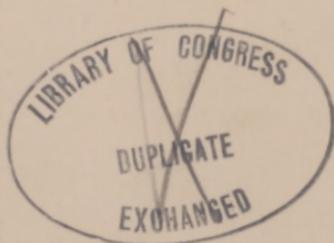
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By B. M. DEWEY, M. D.



TO MY WIFE,

WHO, FOR EIGHT YEARS, WAS ACTIVELY ENGAGED IN GIVING
LECTURES TO LADIES ON PHYSIOLOGY AND HYGIENE;

WHO HAS BEEN MY CONSTANT COMPANION AND
ASSISTANT DURING THE PAST FIFTEEN YEARS;

TO WHOM I AM ESPECIALLY INDEBTED

FOR THE LITERARY AND FINANCIAL

SUCCESS I HAVE ACHIEVED,

I LOVINGLY DEDICATE THIS VOLUME.



PREFACE.

IN presenting the present volume to the public, my object has been not so much to present anything new as to *recast* the old. Those hygienic and medical facts that every parent should understand, I have tried to classify and *simplify*. I have endeavored to make this work a *special household guide* in health and disease. For the past twelve years I have been lecturing on anatomy, physiology and hygiene. My lectures have been both *private* and *popular*, and have been illustrated with a first-class apparatus, consisting of manikins, skeletons, French models, oil paintings, etc. To the *thousand and more* questions that have been asked me during my lecture tours concerning health and disease, this volume will be a *sufficient answer*.

My lecture experience has taught me what the parents of the land are *most anxious* to know. The anatomical and physiological facts are in accordance with the teaching of the best scientists of to-day.

I have been *careful* of my facts; fanciful theories have been discarded; superstitious whims have been *ridiculed*. In considering the various topics, my constant endeavor has been to use *plain language*. Technical terms have been avoided as much as possible, and those that are used are thoroughly explained in the glossary appended to this volume. When describing diseases, I have tried to be explicit. Remove the cause has been my therapeutic maxim. The prescriptions given are in PLAIN ENGLISH and from the best sources. In considering HYGIENE, science and experience both have been consulted.

The philosophy, dangers and complications of parturition have been presented in such plain light, that the mothers of the land can *easily* understand them. Another reason why a popular treatise on the reproductive organs is required is this, viz: many ladies are dragging out a miserable existence on account of the diseases of the sexual apparatus. At least one third of the general physician's practice is devoted to female weakness. Many ladies have not the moral courage to consult a physician, and at the same time they are *too ignorant* of their own organisms and the laws that govern them, to obey health laws. False modesty is doing the work. Finally, the inroads of the disease are *so deep*, the sympathetic effects are *so extended*, the doctor is summoned. *Too late!* he exclaims; all he can do is to alleviate symptoms—he cannot cure. *Death* soon claims his victim.

The major part of this volume is devoted to the facts and phenomena manifested by the reproductive organs of both sexes in health and disease.

Two chapters, viz: the seventh and eighth, of part second, are devoted to topics specially important to parents, viz: EVERYDAY EMERGENCIES and what to do, and DISEASES OF CHILDREN and their cure.

Chapter ninth is devoted to HOUSEHOLD RECIPES which have been selected from the best sources.

CHAPTER tenth is devoted to COMMON DISORDERS and their TREATMENT.

This work is designed for the parents of the land rather than for the physician; therefore I trust the medical profession will be mild in their criticisms, and no physician should frown on efforts to popularize science.

Hoping this volume will prove advantageous and acceptable to the public is the sincere wish of
THE AUTHOR.

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INTRODUCTION.

WHAT IS MAN?

MAN is a *machine*—one of the most *complex*, one of the most *interesting* machines ever created; and that mechanic, who can suggest a single change in the structure, relation, position or function of any organ or tissue of the human system, would be a *master* mechanic indeed. When God created man, he did his *best*. Man stands at the *apex* of the pyramid of organic life; he wears the *crown of creation*.

In the ordinary American watch we find the various wheels, levers, etc., *nicely* arranged to give us the accurate time, but when we study the human system we find the various tissues and organs *more nicely* arranged to give us health, and thereby happiness. We have to wind the watch up every 24 hours or else it will run down, so, likewise, we have got to wind our bodies up every day or else we will run down, and some, these *hard times*, are not more than *one-half* wound up.

When we digest our food properly, and exercise proper care in its selection, we are *one-third* wound up; when we breathe properly, and all

the organs of secretion and excretion perform their full duty, so that the blood is truly a *vital fluid*, we are *two-thirds* wound up; when we obey all the laws of the muscular and nervous systems; when mind and body react healthfully on each other, *then* the machine is in *good running order* and truly the body is a *fit temple* for the *soul*.

You cannot manipulate any piece of machinery unless you understand the relation of the different parts to each other, and the laws that control those different parts. The human system is the most intricate piece of mechanism; each of its parts is governed by immutable laws. The mind is the *engineer*; the more knowledge, therefore, imparted to it, the better qualified it is to perform the *high mission* to which it was consecrated by the Creator.

SCIENCES REQUISITE FOR HEALTH.

ANATOMY AND PHYSIOLOGY are true indices to rational hygiene. Human anatomy not only describes the structure, form, weight, and color of the various organs and tissues, but it also points out their relations and physical connections. *Accurate anatomy* is the true stepping-stone to sound physiology.

PHYSIOLOGY deals with functions, with laws; it tells the true office of the parts anatomy has

described; hence we are correct in saying, *anatomy* deals with *matter*, *physiology* deals with *law*. When we are versed in anatomy and physiology, then we possess the necessary requisites to become true hygienists.

HYGIENE, so-called from *Hygeia*, the fabled Goddess of Health, is the art of preserving health. Physiology is a *science*, and requires study; hygiene is an *art*, and requires *action*. Know the law and comply with it, is the true watchword. If you violate a physical law, you must pay the penalty in *pain* and *misery*; if you obey the law, you will be bountifully rewarded with *health* and *happiness*. You may violate a municipal law, but money and friends may lessen the penalty; but if you transgress the laws of health, there is *no appeal*; your case is taken to the highest court at once — the court of the Great Supreme. Your Judge is *merciful*, but, at the same time, he is *just*. He cannot be bribed; he is unchangeable. No point of law is questioned; he is *author* of all of them. The Jury is agreed — he is Judge and Jury both; the verdict is *guilty*; the penalty is pain, disease, and perhaps DEATH. The hygienist is the *true* physician. He is a greater benefactor, who *prevents pain* and suffering, than he who *restores health* and cures disease.

THERAPEUTICS is the art of curing disease;

it has reference not only to administering medicines proper, but it likewise suggests the proper hygienic means. The whole material and metaphysical world is at its disposal. *Hygiene* deals with *health*, and *prevents*; *therapeutics* deals with *disease*, and *restores*; hygiene is the *nobler* of the two.

The therapeutics of to-day is far in advance of the past. Pills and plasters are fast becoming medicinal fossils; panaceas are extinct; medical superstitions are becoming dissipated before the effulgent rays of science. In ancient times the comets were indicative of war and pestilence; in ancient times every one at the approach of a comet would drop down through fear, every form of sacrifice was offered to appease an angry Deity. We are not frightened at comets now; we can gaze at these celestial wanderers with the same serenity of mind that we look at the silvery moon, as it glides along on a clear evening.

Science teaches *fear not*, all is governed by law. The *philosopher's stone*, that would transmute the metals, was sought for ages by the alchemists in their secret laboratories; chemistry says it is a *fallacy*. *Panaceas* were believed in for ages and ages; therapeutics long ago called them *myths*. With the progress of science drugs are becoming *discarded*.

The geologist teaches us there has been a gradual progression in animal and vegetable organisms, from their first introduction to the present, and he likewise informs us that the fauna and flora of the past are *true indices* of the physical conditions of the past; so likewise the therapist informs us there has been a gradual *unfolding* of remedial applications, and that the remedies used in any age truly reflect the state of medical knowledge then extant. The *true physician* of to-day refers to the lancet, pills and plasters the same as the naturalist refers to the monster reptilian forms entombed in the rocks,—*truly relics of the past*.

TRUE THERAPEUTICS.

A celebrated French physician on his death-bed said, the *three* greatest remedies for the cure of disease are *air, exercise and diet*; and I think if our physicians of to-day would prescribe more *air* and less *antimony*, more exercise and less emetics, more diet and less digitalis, more *sunlight* and less *sulphur*, more quiet and less quinine, more *water outside* and less *whisky inside*, it would be far better for their patients.

DISEASES CLASSIFIED, AND THEIR TREATMENT.

If I were to form a classification for diseases I would make three grand divisions. My first

class would embrace those produced by *wearing out*; too much action. The second class, those produced by *rusting out*; too little action. The third class, those produced by *mental despondency* or a *morbid imagination*.

For the *first class* I would prescribe *rest*. Have you dyspepsia? Is the mucous membrane of the stomach highly excited? Are you subject to those sour eructations, that the dyspeptic only can experience? Give the stomach *rest* and not *rhubarb*; it is the best stomachic. Rest, many times, is the best eye lotion, the best liniment, the best expectorant. Rest is pleasant to take, it requires no *sugar coating*, it never nauseates, homeopathic granules are by no means so palatable.

For the *second class*, where there is too little action, I would prescribe *exercise*. Each organ may at times experience a *fit of laziness*; it may be a lazy liver, a lazy muscle, a lazy brain, and there are cases where the whole system is lazy,—*a general laziness*. Exercise is a specific. A lazy man is an *invalid*, and *sawdust* powders will cure him — it is not necessary to take them. All that is required is to use the saw *long enough* to produce the powder.

For the *third class*, those produced by *mental aberration*, I would prescribe *hope*. In the metaphysical world the therapist finds

many remedies that will reach the disease when all else fails. *Faith* removes mountains of disease; hope is a tonic; fear a sedative; anger a cholagogue; joy a stimulant.

The *true* physician should be a *metaphysician*. Body and soul are intimately related; whatever influences the one receives is reciprocated.

SEXUAL KNOWLEDGE IMPORTANT.

In no department of science does there exist so much general ignorance as in regard to sexual matters,—ignorance attended by effects not only confined to the sufferer in this world, but this same ignorance is transmitting untold misery to all posterity. Truly the sins of the parents are handed down for *countless generations*.

When parents thoroughly realize these three facts: *First*, HUNDREDS are being born daily with their moral natures so beclouded, it will take a life-time to reclaim them. *Second*, IDIOTS are being born daily, but little higher in the animal scale than the lowest animals, governed by instinct more than by reason. *Third*, There are more diseases stamped upon the child *in utero* (before it is born) than it can entail upon itself while traveling the journey of life. When these three facts are thoroughly comprehended, a greater interest in *sexology* will be manifested.

WOMAN THE HIGHEST CREATION.

We might compare the whole animal world to a pyramid. At the base we will place the *polyph*, the *starfish* and the *shells*; a little higher up we find the *fishes*; still higher, the *reptiles*; still higher, *birds*; still higher, the *mammalia*; near the summit we find *man*; but at the very apex we find WOMAN. Woman, as a moral and social being, occupies a *more elevated* position than man. Geology, physiology, phrenology and history confirm this fact. If the ladies of the land do not conform more closely to the laws of health, they will lose the high estate bequeathed them in Eden. Woman should study herself; she should thoroughly realize that she is the architect of her own health; that pain and disease are the natural sequence of violated law; it makes no difference in the physical effect whether the laws are transgressed ignorantly or willfully. It is not a *frowning* Providence, but her own *sinfulness* that is burdening her, with such indescribable pain, such complicated diseases. Nature, and not deformity, is the standard of beauty. Strict hygiene is the best cosmetic. The *rose tint of health* is more lasting than the *rouge tint* of the *druggist*. Lyman Beecher truly said, in his address to young men: "Young men, take good care of the old ladies, for you will have but few old ladies long."

PART FIRST.

PHENOMENA OF HEALTH.



PHENOMENA OF HEALTH.

CHAPTER I.

SEXUAL PECULIARITIES OF PLANTS AND THE LOWER ANIMALS.

THE whole material universe is divided into two grand classes, viz., the organic and the inorganic. The first class includes everything that has life, viz., animals and vegetables. The second class includes all material objects destitute of life, viz., minerals.

There is no better established fact than this: that all animals and vegetables are sexed; that is, they are endowed with special organs, or functions, whose sole office is to propagate their species. There seem to be two elements of character stamped on all vitalized beings: *First*, That force which ever strives to preserve self; *Second*, That which is ever struggling to propagate the species. Hence we are scientifically correct when we say, Self-preservation is the first law of nature, and propagation of the species is the second.

Phrenology teaches us that the first faculties

of the mind, with which animals are endowed, are alimentiveness and amativeness. In the human brain, the organs through which the aforesaid faculties manifest themselves occupy the lowest range, and they are on the same plane; hence, the perversion or abnormal action of these two organs is equally sinful. The drunkard and glutton are no lower than the libertine.

I have been told by a reliable and scientific nurseryman, that if a tree is injured so that it will probably die, its reproductive powers are aroused at once, and it will commence bearing fruit much earlier than those trees of the same age and variety that are uninjured.

This fact shows that if the first law, viz., *self-preservation*, is rendered null and void, the second law, viz., propagation of the species, is enforced more rigorously. The bible teaches the same fact — “Be fruitful, and multiply, and replenish the earth,” is about the first command given.

THE FLOWERS OF THE FIELD, WHAT ARE THEY?

The flowers of the field, that are so beautiful to the eye, whose fragrance is so pleasing to the sense of smell, whose beauty so refines the intellect and spiritualizes the soul, are, in reality, the reproductive organs of the plant supporting them. Take the lily and analyze it. The corolla, or flower proper, is composed of six petals,

or flower leaves. In the center of the corolla are six filiform, thread-like bodies, termed stamens. At the upper extremity of each of the stamens is a hollow globular organ, termed the anther. These stamens constitute the male organs of the plant. The anthers are the testes, six in number. They form the pollen, which is the semen of the plant. The next part of the flower to which we invite your attention is the



pistil. The pistil is the female generative organ. In the lily there is but one, but in some flowers there are many. The pistil is a long, thread-like organ, arising from the same base as the stamens. It is longer than the stamens, and towers up above them. The pistil is divided into three parts, the germ, style and stigma. The germ is the part attached to the flower. It contains the seed, or rather the rudiments of the fruit in an

unformed stage. The germ corresponds to the ovary in the animal. The style is a hollow tube reaching from the germ to the stigma, or open mouth situated at the upper extremity of the pistil. The style corresponds to the vagina (or birth passage) of animals. The stigma is the analogue of the vulva (external organ of generation in the female of the higher animals).

HOW ARE PLANTS FECUNDATED?

The pollen, or seminal powder of the anther, is wafted by the breezes to the stigma, or open mouth of the pistil. Thence the fecundating powder passes down to the germ, and impregnation is the result.

The reproductive organs of plants manifest, apparently, many peculiar freaks of development and office. In some flowers the stamens are sessile; that is, the anther is in direct contact with the base of the corolla, and not supported by the filiform body of the stamen. The stigma of the pistil is many times sessile; that is, there is no style; the stigma and germ are in direct contact.

Plants, as a rule, are true hermaphrodites; that is, their flowers or blossoms contain both stamens and pistils in the same corolla. In the hop, strawberry, date, palm, and many others, the stamens and pistils are on different individuals.

In setting out hops, they generally plant one male hop to twenty female hops. The hops are vegetable MORMONS.

Whether the pollen is carried from the anther to the stigma will depend very much on the surroundings, especially the direction of the wind. The pollen is many times transported by insects, especially the honey bee and the butterfly. Where the stamens and pistils are on different plants, it is highly important that the plants be placed quite near to each other. Fertilization would be more apt to be effected if gardeners and horticulturists better understood the sexual nature of plants and flowers.

Impregnation sometimes takes place at a great distance.

Mrs. Phelps, in her botany, gives the following remarkable instance: "A curious fact is stated by an Italian writer, viz., that at places about forty miles distant grew two palm trees, the one without stamens the other without pistils; neither of them bore seeds for many years; but in process of time they grew so tall as to tower above all objects near them. The wind thus meeting with no obstruction, wafted the pollen from the staminate to the pistillate flowers, which to the astonishment of all began to bear fruit."

The vegetable world manifests many curious

reproductive freaks, but they are nothing compared with the wonderful, and I might say miraculous, phenomena manifested by the lowest animals in their different modes of propagation.

REPRODUCTIVE FACTS.

Agassiz says: "Reproduction by buds occurs among the polyps, medusæ and some of the infusoria, on the stalk, and even on the body of the hydra and of many infusoria, there are formed buds like those of plants. On close examination they are found to be young animals, at first very imperfectly formed and communicating at the base with the parent body, from which they derive their nourishment."

The buds resemble the buds of plants, and in time they are detached from the parent and become separate and independent beings, destined to undergo the same metamorphoses as the parent.

Another mode of reproduction is called fissiparous. It is peculiar to the polyps and some of the infusoria. In this form, instead of buds being formed and then detached, the animal by some inherent power is segmented or divided into various sections, each section becoming a separate being. Any one can satisfy himself by experimenting on some of the lowest animals that this power of propagating by division is

possible. If an earthworm is divided into various sections death is not the result, but, to the contrary, the injuries are so repaired that each section becomes a separate, independent existence, manifesting all the powers of the original parent. Can anything, apparently, be more miraculous.

HERMAPHRODITE.

True hermaphroditism is common to plants, but in animals it is quite rare, and it is questioned by some of our best scientists, whether it ever does really exist.

Some of the lowest animals seem to undergo a metamorphosis of sex. For instance, a snail may commence its existence as a male, but finally is changed into a female, and vice versa; but there are no cases where it is both male and female at the same time.

WHEN IS SEX FIRST MANIFESTED?

Carpenter says: "There is but very little distinction of sex at first. At the fifth week of fetal life it is impossible to prophesy the future sex; but in a short time the divergence takes place, and the future development can be predicted."

In most cases of so-called hermaphroditism, there is either a deficient evolution of the male organ, or an excessive evolution of the female organs.

The first is a deformity, the second a monstrosity. In the male the penis may be imperforate; the longitudinal furrow, which, when closed, forms the urethra, is open, sometimes its whole extent. There are cases where there is a fissure or cleft in the scrotum, and the testes are in the hemispheres on each side of the fissure; there are cases where the testicle is found in one of the hemispheres, and the ovary in the other. Another peculiar freak is, where the external and internal organs do not correspond. The external organs may be those of the male, whereas the internal organs are strictly those of the female. The Bible says in regard to the Adamic creation. male and female created he *them*; but in looking over the peculiar freaks of sexual evolution, showing, as they do, double sex, science would change the pronoun *them*, to *him*, or *her* — male and female created he *him*, or *her*.

ABNORMAL SEXUAL EVOLUTION.

Sir A. Cooper gives a case of a woman eighty-six years of age, with elongated clitoris, with absence of the vagina.

A case was presented to the French Academy in 1820, as follows: "A young man, a soldier, aged 22; the penis was normal; scrotum empty; the testes occupied the position of the ovaries; the uterus was normal, and emptied into the ure-

thra, at the base of the bladder; the fallopian tubes were imperforate, and the vagina was absent.

NO SEX.

We have before remarked that all vitalized bodies are sexed. They are either male or female, or hermaphrodites; but Dr. Gross, when lecturing on surgery, in the University of Louisville, Kentucky, presented the following case, which is the most remarkable sexual freak on record:

The subject had no sex; there was neither penis nor vagina; the urethra was in its proper place; the clitoris was small, and there was a cul de sac, where the vagina normally should commence; the nymphæ were small, each containing a testicle. This person, up to two years of age, manifested all the mental characteristics of a girl, but at the age of two it rejected its dolls, and became masculine in its tastes.



CHAPTER II.

SEXUAL ANATOMY AND PHYSIOLOGY.

TO thoroughly comprehend the phenomena presented by conception, pregnancy, and birth; to scientifically understand the diseases and dangers to which the procreative system is subject, from infancy to old age; especial attention should be, in the first place, devoted to the anatomy and physiology of the generative organs. We can never understand disease until we first understand health. If our physiology is imperfect, to the same degree will our pathology be incorrect. Health is the base line; disease, in its protean forms, is a departure. Health sprang from God; pain and disease are self-inflicted. Science confirms the saying of the apostle, "The wages of sin is death."

FEMALE ORGANS OF GENERATION.*

The first organ to which I invite your attention is the vagina (birth passage). It is a membranous canal leading from the vulva (external organ of generation) to the uterus (womb). It

*For illustration see appendix.

is situated between the lower portion of the bladder and the rectum. Its walls are composed of muscular and erectile tissues, which, at times, become quite rigid. This canal varies in length, from four to six inches; the vulval extremity is somewhat smaller than the uterine. The vagina is lined with a mucous membrane, similar in structure to all membranes that line cavities connecting with the external world. In this membrane are situated a great many mucous follicles, or glands, whose normal office is to secrete mucus to lubricate the membrane in a state of health. These follicles, in a state of excitement, throw off so much secretion that it has been considered to be the semen of the female, because it resembles the semen of the male so closely. That there is anything like seminal emissions in the female is a fallacy, and is not a peculiar freak. This mucous membrane is the part diseased in leucorrhœa, or what is commonly termed the whites.

HYMEN, WHAT IS IT?

As we pass from the vulva toward the uterus, there is, in the virgin, a refolding of the membrane, forming a partial, and, in some cases, a complete septum across the vaginal canal. This membrane, when existing, is situated near the external outlet.

It is a fallacy to suppose that a virgin must

possess an imperforate hymen. More or less apertures naturally must exist in it, especially after the age of puberty; for, if such were not the case, it would be impossible for the menstrual secretion to escape. In married ladies there exist numerous papillæ on the mucous membrane of the vagina, just where the hymen was originally attached. These papillæ are termed the *carunculæ myrtiformes*.

Freaks of development are sometimes seen in this part of the generative organs. There have been cases where the vagina is wholly absent. Imperfect development is by no means so rare. I will give a case to the point: Dr. McIntyre, quite a noted surgeon, of Palmyra, N. Y., was called to see a young lady of seventeen, with all the symptoms of pregnancy; she had the appearance of being seven months along. He questioned her closely, and ascertained she had been chaste, and also that she had never had any external show. Every month, since fifteen years of age, she had experienced those nervous sensations peculiar to normal menstruation, still at the same time there was no external show manifested. He told her that an examination would have to take place.

On making an examination he found the external organs and the lower third of the vagina perfectly developed, but the upper two-thirds

were imperforate; it was a solid cartilaginous band. The doctor, after making a thorough examination, formed the following diagnosis: The appearance resembling pregnancy was produced by the accumulated menstrual fluid. That it had been accumulating for the past two years, ever since she entered the stage of puberty.

He told her it was a case of life and death; that she would die if he did not operate, and the probability was death would be the result if he did. An operation was assented to. Commencing at the upper part of the vagina, so far as it was an open tube, he cut an artificial canal between the bladder and the rectum, being careful not to injure either one of the last two organs. Arriving at the mouth of the womb he made an incision, and over a quart of menstrual fluid escaped at once. An oiled septum was inserted into the artificial canal for a time, so that the canal would not reclose. The case terminated successfully; at last accounts this lady was alive and the mother of three children. This case shows how closely the surgeon can imitate the Creator.

THE UTERUS.

We have now traveled the whole extent of the vagina, and at its internal extremity, we come to the most important organ in the sexual system,—the *womb*. No organ in the female

economy has a higher office to perform; no organ is more sympathetically related to the general system; no organ has been subjected to more abuse; no organ is subject to a greater complication of disease and displacement. Hence, we should be careful to understand its structure, position, relation and function.

The uterus rests on the top of the vagina; the vaginal tube is its main support. The part of the womb that rests on the vagina is smaller than the tube itself, therefore, a portion of the womb extends into the tube, and there is a cul de sac existing around the lower extremity.

The womb in the virgin weighs from two to three ounces, and is situated between the bladder and the rectum; it is conical in shape, resembling a flattened pear; it is, in the virgin state, some three inches in length, two in width and one inch thick. At least two-thirds of its upper portion is covered with a serous membrane, viz., the peritoneum. Removing the external membrane we arrive at the proper structure of the womb, and we find it, in the virgin state, to be more of a fibro-cartilaginous nature than muscular. It is only in the impregnated uterus that the true muscular fiber is seen, and then it is of the involuntary order. The will at no time can control the womb, or excite it

to action, any more than will can influence the heart or stomach. The upper and broadest part of the womb is termed the fundus, and, as you pass toward the lower extremity, it becomes gradually smaller. The smaller constricted portion is termed the neck; the very lowest portion is called the os uteri, composed of anterior and posterior projections called the lips.

If we cut the womb open we find it to be a hollow organ. The external orifice is quite large, and in the healthy unimpregnated state is always open. Passing into the viscus from the external opening, we enter a narrower constricted canal termed the cervix uteri; passing along this expands into a triangular cavity; at the two upper angles of this cavity exist apertures, by which we can enter the fallopian tubes, which we shall soon explain.

The cavity of the womb is lined with a mucous membrane, which is really a continuation of the membrane that lined the vagina. This membrane contains numerous follicles which secrete mucus. There are several ligaments that connect the womb with adjacent parts. Those running from the womb to the bladder keep it from tilting backward, those running from the womb to the rectum keep it from tilting forward, the broad ligament running each

side prevents any lateral displacement. It was formerly taught that these ligaments are the main supports of the womb, but the modern physiologist tells us that the vagina is the main support, and that the ligaments act as so many guy ropes.

FALLOPIAN TUBES.

Passing out of the uterine cavity, at the apertures to which we have before referred, we enter the fallopian tubes. These tubes are two in number. They are about four inches in length, and are traversed by a canal so small that you can pass with great difficulty the finest bristle. One end of each tube is attached to the womb; the other is free, and terminates in a fimbriated extremity. These tubes are lined with a mucous membrane, which is a continuation of the same that lined the womb. The fallopian tubes correspond to the oviducts in the bird. The tulip-like extremity of the tube is free; but there is a slender ligament running from one of the fimbriæ or finger-like processes to the next organ which we shall consider, viz., the ovary. Hence the free extremity can never get any farther from the ovary than the length of the connecting ligament.

During ovulation the free extremity closely embraces the ovary, to receive the egg as it escapes from its parent bed.

THE OVARY.

The ovaries, next to the uterus, in function and in many respects, are superior. They are two in number, the right and the left. They are about the size of a pigeon's egg, and have the shape of an oblate spheroid, viz., almond shaped. The ovary on each side is attached to the uterus by a ligament termed the utero-ovarian. It is enveloped in the folds of the broad ligament which we have before described.

The ovary, when laid open with a bistoury, and its minute structure examined with a microscope, is found to be strictly glandular in its nature. As the liver secretes bile, so we might say the ovary secretes eggs. The ovary is composed of a fibro-spongy tissue termed stroma, and throughout this stroma or matrix are found from fifteen to twenty ovisacs in every stage of development. In the center of the ovary they are quite small, but as they become developed they advance pari-passu to the surface, and every month one or more of them becomes mature, and finally ruptures the external coat of the ovary. The ovisac contains a liquid peculiar to it, and in which floats the ovum.

STRUCTURE OF THE OVUM.

The old Latin maxim, *Omne vivum exovo*, is thoroughly confirmed by the science of to-day.

All animals are developed from eggs, *viviparous* as well as *oviparous*. Man is no exception. You take the hen's egg as an illustration. The yolk and the vitelline membrane that covers it is the egg proper; the white and the shell are secondary attachments.

The human egg, when examined with the microscope, is organized the same as the egg in the lower animals. When it escapes, it is only about one two-hundredth of an inch in diameter. We find in the yolk the germinal vesicle, and in the germinal vesicle is the germinal dot.

The escape of the egg is termed ovulation. The nervous disturbance produced during its escape produces an effect on the womb that results in menstruation. At the point where the egg escapes from the ovary there is an extravasation of blood, in which various metamorphoses transpire, which soon becomes of a yellowish hue, and finally disappears. These marks, or scars, produced in the ovary, are termed *corpora lutea*—yellow bodies.

CORPORA LUTEA.

There are two kinds of these *corpora lutea*, the *true* and the *false*. The *true* are those in which the escaping egg becomes impregnated. They attain a large size, and do not entirely disappear until after the termination of gestation.

The *false* corpora lutea completely disappear in a month or so after the escape of the ovum. The false corpora lutea are those in which the escaping egg does not become impregnated.

THE EGG'S JOURNEY.

When the egg escapes from the ruptured ovum, at the time of ovulation, if there was nothing there to receive it, turned out of home as it is, it would drop into the peritoneal sac. But such is rarely the condition of things. Always, during the escape, the ovary is tightly grasped by the fimbriated extremity of the oviduct, viz., the fallopian tube. The right hand of fellowship is given the ovum, and at once it sets out on its pilgrimage to the external world.

As the egg is paddled along the tube by the countless ciliae which are attached to its lining membrane, it becomes coated on the outside with an albuminous substance, closely resembling the white of the egg in the bird; it finally escapes into the uterine cavity, and if it is not impregnated, it soon escapes through the os uteri.

This same trip is taken each month by the different eggs, as they are successively extruded from the ovary.

The time occupied in performing its monthly tour varies in different ladies, and oftentimes in the same lady. As a general rule, it takes from

twelve to fourteen days. It is a fallacy to teach that the trip is always performed in the same time. The egg manifests, in the same lady, unexplainable freaks in its rapidity of travel. If there is perfect general and sexual health, it may perform the trip in three days; but if there is uterine disease, it may occupy the whole interval between the menses before it makes its final escape. Many ladies claim they can tell the exact moment the ovum escapes the os uteri; they say they experience bearing down sensations, similar in nature, differing only in intensity, from those in the second stage of labor.

It is only about seven inches from the ovary to the mouth of the womb; hence, when the egg is fourteen days performing its journey, it only travels at the rate of one half inch per day.

We have now seen, in part, the office the female has to perform, viz., to produce the ovum or germ which, exposed to certain vital influences, will produce a future human being. Menstruation, and its facts and freaks, will be reserved for a future chapter.



CHAPTER III.

GENERATIVE ORGANS OF THE MALE.*

THE testicles in the male are the analogues of the ovaries in the female. They are strictly glandular in their structure. Previous to the eighth month of foetal life the testicles are in the abdominal cavity in contact with the kidney. Before the term of gestation ends they have started and completed the downward journey to the scrotum or sac in which they are generally found. Carpenter says "the testes begin to descend about the middle of pregnancy; at the seventh month they reach the inner ring or opening in the abdominal walls; during the eighth month they enter the inguinal canal, and by the ninth month arrive in the scrotum."

The *ovary* in the female and the *testicle* in the male, are first developed in close proximity to the kidney. Freaks in the descent of the testicles are quite common; sometimes one of them remains through life in its original position, while the other makes its usual descent.

* For illustration see appendix.

Sometimes both testicles are retained through life in the abdominal cavity. There are cases where both have been retained until the tenth year, and the descent then taken place. Whether in the abdominal cavity, or in the scrotum, they have the same office and power.

THE STRUCTURE OF THE TESTICLES.

The testicle has an external tunic peculiar to itself, termed the tunica albuginea. This coating not only envelops it but likewise dips down and divides it into several lobes. Each lobe is composed of a mass of convoluted tubes, termed the tubuli seminiferi. There are about four hundred and fifty lobes, each of which is traversed by one or more of the tubuli. Each lobe is conical in form, the base toward the surface and the apex pointing inward. The whole number of the tubes are about eight hundred, and the diameter of each about one-hundred and fiftieth of an inch. The tubuli, after various combinations and divisions, empty into the vas deferans, the true excretory duct of the testicle.

OFFICE OF THE TESTICLE.

The main office of the testicle is to secrete semen; this function of secretion is mostly performed by the loops or cæcal endings of the

tubuli seminiferi. Some claim that the vesicular substance, which enters into the structure of the outer portion of the testis, performs the whole function of secreting the semen.

SEMEN.

The semen emitted at the time of sexual intercourse is not the pure semen secreted by the testes. Carpenter says no accurate analysis of pure semen from the human subject has yet been made. Frerichs has analyzed semen taken direct from the testes of the rabbit. He says: "Pure semen is a milky fluid of a mucous consistence, and neutral or slightly alkaline reaction. It contains a large number of minute bodies, termed spermatozoa. These minute bodies are in constant motion, and are considered by some as animalculæ. They are infinitesimally small. They have an oval, flattened body, about one six-hundredth of a line in length, and projecting from the body is a filiform tail, one-fortieth of a line in length. These spermatozoa retain their power of motion for several days after emission.

The sperm is the essential fertilizing element in the semen. Filter the semen, so that the sperms are removed, and it has lost its impregnating power. The reason that hybrids cannot, as a rule, propagate, is because their semen is devoid of the sperms. The chemist

tells us the sperms contain a large amount of phosphorus, existing either in a free state or in the form of phosphorized fats and phosphate of lime.

SEMINAL FALLACIES.

The ancients had some curious ideas in regard to the source and office of the semen. They believed the emission was the actual passage of the brain down the spinal cord. *Tabes dorsalis* (the ancient name for what we term spermatorrhœa) is described by the old writers as a wasting of the spinal cord.

Acton says: "Nothing costs the economy so much as the production of semen and its ejaculation."

JOURNEY OF THE SPERM.

After the sperm is poured into the *vas deferans* (the excretory duct of the testicle), it is conveyed by this same duct out of the scrotum; thence it passes through the inguinal canal to the base of the bladder. At the base are situated two glandular bodies, termed the *vesiculæ seminales*.* They have a secretion of their own of a mucous nature. The outlets to the *vesiculæ seminales* and the *vasa deferentia* form junctures, termed the ejaculatory ducts. So at the point where the two ducts coalesce, the two secretions

* For illustration see appendix.

commingle. The secretion from the vesiculæ liquifies the semen, and gives it the peculiar odor.

As there are two vesiculæ, the right and the left, and as there are two vasa deferentia, of course there will be two ejaculatory ducts, and they both empty into the urethra, or canal traversing the penis.

As the semen passes along on its outward journey, it receives additional secretions from the prostate gland and Cowper's glands, which are small glands situated at the commencement of the urethra.

The true office of the various secretions the semen has received at the different points is not well understood. It is supposed by some that the semen is not thoroughly elaborated, and that the sperms are not completely evolved, until the different secretions we have spoken of are intimately commingled.

There are two theories extant in regard to the time that the semen is secreted. The one that is generally indorsed is that the testes are constantly secreting semen. In men who have been continent less semen is secreted than in those that are married. The condition of the mind and the surroundings greatly influence the amount.

The vesiculæ seminales are not only secretory in their nature, but, it is claimed, they act as so

many reservoirs for the semen that does not pass off by seminal emissions.

Without dwelling any longer at present on the generative organs and their functions, we will in the next chapter consider the process of impregnation. Many interesting facts pertaining to generation will be presented when we consider the diseases of these organs.



CHAPTER IV.

CONCEPTION AND ITS PECULIARITIES.

IT is admitted by all physiologists that conception is the result of contact of the sperm of the male and the germ or ovum of the female. In sexual intercourse the semen is brought in direct contact with the mouth of the womb. The spermatozoon enters the uterine canal, and wherever it meets the egg that is trying to escape into the external world, there impregnation takes place.

EXPLODED THEORIES.

The old doctrine was, that there is a seminal *aura*, or atmosphere, that passes to the ovary, and that the egg is always fertilized before it leaves its parent bed. There have been various theories advanced in regard to who is entitled to the most credit in producing the new being, the father or the mother. Pythagoras and Aristotle taught that the female parent furnishes the material for the formation of the offspring, and that the male *quicken*s it to life. Galen, on the other hand, taught that the male semen alone furnishes the vital material for the new being, and that the

female furnishes a lodging place, and suitable pabulum for its development.

THEORY OF TO-DAY.

The theory of to-day is about the same as that advocated by Aristotle. After the sperm meets the ovum, all locomotion in the egg stops, and it becomes, in a short time, attached to the inner membrane of the womb. Life is now kindled, and, of course, nourishment is demanded. The albuminous coating of the ovum nourishes the being at first. In a short time little villi spring from every part of the egg, apparently to seek food for the embryo. As the little rootlets of the plant burrow down into the earth to obtain food from the soil, so these thread-like villi of the egg dip down into the secretion that is effused from the lining of the womb. *The race* for life has begun. There is but little nourishment ready for use; the larder is small; these little villi are so many little *foragers* for the little being. In a short time the villi disappear from the ovum, except at that point where it is in contact with the womb, and at that point they are increased in number and size, and finally they are sufficiently developed to form the placenta, or afterbirth.

Without dwelling on the minute anatomical changes that transpire in the womb, the foetus,

and its appendages, we will speak of certain general facts and physical peculiarities.

CHANGES IN THE WOMB DURING GESTATION.

From the first there is a gradual growth. It becomes each month, from conception until childbirth, larger, heavier. In the virgin it is only a few ounces in weight, at parturition as many pounds.

FETAL DEVELOPMENT.

At first it is a minute egg; but at the third week of gestation it is one-half inch in length, and expanded at one extremity. The cleft for the mouth, and two black spots for the eyes, can be seen at this early stage. As the acorn, with proper surroundings, will produce the majestic oak, so this apparently homogeneous mass of vitality will produce the highest organized being — MAN.

• *Man is a microcosm*—a world within himself—he is really an epitome of creation. There is not a law in the universe that is not duplicated in man's organism; hence the importance of thoroughly tracing the metamorphoses through which he has passed from impregnation until birth.

Each successive month of its intra-uterine existence the fœtus becomes larger, heavier, more human. The nine months' career is soon passed.

The cocoon is severed, and at birth it becomes an independent being. Heretofore the mother has purified its blood, has done its breathing. Now it breathes for itself. It now seeks its nourishment in a different way, and maintains its own animal heat. Heretofore, every thought, emotion and passion of the mother has stamped peculiar qualities, both mental and physical, on the little being.

Organs that were active during fœtal life, after the birth of the child become atrophied, and remain, like many nondescript fossils in the rocks, so many *vestiges of the past*.

The umbilicus, thyroid gland and urachus are so many fœtal landmarks.

The lungs, that through fœtal life were imperious, more like a liver than anything else, at birth are aroused from their lethargy to contend with the new surroundings.

QUICKENING OF THE CHILD.

Many ladies, at about the fourth month of pregnancy experience for the first time the movement of the fœtus. This sensation is supposed to be produced by the fœtus being quickened into life; and in some countries, at the present time, if abortion is produced before this period of quickening, the penalty is not so severe as if produced later.

A false physiology has placed on the statute book an *unjust law*.

SCIENCE TO-DAY says, there is life from the time of impregnation, and in the eyes of the law, and in the eyes of God, it is just as criminal to destroy the fœtus one day after impregnation as one year. How many ladies in the land are really guilty of *fœticide*, and yet they supposed it all right to destroy it before the fourth month.

Mrs. Duffey, in her "Relation of the Sexes," says: "I have even heard a woman, who acknowledged to several successive abortions, accomplished by her own hands upon herself, say, 'Why, there is no harm in it, any more than in drowning a blind kitten; it is nothing better than a kitten before it is born.'"

OPINION OF THE ANCIENTS.

Philosophers in all ages have differed in regard to the time the fœtus manifests a *soul*. Roman lawyers looked on the fœtus as a part of the mother, hence the Roman mothers destroyed it any time. The *Stoics* believed the soul entered the body at the first respiration; the *Justinian code* fixed it at forty days after conception. The reason the mother first feels the motion of the child at the fourth month is this: previous to that time the womb is low down in the pelvis, and the movements of the

fœtus cannot produce sensation on the womb and adjacent parts, because they are destitute of sensitive nerves.

At the *fourth* month the womb is so large it cannot remain longer in the pelvis, and it rises up into the abdominal cavity, and some writers claim this *uprising* of the womb produces the sensations of quickening. Carpenter says: "When it emerges from the pelvis it comes in contact, anteriorly, with the abdominal parietes, which are liberally supplied with sensitive nerves, and which, by contiguity of substance, feel the movements and thus the woman becomes conscious of them."

PLACENTA.

At the end of gestation this organ is about six to eight inches in diameter, and weighs about a pound. In the center it is over an inch in thickness, growing thinner toward the circumference. Its outer surface is a little uneven, and when *insitu* is closely attached to the inner surface of the womb. Its inner surface is smooth and is covered with the two membranes that constitute the bag of waters. The villi, which we have before said connect the ovum to the inner membrane of the womb, in a short time are increased in number and size, and by the development of new cellular tissue they are

soon matted into one compact mass. It is not placental in form until about the second month, and if it is then examined it will be found traversed with a complex system of blood-vessels, arteries, veins and capillaries. These blood-vessels do not have a direct communication with those that traverse the uterus, yet the relation is so intimate that all the physiological changes can be produced just as well as if there were a direct passage. All that separates the placental and maternal current is a thin attenuated membrane.

HOW IS THE BLOOD PURIFIED.*

In adult respiration the air does not come in direct contact with the impure blood, a thin membrane separates them, yet all the effects of purification transpire. The inspired air imparts oxygen through the membrane, and receives carbonic acid in return. The blood when sent to the lungs is nearly black, loaded with carbon, but the oxygen it has received frees it of its impurities,—changes its color to a bright scarlet tint. When the blood leaves the lung it is apparently a new fluid, well fitted to start again on its *missionary* tour of nutrition. The placenta is, pro tempore, the lungs, stomach, liver and alimentary canal of the fœtus. The placental

* For illustration see appendix.

villi, or tufts floating as they really do in the maternal blood, impart to it *carbonic acid* and receive in return *oxygen*; so far it is the *lung* of the fœtus. The same tufts at the same time absorb nourishment from the mother's blood, and so transform it that it will nourish the fœtus; so far it performs the office of stomach. That the placenta also is an organ of secretion and excretion is admitted by the best scientists of the day. Those little villi, so simple in structure and function at first, have, as we can plainly see, been transformed into the most important organ of fœtal existence.

POSITION OF AFTERBIRTH.

The position of the afterbirth in the womb can, many times, be ascertained by using the stethoscope over the uterus, and listening to the *placental bruit*, or murmur.

The afterbirth may be attached to any part of the uterine cavity. If the sperm does not meet the egg until it arrives at the fundus, then the afterbirth will be formed there.

Sometimes the sperm impregnates the egg just as it is ready to escape from the uterus, then the afterbirth will be formed over the os uteri; and when such is the case, and parturition takes place, there will be a dangerous complication, viz., *placenta prævia*.

UMBILICAL CORD.

This is the only connecting link between the mother and fœtus. It starts from the center of the placenta, to which it is attached, and terminates at the umbilicus, or navel, of the child. It is generally about twenty inches in length, although some authors claim they have seen cases where it was five feet long. It is composed of two arteries and one vein, with a small amount of gelatinous matter, gluing them together. It is covered on the outside with prolongations of the membranes, that compose the bag of waters. The cord manifests these peculiar freaks at times, viz., of being tied into several knots, and, also, at times of being coiled several times around the neck of the fœtus.

FŒTAL CIRCULATION.

As this volume is intended for *popular* reading, we shall leave out the minutiae of this very *complex* circulation, and merely give a general idea.

The umbilical vein conveys the pure blood from the afterbirth to the navel of the child. Thence the blood passes to the fœtal heart, which pumps it to every part of the body of the fœtus. The blood, as it circulates, in time becomes impure; now, where shall it be freed from its impurities? Says one, "Why can it not be

purified in the lungs of the fœtus?" My answer is, the lungs of the fœtus are more like a liver than anything else. The only way that it can be purified is for it to be sent back to the placenta, through the umbilical arteries.

The umbilical cord, therefore, has two currents of blood flowing through it, one pure the other impure, and flowing in different directions. Here is another physiological exception, where the artery conveys impure and the vein pure blood.

BAG OF WATERS.

How Formed; Its Contents; Its Office.

The fœtus, all through gestation, is suspended in the amniotic liquid, which is inclosed in the two membranes, termed the *amnion* and the *chorion*. This sac, with its contents, is, in popular language, called the *bag of waters*.

The outer membrane of the sac is the chorion; the inner, the amnion. We will now trace the formation of this sac through its various changes. The ovum, if examined microscopically, has two membranes that envelop it. The yolk, which constitutes the majority of the egg, is inclosed by these two membranes, and, as I have before stated, as soon as life is kindled it nourishes the germ. The yolk in the beginning nourishes the germ in the same way that the major part of a kernel of wheat nourishes the germ when quick-

ened by the stimulating influences of light, warmth and moisture. The yolk is soon exhausted by the hungry germ, and its place is supplanted by an *aqueous* liquid, and in this liquid the fœtus floats. As the fœtus becomes more and more developed, as a matter of course the sac will become more distended, and the liquid increased in quantity. The origin of this amniotic liquid is a matter of dispute.

THE QUANTITY of the liquid, at the end of gestation, varies from a few gills to as many pints, and when the membranes are ruptured during parturition, and a very little liquid escapes, it is termed a *dry birth*. It is claimed by some, that the liquid *nourishes* the fœtus, on the principle of absorption, and all admit that it is a reservoir for the excretions of the fœtus. The *meconium* and *urine* have been detected in it by several reliable observers.

OFFICE OF AMNIOTIC LIQUID.

The fœtus, as it floats in the liquid, is, so to speak, surrounded by a liquid cushion, and should the mother, during pregnancy, receive any external injury, such as might be produced by a fall, a misstep or a blow, the fœtus would escape unharmed. Were the fœtus not thus shielded, the pregnant state would be one of great solicitude on the part of the mother, and

there would be ten cases of abortion to where there is one now.

At the same time the liquid protects the fœtus it also protects the mother. After the period of quickening, the fœtus manifests more or less muscular activity, and were it in direct contact with the uterus, the effects produced would be unbearable on the part of the mother. Perhaps the most important office of the bag of waters is that which it fulfills in furnishing an easy exit for the fœtus through the os uteri. The manner in which it performs this office we have explained in the essay on parturition.

RELATION OF SAC TO PLACENTA.

The bag of waters in the last stage of gestation fills, as a rule, the whole cavity of the womb, and the membranes of the sac are in direct contact with the hypertrophied lining membrane (*membrana decidua*), except that portion occupied by the placenta. The fœtal portion of the placenta is covered with the membranes. Perhaps a clearer idea can be obtained by the following comparison: We might compare the bag of waters to the distended gas bag of a balloon; the *membrana decidua* we might compare to the net-work inclosing; the *placenta* would represent the car. The only point where the comparison is not

perfect, is that in the balloon there is quite a space intervening between the balloon proper and the attached car, whereas the bag of waters is in direct contact with the placenta.

MYSTERY OF TWINS.

Twin conception is produced in the same way as single, with this exception, that two ova are fecundated instead of one. In ovulation, more than one egg may escape, and in sexual coition, more than one sperm may enter the mouth of the womb, hence there is no *mystery* in regard to twin production, and if there is any mystery, it is in the fact that there are so few cases of twin births. *Triplets* and *quadruplets* are accounted for on the same principle that twins are produced, viz., there must be as many eggs fecundated as there are fœtuses. Churchill says: "A woman may conceive two, three, four or *five* children, but I am not aware of more than *four* children having been born alive at one birth."

Statistics show that among British practitioners there are sixty-nine single births to one of twins. Four thousand four hundred and seventy-three single births to one of triplets. Among the French practitioners the percentage of twins and triplets is some less.

In plural births there will be as many pla-

centas as foetuses, and each foetus has its own umbilical cord attached to its own placenta.

NUMBER OF AFTERBIRTHS.

You often hear it remarked that in a case of twin births there was but one after-birth expelled. To the careless or ignorant observer such was the case, but a close observation would show that there were two coalescing, in such a manner as to deceive a superficial examination.

SIAMESE TWINS.

This noted freak of twin birth can be accounted for as follows: two ova were fertilized as in ordinary twin conception, but the ova at the time of conception were in *juxtaposition*, and it is easy to understand how the cartilaginous band that joined them could be formed.

SUPERFETATION.

Whether a woman several months advanced in pregnancy can conceive again if sexual coition takes place, is admitted and denied by good authorities. In ordinary twin births several days may intervene between the birth of the two foetuses, and yet both ova from which the foetuses were evolved may have been impregnated either at the same intercourse or at two successive coitions, with only a little time

intervening between them. Dr. Mosely gives the following case: "A negro woman brought forth two children at a birth, both of a size, one of which was a *negro* the other a *mulatto*. The mother confessed to having intercourse with her husband and a white man, with only a short time intervening."

The following cases are more mysterious: "Mrs. T., an Italian lady, but married to an Englishman, was delivered of a male child at Palermo, November 12, 1807. On the 2d of February, 1808, not quite three calendar months after the preceding accouchement, she was delivered of a second male infant."

Dr. Bedford gives the following case: "A woman, aged thirty-seven years, brought forth a mature and healthy child on the 30th of April; on the 17th of September following (about one hundred and forty days after the previous birth) she was again delivered of a fully developed infant."

In the last two cases do we have examples of twin conception, or are they better accounted for on the principle of superfœtation? If it is twin conception, we must admit that from some cause, one fœtus was more tardily developed than the other, and that it was retained in the uterus until it was fully evolved. Churchill says: "This explanation requires previous proof, that

a slow growth of the fœtus involves a protracted gestation." Bedford says: "The best way to account for these peculiar freaks, where so long a time intervenes between the births, is on the principle of a second fecundation."

In the case of a *double uterus*, the explanation is quite easy to illustrate. One coition may fecundate an ovum in one of the cornua, and a subsequent coition may fecundate an ovum in the other cornua. Ramsbotham objects to a second fecundation, for the reason that the os uteri is closed with a tenacious mucous plug as soon as pregnancy is effected. Bedford, on the other hand, says that there is no essential difference between the mucus existing in the cervical canal in the pregnant woman, and that generally present in the same canal in an unimpregnated female.

It was formerly supposed that shortly after conception the uterus is lined with a deciduous membrane,—a shut sac—and that a second fecundation could not take place for this obvious reason, the sac would so close up the orifices of the fallopian tubes and the os uteri, that it would be impossible for ova, if they are extruded from the ovary, to gain access to the uterine cavity; and this same sac would be another obstacle to the entrance of spermatozoa.

Modern physiologists, however, claim the

decidua is nothing but a hypertrophied condition of the membrane lining the womb, and that during the earlier stages of gestation the orifices of the fallopian tubes are open as much as in unimpregnated wombs. There is much obscurity still prevailing in regard to these so called cases of superfoetation. Who shall decide when doctors disagree?

ABNORMAL PREGNANCY.

The fecundated egg, 999 times in 1,000, will become attached to the membrane lining the womb. God intended the womb to be the home of the fœtus, but there is occasionally an exception; sometimes the impregnated egg becomes attached to the membrane lining the fallopian tube, and it remains in the tube during its development; this is a case of *extra-uterine* foetation, termed TUBAL PREGNANCY. Sometimes the egg is impregnated the moment it escapes from its parent bed, viz., the ovary, and it remains in contact with the ovary during its development; this is a case of *ovarian pregnancy*. Again, the egg, after being impregnated at the ovary, may drop into the peritoneal sac, producing a case of *abdominal* pregnancy. The theory we have advanced in regard to conception, easily explains how these abnormal forms of pregnancy can be produced. The sperm may travel the whole ex-

tent of the uterus before the ovum arrives there. The sperm still continues its journey and meets the tardy egg in the tube; or it may travel the whole length of the tube, and embrace the egg the moment it bursts through the walls of the ovisac. It is sometimes quite difficult to decide, especially before the period of quickening, whether it is pregnancy or not, as it may be confounded with ovarian tumor.

The general symptoms of extra-uterine pregnancy are closely allied to those of ordinary pregnancy, with these exceptions: the menses, as a rule, continue unabated, and the increase of the abdomen generally differs from that in ordinary pregnancy by being more to one side, and the pain limited to the spot where the tumor is felt. The fœtus ordinarily does not undergo its full development, and in its earlier stages it becomes encased in a cyst.

The great danger to be apprehended is hemorrhage and peritoneal inflammation, in case the cyst is ruptured. The fœtus, of course, in tubal and ovarian pregnancies, cannot be born in the usual way, but in some cases an abscess is formed by the death and decomposition of the fœtus, and then the surgeon would be warranted in making an incision of the abdominal walls and removing it. Some recommend the incision to be made as soon as the fact of extra-uterine preg-

nancy is established, especially if the health of the mother is declining.

REMARKABLE CASES.

I will give two cases to illustrate: Dr. Pope, of the St. Louis Medical College, was called to see a case of left tubal pregnancy; the full period of gestation was completed, and in the left ovarian region were all the symptoms of an abscess forming. He incised the abdominal walls over the tumor and removed a fœtus some four months developed. The mother lived, and has given birth to three fully developed fœtuses since.

The Sedalia (Mo.) special gives the following case: "One of the rarest and most difficult surgical cases, and probably the first of the kind in this state, was successfully performed in Otterville, Cooper county, about twenty miles southeast of this city, last Tuesday. It was the removal of the fœtus from the person of a lady two years after its conception. In medical parlance the case is termed extra-uterine fœtation.

A history of the case is briefly this: A little over two years ago Mr. Rhea died, and Mrs. Rhea was expected to be confined three months later, or two years ago this month. The event did not take place. The fœtus perished, and all signs of life in it ceased. She was taken ill, and her life despaired of. She, however, re-

gained her health to a moderate degree, and for the past year has been able to attend to household duties. But the burden that she carried—the dead linked to the living—grew irksome, and after consulting with her physician and others in regard to an operation, she was determined to take the chances, and undergo it at all hazards. Accordingly, she went to work to put her house in order. She settled up all the affairs of the estate, made her will, and provision for her only child, a boy six or seven years old. She even prepared her funeral garments, in case the operation should prove fatal. Last Tuesday she announced she was ready, when her family physician, assisted by several doctors from Sedalia, prepared to perform the operation. Although again warned of the probable fatal results, she jokingly laughed at the physicians, assuring them she would come out all right. The abdomen was opened, the fœtus detached and successfully removed. It was in a perfect state of preservation, and was that of a nearly fully developed child, though somewhat shrunken. Nature, ever wise and provident, envelops the fœtus in a thin membrane or sac, thus rendering the dead fœtus innocuous to the body, and this was so enveloped. Mrs. Rhea was then put to bed, and made comfortable. This morning word was received that she was as well as could be expected, and

the indications were highly favorable for recovery."

Extra-uterine pregnancy is clouded still, to a certain degree, in mystery, and whichever theory of impregnation we may indorse, the great wonder is the small percentage of the abnormal pregnancies.

DURATION OF PREGNANCY.

Forty weeks—280 days—is the ordinary time, although sometimes there are wide departures. The code, Napoleon, of Paris, fixes extremes at 300 and 180 days. If a child is born 300 days after marriage, or as early as 180, it is pronounced legitimate. In Scotland a child is not declared a bastard unless born after the tenth month from the death or departure of the husband.

WHEN WILL LABOR BEGIN?

Bedford gives the following rule: "Imagine, for example, the termination of the last menstrual period to be on the 10th of January; then count back three months, which will correspond with the 10th of October; now from the 10th of October add seven days, this will bring you to the 17th of October, the day on which labor will commence."

CHAPTER V.

PUBERTY AND ITS PHENOMENA.

FROM the first kindling of life in the ovum until death, the human being is undergoing wonderful evolutions. Life is one grand series of metamorphoses. Perhaps the most interesting transformation in many respects, and the one to which I now invite your attention, is that of PUBERTY.

In this latitude it occurs about the fifteenth year. It is claimed that climate influences greatly the time.

In tropical climes it occurs often at eight years, whereas in the colder regions it may be delayed until twenty. The surroundings of childhood influence its arrival greatly. *City life* and its customs *hastens* it; *country life retards*.

Previous to the arrival of puberty, the little boy and girl act very much alike, but when it arrives, a wide divergence takes place; he blossoms into *manhood*, she into *womanhood*. Her girlish plays are laid aside; she has hid the doll she long has fondled; she is more shy, modest

and refined in the presence of the gentlemen. The light-hearted, playful girl is now a *lady*, so made by Nature. What a wonderful mental change in so short a time! The physical change is equally marvelous. The organ of



amativeness is now first aroused from its *lethargy*. The word *love* has no longer a hidden meaning. Her muscles are more developed, and the deposition of adipose matter between them gives her more of the rotund form. The

mammary gland, the ovaries, and, in fact, her whole being, is infused with new life.

The most prominent function ushered in at this epoch is OVULATION, and its accompanying symptom, MENSTRUATION. Previous to puberty, the ovaries were dormant; no ovisacs could be detected in them by the microscopist, but as soon as puberty arrives, they spring into being as if by magic.

MENSTRUATION.

From puberty until the menopause—cessation of the menses—that is, as a rule, from the age of fifteen to forty-five, woman experiences about every lunar month a sanguineous discharge from the vulva. The amount varies from a few ounces to several pints. The discharge continues from three to eight days, but there are cases where menstruation is continued for fifteen to twenty days, and as much blood lost as there would be in ordinary childbirth. Menstruation manifests some peculiar freaks, although it generally begins at fifteen, in this climate.

PECULIAR FREAKS.

Velpeau, the noted French surgeon, gives a case of menstruation at eighteen months. Dr. Chas. Wilson gives a case of menses appearing at five months. Dr. Rowlett, of Kentucky, gives a case of menses at *one year* of age, and

pregnancy at nine. The turn of life, or cessation, though generally appearing about forty-five, may vary from *thirty-five to ninety-nine.*

Orfila gives a case, well authenticated, of *menstruation until ninety-nine.*

Many regard menstruation as the result of civilization; that it is *modern born.* It is a great mistake. The oldest bible writers speak of it. In Gen. xxxi is the following: "And Rachel said to her father, let it not displease my lord that I cannot rise up before thee, for the *custom* of women is upon me."



The menstrual flow was, in former times, considered a secretion, and menstruation a *cleansing* process, throwing off *poisonous* properties from the blood. Dr. Dewees, a noted obstetrician of fifty years ago, regards it as a *secretion*, for the reason that menstrual blood does not coagulate the same as blood taken from a vein; but there is not the least doubt but when first effused it is *pure blood*, but in its passage into the external world its coagulability is destroyed by the acid secretions of the vagina.

ORIGIN OF THE MENSES.

Different organs have been, at different times, regarded as the source. All scientists now agree that it comes from the membrane lining the uterine cavity; that the menstrual flow is a hemorrhage, instead of secretion.

CAUSE OF MENSES.

Thomas says: "Until the year 1821, when Power first broached the subject, the connection between ovulation and menstruation was unsuspected." Every month one or more ova escape from the ovary, and the irritation produced in the escape is transmitted to the uterus, the mucous membrane of which becomes so engorged with blood that a rupture of the blood-vessels occurs, and hemorrhage is the result. The reason that the flow is monthly is because the ova escape monthly, and it takes about a month for the successive eggs that make their escape to become matured. Menstruation is analogous to the period of *heat* in the lower animals, and in the monkey tribe there is a bloody discharge, with about the same intervals as in the human female.

Ovulation is *not* necessarily attended with the menstrual show, and if it is, the time of each may not be the same; one may *anticipate* the other. For this reason mothers many times

conceive during nursing; although there is no show, *there is ovulation.*

TURN OF LIFE.

Turn of life generally occurs about forty-five. The ovaries that have been active since puberty now *relapse into the lethargy* they manifested at first. The symptoms vary in different women. The change is sometimes very gradual; the discharge becomes less and less each month, until its final cessation; but oftentimes there is great irregularity both in the time and the quantity of the menses. *Profuse hemorrhage* sometimes occurs at the very *last* menstrual effort. As a rule, there is a greater anxiety manifested by women at this so-called critical period than science and statistics would warrant. Dewees says: "The vulgar error that women at this period of life *are always* in danger is replete with *mischief* to the suffering sex." If menstruation were a purifying process, by which certain poisonous elements are monthly eliminated from the blood, there would be good grounds for apprehension on the part of women, but such *is not the case.*



The ovaries that have for thirty years been constantly forming and extruding ova have ful-

filled their mission ; their term of office has expired, and menstruation ceases, for the simple reason that the cause has been removed. The diseases to which the critical period predisposes we will consider when treating of disease exclusively.



CHAPTER VI.

SIGNS OF PREGNANCY.

SUPPRESSION OF THE MENSES is generally the first sign that causes a woman to think she is enceinte, especially if she has been regular up to that time. It is not always a true monitor, but can generally be relied on.

Exposure to damp and cold, depressing passions, or any violent mental agitation, may be the cause of the cessation. Bedford says: "It should be recollected, too, that the menses will occasionally become arrested soon after marriage, and continue so for one or more months, without the existence of gestation; the arrest of the function in these cases being, most probably, due to the new relations of the individual."

As the stoppage of the monthly flow does not infallibly indicate pregnancy, so, likewise, the regular appearance does not proclaim the contrary. Some ladies menstruate regularly all through gestation, and Deventer gives a case where a lady menstruated only during gestation, for four successive pregnancies.

MONTHLY FLOW DURING PREGNANCY.

“Well,” says one, “how is it possible for a monthly show to be manifested after conception?” Says another: “If there is any sanguineous discharge, it can be nothing but a hemorrhage, produced by a partial separation of the placenta.” It is sometimes thus produced, and would, of course, excite a certain amount of alarm, on account of the threatened miscarriage; but, on the other hand, there may be genuine menstruation for this reason: The fœtus and its surrounding bag of waters may occupy but a portion of the uterine cavity, and the menses could be formed by the free surface, especially that lining the cervix.

Says a doubter: “It is not menstruation, because the ovaries during gestation are in a state of repose, and there could not be a monthly show without ovarian excitement.” His objection, as a rule, is well founded, but there is abundant evidence to show that there are cases where ovulation occurs regularly all through pregnancy.

NAUSEA AND VOMITING.

These are quite prominent signs, but it is not a constant attendant on the pregnant state, because ordinary suppression of the menses, and functional or organic disease of the uterus, may likewise produce it. The stomach and the womb

are quite sympathetic, and many ladies, during pregnancy, manifest a capricious, and, at times, a depraved, appetite—a longing for articles to eat that at any other time they loathe. *Salivation, enlargement of the abdomen and the mammary gland, milk in the breasts, swelling of the lower extremities*, are good signs.

AREOLAR CHANGE.

The areola is the peculiar circle that surrounds the nipple. In the virgin it is of a rose tint, but during gestation, as a rule, it becomes discolored, and the sebaceous follicles become enlarged and project from the surface. Uterine diseases may produce a similar discoloration, but, when the peculiar change in color is accompanied by the enlargement of the follicles, it is almost a sure sign. Sometimes the pregnant state is unaccompanied with areolar change, but when it is present it may be relied on.

QUICKENING is a good sign, but, of course, it does not manifest itself until about one half of the period of gestation has passed. The signs we have given so far are easily comprehended, but, if there should be great anxiety in regard to obtaining more evidence, a physician should be called and he can determine whether pregnancy exists for a certainty. First, by applying the stethoscope over the uterine region and

listening to the pulsations of the fœtal heart, and also by listening to what is termed the placental murmur, which is a peculiar sound produced by the circulation of the blood through the placenta.

There is another way by which pregnancy may be determined. It is termed *balottement*. The fœtus, recollect, is floating in the amniotic liquid, and after the period of quickening will move from one part of the bag of waters to the other, varying with the position of the mother. Sometimes the mother, when she turns over quickly in bed, will feel something in the uterus fall; it is produced by the fœtus, influenced by gravity, descending to the side on which she reclines. The physician can determine the fact of pregnancy in this way: he introduces his index finger into the vagina as far as the os uteri, and then, by pressing suddenly upward, the fœtus of course would passively make an ascent, but, through gravity, would immediately descend, and the rebound would be felt by the finger. This is a satisfactory test, as no tumor or disease of the womb could produce the peculiar effects.

KIESTEINE.

M. Nauche was the first to call attention to this peculiar substance, found in the urine of

pregnant women. He supposed it to be the caseum of the milk secreted during pregnancy. Churchill says: "It resembles a milky cloudiness through the urine, or a thin, whitish pellicle on the top." When the urine is highly colored it is quite difficult to detect it.



CHAPTER VII.

CHILDBIRTH.

EVERY married person of either sex should have a general knowledge of the modus operandi and philosophy of labor. They should also understand the nature, causes and treatment of the various complications and dangers peculiar to parturition.

The object of this chapter is not so much to make its readers practical obstetricians, as it is to give them such scientific and practical knowledge that they may appreciate the true physician, and, if the case requires, render him assistance, or, in case he is absent, to act in his place. A lady may be sent for to assist in the labor about to take place, quite early, long before the services of the obstetrician are required. What precautions should she observe?

Again, the physician may be sent for, but his professional duties are such that he does not arrive until the labor is far advanced, or perhaps completed. Under these circumstances what shall she do? Science should be her guide!

MIDWIFERY OF TO-DAY.

There is still much empirical practice in midwifery. Many superstitious whims are still indulged in, but they are fast disappearing. Here and there still remain a few vestiges of old-time practices, but the robe of mystery that enshrined the midwife of the Middle Ages has been unloosed. There is no department of the practice of medicine or surgery better understood than the science of obstetrics of to-day.

INSTRUCTIONS FOR THE NURSE.

The nurse should see that everything is in readiness before labor sets in, and as it is impossible to foretell whether the labor will be an easy or a difficult one, the following articles should be accessible, viz., sweet oil, soap, towels, hot and cold water, ice, ligature for the cord. For the proper care of the child have in readiness a blanket to receive it, and a soft sponge, castile soap and warm soft water to wash it.

PRECAUTIONS TO BE OBSERVED.

The womb, as we have before said, is situated between the rectum and the bladder. During the last stages of pregnancy most ladies are subject to constipation and retention of urine; hence, as the fœtus is expelled from the womb, it must as a matter of course pass between the

distended rectum and bladder. In such the labor will be protracted and painful. Particular attention should be bestowed on the condition of these two organs, and if either is distended see that the proper evacuation takes place before true labor sets in.

To evacuate the lower bowel, use the rubber bulb syringe. Inject simple water until free evacuation is effected. To secure the expulsion of the urine, so as to empty the bladder, much can be done through will power; if this fails let the patient change her position, so that the gravid uterus will not exercise so much pressure against it; and if these fail, a *sitz bath* in warm water, by its relaxing effect, may secure free urination.

If all these means fail, as many times they will, the attending physician's attention should be called to the subject, if he does not make the inquiry himself. Inattention to the condition of the bladder before labor sets in, has resulted in its rupture. Inattention to the constipation, has resulted in rupture and abscesses in the walls separating the vaginal and rectal canal.

FIRST SIGNS OF LABOR.

For a day or two before labor sets in, there is a large amount of mucus thrown off by the lining membrane of the vagina. Sometimes the

mucus is streaked with blood; this is called the *shows*. The parts are undergoing the requisite changes, to secure an easy transmission of the child.

All through the period of gestation, the os uteri has been closed. For nine months since the spark of life was kindled, not by the concussion of steel and flint, but by the comingling of sperm and germ, the womb has been the home of the fœtus. The fœtus is matured. A grand metamorphosis is about to take place. New relations are to be assumed. A change of climate is sought. The struggling being seeks new realms. Moving day has arrived. The nine months time lock is breaking the seal. The parturient effort has commenced; the os uteri is becoming dilated. THE FIRST PAINS of labor are called *grinding*, and are produced by the dilatation of the os. The time required for the os to become dilated varies, and I think the temperament has much to do in regulating the rapidity. As a general rule, ladies of a blonde appearance have easier and more rapid labors than the brunette. There is but little to be done in the first stage of labor. Let the patient get in any position that gives her any ease. Gratify her whims and quiet her fears.

WHEN SHOULD AN EXAMINATION BE MADE?

An examination should be made as soon as the mouth of the womb is sufficiently dilated. Many times the attending nurse will advise the patient to hold the breath and bear down; that it will expedite the labor. It will do no good in the first stage of labor; Nature will advise when to bear down.

The examination having been made, and the presentation ascertained, in the majority of cases nothing is to be done but to quiet the fears manifested. *Hands off* is the motto. Nature, as a rule, is sufficient for the task. I am often asked whether it is advisable to administer *chloroform* in obstetrical cases. My answer is yes, if it is administered by an experienced person. By the use of anæsthetics much pain can be averted, and the labor not in the least retarded or complicated. No one but the educated medical attendant should administer a remedy so capable of alleviating so much suffering, and at the same time so potent for evil if in the hands of the ignorant.

SECOND PAINS OF LABOR.

As soon as the portals of the womb are open, in an instant, and almost in the same breath, the scene changes. Heretofore the pains have been cutting, grinding, now the womb, which is a hol-

low muscle, begins to contract in every direction to expel its contents. The bearing down pains have set in; holding the breath and bearing down is now of some service, and expedites the delivery. Although the womb, without doubt, has sufficient contractile power to expel its contents, yet holding the breath at this stage is a valuable auxiliary.

As the womb contracts, the bag of waters is protruded. It presents a conical form, its apex pointing outward. The part of the sac that presents at the os really performs the office of a wedge, and greatly assists in still farther dilating the mouth.

The membranes entering into the structure of the protruding sac are sometimes quite frail, and break prematurely before the os is dilated. In such a case the labor will be retarded. Sometimes the membranes are strong and unyielding, and the womb has not sufficient contractile power to rupture them. In such cases manual interference is required. There have been cases where the complete sac unruptured has been expelled.

BORN WITH A VEIL.

Sometimes, the membranes that entered into the sac, after being broken, become accidentally adhered to the face of the child. The child, when born in that way, is said to be born with a *veil over its face*.

It is considered by some a wonderful freak of Nature, and there are many at the present time who still cherish this vestige of superstition, that a child born in this way is a genius, and endowed with *clairvoyant* powers. It is the most palpable fallacy. For my part, I cannot see how a person born in that way can possess a deeper or clearer vision than if born with a pair of *green goggles* on, if the thing were possible.

Nearly all of our first-class cities have several of these *veil-over-the-face seers*. There still exists in many minds enough of the marvelous element, so that this form of quackery is well patronized.

As the womb contracts, after the sac is ruptured, and the waters have escaped, any part of the fœtus may present. The head is the most natural and the most common presentation; the breech next. With the exceptions of the shoulder or arm, Nature, as a rule, is capable, unaided, to accomplish the delivery.

In the case of an unnatural presentation, the services of an educated and experienced medical attendant are required, and should be obtained if possible. If the medical attendant does not arrive until late, the husband, or some of the lady attendants, should make a vaginal examination, to determine the presentation. The time to make the examination is as soon as the cut-

ting pains are fully established. Do not wait until the bag of waters is ruptured, and the waters have escaped, as it may then be too late to rectify the malposition of the fœtus, if such should be the case.

HOW TO MAKE THE EXAMINATION.

Dr. Churchill gives the following directions: "The patient should lie on her left side, with the hips near to the edge of the bed, and the knees drawn up toward the abdomen. The forefinger of the right hand, having been well oiled, should be passed along the perineum into the vaginal passage. Pass the finger along the vagina, and you will, in the majority of cases, easily reach the os uteri, and you can determine to what extent the mouth of the womb is dilated, and even if the membranes are unruptured, you can ascertain the presenting part."

If it is the head or breech presenting, you can just take it easy, and not worry.

It is not necessary for the patient during the first pains to undress and take the bed; but let her do as she pleases; her judgment will direct her better than yours can.

Much of the pain complained of during the second stage of labor is referred to the lumbar region. The nurse should see that this part is well supported. Proper support to the perineum

is required as the child is passing the lower strait. Inattention to this precaution might result in a recto-vaginal fissure.

CARE OF THE CHILD.

The nurse should see that a warm flannel is in readiness to receive the new being. If respiration does not take place immediately, see that its mouth and nostrils are not closed up with mucus, and if such is the case, remove it at once. Sometimes the umbilical cord is coiled one or more times around the neck, if so, it should be uncoiled at once. As soon as respiration is established, attend to ligating the cord. Whether one or two ligatures should be used, is a matter of opinion, and some claim that after the circulation in the cord has ceased no ligature is required. In regard to the further care of the child, as far as cleanliness and clothing are required, your own good sense must be the guide. Without devoting space to describing the minutæ, that any nurse in the neighborhood understands, I wish now to dwell at some length on the peculiarities, dangers and complications of childbirth, not generally considered in popular works.

After the child has been separated from the mother, and handed to the nurse or lady attendant, prompt attention should be devoted to the mother.

CARE OF THE MOTHER.

The mother should be kept as quiet as possible. The medical attendant should press gently over the abdomen, in the uterine region, and ascertain whether there is a thorough contraction of the womb. If, on pressure, something like a globular tumor is felt, there has been sufficient uterine contraction, but if on pressure the parts are soft and flabby, there is danger ahead. How many mother have been drowned, so to speak, in their own heart's blood, on account of inattention to this subject.

THE PLACENTA, OR AFTERBIRTH. HOW REMOVED.

The placenta, as heretofore explained, is closely attached to the inner surface of the uterus, and, as the womb contracts to expel the fœtus, its cavity becomes smaller, and the afterbirth, as a matter of course, is generally peeled off. When the uterine contraction is thorough, the placenta is not only separated from the womb, but the uterine sinuses that have been lacerated by said separation are closed up, so that there is no danger from hemorrhage. The afterbirth is still in the uterine cavity, but in a short time it will be expelled; but sometimes the fœtus is expelled, and the afterbirth is not separated in the least; if you press on the abdomen, over the uterus, there is a soft and flabby feel. What shall be

done? My answer is, nothing. Give the womb a period of at least one-half hour's repose, and, if then there is no uterine action, use gentle traction on the cord; not too much, lest it be broken; and, at the same time, gentle pressure should be made over the abdomen.

The cases that we have as yet considered, are those where the retention of the placenta is unaccompanied by flooding.

FLOODING, AND WHAT TO DO.

In cases where hemorrhage is a prominent symptom, the placenta is partially or completely separated. Where flooding is the prominent symptom, uterine action should be secured as soon as possible, so that complete separation of placenta be effected and the bleeding lacerations closed up.

Generally the powers of Nature are sufficient to effect a complete detachment of the placenta, and in no case get alarmed if its retention is unaccompanied with profuse loss of blood. Give Nature a chance. Meddlesome midwifery is to be despised.

ABNORMAL ADHESIONS OF THE PLACENTA. WHAT TO DO.

The placenta is oftentimes subject to disease, as for instance it may be subject to inflammation, hypertrophy, atrophy, or it may be the seat of

calcareous and cartilaginous degeneration. In many of its diseased states it is strongly adhered to the inner surface of the womb; it is then, in popular language, grown to the side of the womb.

In these cases of morbid adhesions the physician is justified, and in fact it is his duty, to insert his hand into the uterine cavity, and by inserting his fingers between the placenta and womb, break them. Sometimes the adhesions only cover a small portion of the placenta, and then the detachment is easily effected. There are cases where the whole uterine surface of the afterbirth is so cemented to the womb that the detachment cannot be effected; the afterbirth is left, in situ, to be dislodged by decomposition. There is always danger of flooding if the detachment is effected by physical force, and the midwife should be careful that the womb is excited to contraction while he is effecting the separation.

There are many causes that at times produce a retention of the placenta, that we have not time at present to explain.

HOW TO STOP FLOODING.

The principal cause for the profuse hemorrhage that often takes place after the child is born, is deficient uterine contraction. Church-

ill says: "The first object is to produce a firm and persistent contraction; and to effect this whilst with one hand we firmly grasp the uterus, with the other cold is to be suddenly applied to the genitals by means of cloths dipped in cold water. The advantage of grasping the uterus is that we thereby secure an artificial contraction, as it were, until the means employed effect a real one."

Ergot may be given at the same time, and in no case is it more beneficial. *Cold enemata* and *cold drinks* are also valuable auxiliaries. If these fail we may pour cold water from a height upon the abdomen, and the shock will generally succeed in rousing the uterus to action. A current of electricity passed through the abdomen in the uterine region will succeed many times when everything else fails.

EXTREME CASE.

Dr. Bedford gives a case of flooding in which all the various agents to secure uterine contraction had failed, and as a dernier ressort he inserted a small piece of ice into the womb and passed it over the lining membrane. Its effect was almost miraculous.

PLUGGING VAGINA.

After everything else has been tried, the last resort is the plugging of the vagina with towels and

napkins, so that no more of the vital fluid can escape. Apparently all is well. The nurse exclaims: "Doctor, why did you not think of that before?" The doctor makes no reply. The nurse, through ignorance, cherishes a delusive hope. The doctor knows that all is not safe yet. Closely he watches the ex-sanguine countenance; carefully he feels the pulse of the patient—it is now scarcely perceptible, and is growing weaker. Death soon claims another victory. *Syncope* closes the scene.

INTERNAL HEMORRHAGE.

This is a case of internal hemorrhage. Notwithstanding no blood escaped externally, after the obstructions to its exit were placed in the vagina, yet all the time there was an escape from those unclosed lacerated uterine sinuses into the large cavity that exists in the womb.

BINDER FOR THE MOTHER.

It is customary to bandage the mother after the delivery, although some of our best midwives discard it entirely. When the bandage is applied, care should be taken that it is not drawn too tightly, and that it does not tend to depress the womb. Improperly applied bandages is a very common cause of the many cases of prolapsus uteri in married ladies.

AFTERPAINS.

These peculiar pains generally commence in a short time after the expulsion of the afterbirth. They vary much in frequency, duration and intensity in different cases. They are the result of contractions of the womb to expel the clots that are formed in the uterine cavity. But little is to be done, and the patient should know these contractions of the womb tend to make the womb more compact, and are, in fact, so many safeguards against future hemorrhage. To lessen these pains, the doctor sometimes administers a mild opiate. Give one-half teaspoonful of paregoric every two hours; or, perhaps, three grains of Dover's Powder would be full better.

CONVALESCENCE.

Mothers should observe the greatest precautions in regard to hygiene during their convalescence. Rest and hope, they will find to be the best tonics. Every mother, after the birth of the child, should keep the bed at least three weeks, and in cases where there is much debility, she should much longer. Many mothers think they must get around on their feet on the ninth day after their confinement. Many ladies have told me that they never had anything like falling of the womb until after the birth of their first child, and when I asked them how soon they got around

on their feet, invariably the reply was, about a week.

Recollect that the womb, after the birth of the child, weighs at least fifteen times as much as it did in the virgin state, and that after confinement it undergoes a process of absorption. It is sometimes a month before it resumes anything like its original weight. Hence it is evident, if the mother gets around by the ninth day, there are two causes to produce prolapsus, viz : the excessive weight of the womb and the atonic state of the vagina.

Particular attention should be devoted to the condition of the rectum and bladder during the convalescence. Where there is constipation, free enemata of simple water is all that is required. Free urination, and removal of many of those scalding sensations, can be generally secured by living more on ripe fruit, and abstaining from the use of salt and the various condiments. Mucilaginous drinks are good, and the best and most easily prepared is slippery elm tea.

LACTATION AND ITS DERANGEMENTS.

The mammary gland is composed of several lobes connected by a soft spongy tissue, termed areolar tissue. These lobes are traversed in every direction by milk tubes, termed the tubuli lactiferi ; these tubuli commence in the vesicular

substance of the gland. The tubes all converge and empty into the canal that traverses the nipple. These glands are but little developed until puberty. During gestation they increase in size, but, as a rule, true milk is not secreted until after parturition. Churchill says: "In ordinary cases, however, the breasts remain quiescent for about twenty-four hours, but soon after that begin to enlarge with stings of pain. At the end of the second or third day they are perceptibly larger, heavier and more tense." The secretion at first is quite slow, but soon becomes more free, and the more free the secretion the less pain and fever is present. The milk during the first four or five days differs in composition from that secreted afterward. The first milk secreted is the natural purgative for the child.

ABSCESS OF THE BREAST.

The mammary organ is sometimes so congested after delivery that its proper function is not performed, and there is no milk secreted. The congestion may proceed to inflammation, and possibly terminate in an abscess.

During the congested or inflamed stages there is a general feverish state of the system. The patient complains of sharp lancinating pains through the gland, and all of those peculiar symptoms attendant on glandular inflammation.

If it proceed to suppuration the fact can be easily determined.

The formation of the abscess is ushered in with shivering, followed by heat and perspiration. The fluctuation of the tumor is a certain sign of suppuration.

Treat the disease in the commencement with constitutional and local remedies. Purge the bowels with epsom salts; cooling drinks should be given; warm applications to the gland; dip cloths in warm water and then apply them to the organ, but be sure that a dry cloth is spread over the wet ones, that the warmth may be retained and evaporation, to a certain extent, prevented. A hop poultice is a good application, and let it cover the whole gland. Change the poultices often, and let them be applied as warm as they can be borne. If an abscess is formed let it be opened as soon as possible.

SORE NIPPLES.

This is a troublesome affection, as it really concerns both mother and child.

Mothers with their first child are more apt to be troubled with this affliction. Without going into details of cause and symptoms, I shall consider at once the treatment.

Do not apply the child to the nipple, entrust it to a wet nurse. Carpenter says: "The

reiterated application of the child to the breast is the most common cause. The repeated attempts at nursing remove the sebaceous secretion, so that the skin contracts and finally cracks."

Application of a little cream, olive oil or glycerine is many times all that is required. Mr. Druit recommends a solution of five grains of tannin in an ounce of distilled water. If a wet nurse cannot be secured for the child, nipple shields must be used.

The secret of cure is to have something intervene between the child's mouth and the nipple. Bathing the nipple in some mild astringent solution during the last stages of gestation, will so harden the cuticle that, in nursing, this affliction will scarcely ever be met with. There are many more diseases peculiar to pregnancy and the result of parturition, that will be considered when treating exclusively on diseases of women.



CHAPTER VIII.

STERILITY.

IF a woman cannot conceive, she is *barren*, *sterile*; and many ladies at the present, as in bible times, consider it a *reproach* to their womanhood to be sterile. Sarah was so *anxious* that a child should be born to Abraham that she sacrificed her *highest womanhood*, by granting to Hagar the privilege of *wifehood*, and an Ishmael was the result; but God blessed her in her old age, and Isaac was born. From what we have said in regard to the philosophy of conception, the various causes of sterility can be easily presented to the popular mind, and these causes we will put in two divisions: first, those that *can be removed*; second, those that *can not*.

REMOVABLE CAUSES.

Leucorrhœa, in American ladies, is a very common cause, for this reason, the leucorrhœal secretion is many times so *acrid*, *excoriating* and *caustic* that it destroys the vitality of the male sperms, so that they cannot work them-

selves up through the os into the uterine cavity. Another reason why ladies subject to the whites do not conceive is, the secretions from the diseased membrane so *occlude* the mouth of the womb, it is impossible for the sperms to enter. Cure the leucorrhœa, and the sterility disappears. Many ladies are going to a premature grave from the great drain on the system which the whites produce; but at the same time they seek no cure for it, saying they prefer the whites to *excessive childbearing*.

ELONGATION OF THE CERVIX UTERI is a common cause, for the reason its shape is such that it is impossible for the sperms to enter the uterine cavity. Thomas says: "This is one of the *most common* causes, and one that is easily remedied by surgery."

FLEXIONS and DISPLACEMENTS of the womb are common causes, for the reason they may either prevent the sperm from gaining access to the womb, or the canal traversing the womb may be so obstructed that the sperm, although it may enter, still is not able to pursue its journey far enough to meet the egg.

EXCESSIVE MENSTRUATION may dislodge the ovum after it becomes impregnated. This, no doubt, is a common cause.

* MEMBRANOUS DYSMENORRHŒA is where at each menstrual period a *false membrane* is thrown off

from the inner lining of the womb, leaving the surface in such a condition that conception cannot take place.

UTERINE LEUCORRHOEA is where the lining membrane of the womb is diseased, and it is a very prominent cause of sterility. I will be somewhat explicit in explaining how this disease produces barrenness. Suppose a healthy ovum is extruded from the ovary, and has started on its journey. Coition takes place, and the male sperm gains access to the womb; the sperm and germ come in contact. All locomotion in the egg now ceases, and it becomes fixed to the lining membrane of the womb; but on account of the *disease* of the membrane, the attachments are *too frail*, and a miscarriage is the result. To cure this form of sterility, cure the uterine leucorrhœa; restore a healthy condition to the mucous membrane, and then when impregnation takes place, the *whole period* of gestation will be completed. Our space is too limited to devote any more of it to the removable causes.

CAUSES NOT REMOVABLE.

The OVARIES are sometimes *absent*, and oft-times when present they are so atrophied or hypertrophied, and otherwise diseased, that ova are not formed. The fallopian tubes are sometimes *imperforate*; so even if the ovaries were

normal, it would be impossible for the ovum to enter the uterine cavity. The uterus is sometimes *wanting*, or so atrophied it cannot perform the office God has bestowed on it.

IMPOTENCE OF THE MALE.

Wives need *not* take all the reproach (if such is the proper term to use) to themselves because there are no children in the household. The whole cause of sterility may rest with the *husband*. The testes of the male are sometimes so undeveloped that healthy semen is not secreted.

NONDESCENT OF THE TESTIS from the abdominal cavity is not always, but is sometimes, the cause of impotence, and wives of such husbands are barren. Sometimes the semen is *normal* in quantity and quality, but on account of some STRICTURE of the urethra, or on account of the urethra being partly obliterated by the pressure of an enlarged prostate gland, the semen is not ejaculated until the erection has disappeared.

Carpenter, in his "Comparative Physiology," says: "It must be observed that there is a certain degree of antagonism between the nutritive and the generative functions; the one set being exercised at the expense of the other." We see this fact illustrated among the lower animals; the *higher fed*, the fatter, *the less* the reproductive power. IMPERFECTLY DEVELOPED SEMEN is

a common cause of sterility. Those boys that practiced *masturbation*, and when they arrived at manhood were troubled with *involuntary seminal emissions*, are oftentimes impotent, and if they get married no children are begotten, for this reason: the spermatozoa in the semen are dwarfs, and do not possess enough vibratile power to gain entrance into the womb, and even if they should effect the entrance, they would be too *imperfectly developed* to *fertilize* the ova.

EXCESSIVE SEXUAL INTERCOURSE on the part of the male so impoverishes the semen, that it has no fecundating power. If the interval between the sexual acts were *prolonged*, there would be fewer cases of sterility.

Acton says: "The complete development of the spermatozoa in their full proportion of number is not achieved till the semen has reached and has for some time lain in the *vesiculæ seminales*. *Earlier after its secretion*, the semen contains none of these bodies."

GENERAL CAUSES OF STERILITY.

Previous to the age of puberty, and *after* the cessation of the menses, Nature makes all women sterile. There are some exceptions to this, as there are to most rules. Sarah gave birth to Isaac when she was *ninety* years of age. In Gen. xviii, 11th verse, is the following: "Now

Abraham and Sarah were old and well stricken in age; and it ceased to be with Sarah after the *manner* of women." It is claimed that *frigidity* of feeling, as well as its opposite—*too intense passion*—results sometimes in barrenness.

SIMILARITY OF TEMPERAMENTS, it is claimed, results in unfruitful marriages, as a rule, and if children are begotten they will be *puny* and *short-lived*. Dr. W. Byrd Powel, of Kentucky, claims it is physiologically *incestuous* for the best temperaments to be joined in marriage.

Acton says: "In considering the subject of sterility, it should not be forgotten that *Idiosyncrasies* exist in all animals. A male and female may be perfectly potent and fertile, and yet be unable to breed together. In fact, the semen of one male, from some *hidden cause*, will not impregnate a particular female though it will others. What is true in the *animal* world is equally true in the *human*. To illustrate: Josephine had children by Beauharnois, her first husband, but was *cast aside* by Napoleon on account of her sterility. The marriage of Napoleon to Louisa was, however, a fruitful one.

CLIMATE AND AGE AND SEASON seem many times to influence fertility. Sometimes the reproductive functions make no fruitful returns until after a long lapse of years. Dr. Tilt, of

London, mentions the case of a woman who was married at *eighteen*, but, although both husband and wife were in good health, they had no children given them until she was *forty-eight* years of age.



CHAPTER IX.

HOW TO REGULATE THE SEX.

MANY young married couples start out with the desire to have but *two* children — a *boy* and a *girl*, but, by not understanding the physiological facts pertaining to this topic, a large family has many times been the result before the desired gender was secured. Many would-be moralists say it is *thwarting* the plans of Providence by attempting to regulate the sex; they say children have a *right to be born*, and that man has no right to control the sex that was *predetermined* and *foreordained* from the foundation of the earth. I know no reason why parents should not understand and apply the laws of sex as well as investigate and control other well-established laws of nature. Nature has *no secrets*. The Bible is the *Word of God*. Nature is the *work* of the same Great Being, and every fact and principle taught, in both his works and word, invite *human research*. So far as we understand a law of nature, so far we can manipulate it; so far we are *DIVINE*. We understand

the laws of electricity, and the same power by which we can send a telegram to London, is but little inferior to that great power by which God can send his angels on errands of mercy. We understand the laws of light, and the same power by which we can manipulate them in the various arts is but little inferior to that great power by which God said: "Let there be light, and there was light." There is no *cherubim* or *flaming sword* turning every direction to keep the way of the tree of knowledge. The time has arrived when we can raise a *boy or girl* at will; we have plucked more fruit and have eaten.

PROF. THURY'S THEORY.

The first method I shall give by which we regulate the sex, is one that has been deduced from the experiments of Prof. Thury on the lower animals; and the facts obtained from those experiments have been confirmed by many scientific and reliable stock breeders with whom I have conversed in different parts of the west. Those experiments evidently showed, if you wish to produce *females*, admit the male at the *first signs* of heat; but if you wish males, admit the male at the *end of the heat*. In regulating the sex in the human family, we claim that, as a rule, impregnation will not take place after the first fourteen days after ovulation, and that if coition takes

place the first seven days a *girl* will be the result, but if it does not take place until after the first seven days it will result in a *boy*. Parents, observe these precautions; though *simple*, yet they will effect the desired result.

INFLUENCE OF AGE.

Carpenter says: "That the more advanced age of the male parent has a very decided influence in occasioning a preponderance in the number of male infants."

SEXUAL WHIMS.

Trall, in his "Sexual Physiology," says: "One discoverer is very sure that sex is determined in some way by *planetary* influences — conception occurring from *twelve o'clock, noon, to midnight*, resulting in female offspring, the remaining twelve of each twenty-four hours being appropriated to the male gender. Another is perfectly certain that the sex depends on the points of the compass."

These are *fallacies*, of course, but are no more ridiculous than to believe that if you plant your corn in one time of the moon it will draw the roots down through the earth, and they will spring out on somebody else's farm. The moon superstitions are fast fading away.

THEORY OF SIXT.

Dr. P. F. Sixt, a German physician, has revived the old theory advocated by Hippocrates, that the *right testis* secretes the semen that will impregnate the *male ovum*, which is formed by the right ovary; the *left testis* secretes the semen that will impregnate the *female ovum*, which is formed by the left ovary. He claims that during ovulation, sometimes, one ovary may extrude the egg, and at the next menstruation the other ovary. He also claims, that in coition the semen emitted is from one testicle only, and that testis from which it is emitted is drawn up by the *cremaster* muscle.

These are the main facts of this novel theory. Dr. Trall (now deceased) was a *strong advocate* of it in this country, and has devoted about one-sixth of his work on sexual physiology to discussing it. I would refer the reader who is anxious to obtain the minute details in regard to the theory to the aforesaid work.



CHAPTER X.

LAWS OF GENERATION.

WHEN sexual coition is indulged in for the purpose of begetting offspring, it should be at such times when both parents are in the best condition physically and mentally; and not only at the *time of intercourse* should this precaution be observed, but for some time *previous*, for the reason the sperm of the father and the ovum of the mother are influenced during their formation by the mental and physical status of the parents.

PARENTAGE.

To perform the office of parentage in the light of modern science, requires study and care. Let the *first* birth be right, and the *second* birth will be natural and not protracted. Suppose the husband has been on a drunken spree; or has had his anger very much excited; perhaps he has been doing a hard day's work, and his physical powers are prostrated; perhaps he has been losing money in speculation, and his

mind is despondent; if sexual intercourse is indulged under these circumstances, those abnormal conditions of body and mind are *indelibly* stamped on the fœtus. On the other hand, suppose the wife has been doing a hard day's work; perhaps she has received news of the death of some dear friend; or for some other reason her mind or body is not on a healthy plane, coition will transmit those qualities of mind and body to the fœtus. These are facts indisputable, and the laws of *heredity* are now as well understood as those of *gravitation, light or heat*.

MOTHER'S RELATION TO CHILD.

At the time of sexual intercourse the father's relation to the fœtus is physiologically terminated; not so with the mother; all through the period of gestation every *emotion*, every *passion*, every *thought*, every *physical change* she experiences is indelibly stamped on the new being. The die is cast—the seal cannot be broken. If there is any time when the wife should be *tenderly* treated, it is while she is *enceinte*.

HUSBAND'S DUTY.

Husbands, treat your wives well when pregnant, if at no other time; the *destiny of an immortal being* is at stake, whether it shall be for *weal* or *woe* you can determine.

Husbands, when your wife is pregnant, extend to her all the sympathy you can summon. Gratify every whim; keep her good natured; assume more of the household duties; *lighten* her cares; make home *pleasant*, and the surroundings *agreeable*; and take my word for it, you will be fully rewarded, and with compound interest, in the new being that soon will be a member of the household.

Parents, the *richest* legacy you can bequeath your offspring is "*Mens sana in corpore sano*," a sound mind in a sound body.

Health, without a *dime*, is preferable to *scrofula* with all the *millions* of a Vanderbilt or a Stewart. King David, in Psalms li, 5, says: "Behold, I was shapen in iniquity, and *in sin* did my mother conceive me."

TRISTRAM SHANDY'S OPINION.

Sterne causes his hero—Tristram Shandy—to utter the following: "I wish my father or my mother, or indeed both of them, as they were in duty equally bound to it, had *minded what they were about* when they begot me; had they duly considered how much depended upon what they were *then* doing; that not only the production of a rational being was concerned in it, but that possibly the happy formation and temperature of his body, perhaps his genius and the very

cast of his mind, and perhaps the fortunes of his whole house, might take the humors and dispositions then uppermost. Had they duly weighed and considered all this and proceeded accordingly, I am verily persuaded I should have made quite a *different figure* in the world from what the reader is likely to see me. Believe me, good folks, this is not so *inconsiderable* a thing as many of you think."

HOW TO RAISE JUST SUCH OFFSPRING AS YOU
MAY DESIRE.

Would you have *healthy* children, mothers? if so, be sure and attend to every hygienic law during gestation; you and the fœtus are one in fact. The umbilical cord is the *uterine cable* over which all the *physical* and *psychical* dispatches are sent from mother to fœtus. Mothers, see that you manufacture *plenty* of blood, and that which is *pure* in quality. Be sure and attend to the hygiene of digestion; avoid highly seasoned food; abstain from stimulants and condiments; take more time at the table; see that nothing interferes with the most complete *oxygenation* and proper circulation of the blood; *pure* air and *plenty* of it makes pure blood; throw away *corsets* and *stays* and give the ribs freedom of action; be temperate in your household duties; learn to

shirk; keep off your feet as much as possible; get plenty of sleep. Let HYGEIA, the GODDESS OF HEALTH, be your director, and you will be doubly rewarded by not only the health



HEALTHY OFFSPRING.

terminating with yourself, but also by transmitting healthy qualities to your child yet unborn. The bible and science both teach that it is *more blessed to give than to receive*. Parents should consider it a *religious* duty to transmit the most *complete physical* health to their offspring.

HOW TO BEGET INTELLIGENT OFFSPRING.

Every mother is anxious that her offspring may manifest an inclination for study; that it may have a *brain* that will seek cultivation;



that it may earn its bread by *brain activity* rather than by *physical toil*. Mothers, if such is your desire, be studious during pregnancy, if at no other time. *Read, observe, meditate*; the child will be a duplicate of yourself; your mental powers will be focalized in it.

MORAL CHILDREN.



If you would have the *moral* and *religious* organs well developed, cultivate and practice benevolence; let the *higher* faculties of your mind hold the scepter; let *faith, hope* and *charity* be the triune ruler; subject the propensities to serfdom.

GOOD-LOOKING CHILDREN.

Would you have your offspring *good-looking*, and manifesting a love for the beautiful; *artistic* in its tastes, and poetical in its conceptions. Keep that part of your nature active; visit museums of art; study the ideal as well as the real; be *choice* in your language; attend to personal neatness.



GOOD-NATURED CHILDREN.

If you would have good-natured children, be good-natured yourself. Soar above the irritabilities peculiar to the pregnant state. Have a *good* time. If melancholy seizes you as its victim,

free yourself from its grasp by a visit to your neighbor, and have a pleasant chat. Do clouds of doubt and fogs of apprehension *darken* your



pathway, *dissipate* them with a good laugh. If you are cross and irritable during gestation, your child will enter this world a *snarling*, and it will *snarl all through life*, but if, on the other hand, you are *cheerful* during pregnancy, the child will enter the world a *smiling*, and will laugh more than frown all through its earthly existence.

MOTHERS' MARKS.

As there is much superstition existing in regard to these peculiar freaks, and how they are

produced, I will devote considerable space to this subject. Carpenter says: "But there appear to be a sufficient number of facts on record to prove that *habitual mental conditions* on the part of the mother may have influence enough, at an early period of gestation, to produce evident bodily deformity, or peculiar tendencies of the mind. The error of the vulgar notion on this subject lies in supposing a *sudden fright*, speedily forgotten, can exert such a *continual influence* on the nutrition of the embryo as to occasion any personal peculiarity." Again he says: "There is another class of subjects to which tumors come into close relation, and which must be referred, like them, to a local excess of formative activity; these are the *supernumerary parts*, which are not unfrequently developed during fœtal life, as, for example, *additional fingers and toes*."

MIND INFLUENCE.

FAITH will remove mountains of disease; and equally true, a *constant fixation* of the mind—an *expectation*, so to speak—on the part of the mother during pregnancy, will affect the fœtus. Mind has a great influence over the process of nutrition, and in fact over all the physiological functions. The utterance of a single *word or sigh*, how it will make the tears stream down your cheeks; it is mind controlling the lachrymal

gland; and if any of you have been a long time from home, how your heart will jump on the receipt of good news.

HEART DISEASE may be produced by the constant expectation that it is diseased. Constantly *brooding* over the idea that you are afflicted with consumption, although your lungs on the start are perfectly healthy, will soon make you its victim.

FAITH CURES.

We sometimes ridicule the idea that a *red string* around the neck will prevent the nose bleeding; that *black cats'* grease is a specific for burns; that poulticing the razor will cure the cut; that carrying a horse-chestnut will cure the piles; yet that they effect *real cures* many times is a *fact*. It is *not* that any intrinsic therapeutical quality of the remedy has effected the cure, but it is the FAITH, the *constant expectation*, that has done the work.

BIBLE TESTIMONY.

Jacob of old, 1739 years before the Christian era, understood more in regard to hereditary transmission than many at the present time, and he was as *shrewd* a financier as he was *sound and practical* in science. I will not give the details of Jacob and his *double father-in-law*, Laban, see Genesis xxx and xxxi.

In 1 Samuel, first chapter, we learn how Samuel was begotten. The prayers of Hannah during her conception and gestation were *focalized* in the unborn child, and it is easy to see why Samuel was truly a man after God's own heart.

CASES OF MOTHERS' MARKS.

L. N. Fowler, in his work on marriage, gives the following: "Children born during the Reign of Terror, in France, were to a vast proportion *idiots* and *insane*. Many cases are on record, some of which we have seen, where the mother, who had received some strong impression, stamped it upon the child indelibly. A mother near Hudson, State of New York, became very anxious for a *bunch of currants* to gratify her appetite; her mind continued resting upon the pleasure to be derived from them, and her child has a bunch of currants impressed, as plainly and as legibly as could be drawn, on his shoulders. In the eastern part of the State of Massachusetts is a lad whose action and manners closely resemble those of a *monkey*. He is *idiotic*, and has a very small and contracted brow, occasioned by the mother having been startled by one of these animals. In Worcester, Massachusetts, is a lad of some twenty years of age who appears to be *mimicking a turtle* in every motion; he is also idiotic. The mind

of the mother was disturbed from its tranquillity by the appearance of a turtle, hence the result."

MONSTERS.

Goldsmith, in his "Animated Nature," gives the following: "A woman in Paris, the wife of a tradesman, went to see a criminal broken alive upon the wheel at the place of public execution. She was at the time two months advanced in pregnancy, and not subject to any disorders that would affect the child in the womb. She was, however, of a tender habit of body; and though led by curiosity to this horrid spectacle, was very easily moved to pity and compassion. She felt, therefore, all those strong emotions which *so terrible* a sight must inspire; shuddered at every blow the criminal received, and almost swooned at his cries. Upon returning from this scene of blood, she continued for some days in a passive state, and her imagination still wrought upon the spectacle she had lately seen. After some time she seemed perfectly recovered from the fright, and had almost forgotten her former uneasiness. When the time of delivery approached, she seemed no ways mindful of her former terrors, nor were her pains in labor more than usual in such cases. But what was the amazement of her friends and assistants when the child came into the world! It was found that *every limb* in its

body was broken, like those of the malefactor, and just in the same place. This monstrosity lived for twenty years in the hospitals of Paris."

DWARFS.

Homer speaks of the PIGMIES contending with the CRANES. It was formerly supposed that in central Africa there were nations of dwarfs; but modern investigation says it is a *myth*. The nations of giants that inhabited various parts of the earth, especially Patagonia, the modern traveler pronounces *fabulous*.

That there are isolated cases, here and there, of the dwarf and the giant order, no one can deny. We see them every day. But whole nations of either exist in *fiction*, but not in *fact*.

OFFSPRING RESEMBLING LOWER ANIMALS.

It is admitted by all scientists that opposite species cannot cohabit and propagate; yet apparently we have some exceptions. For illustration, the *jack* and the *mare*, the *horse* and the *quagga*, the *sheep* and the *deer*, the *dog* and the *wolf* can propagate; yet when we trace them back to their origin, instead of being different species they are merely *varieties* of the same. Therefore, those human monsters and dwarfs resembling the lower animals, if not produced by the persistent mental impressions of

the mother, may be the result of *arrested* fœtal development.

OPINION OF DARWIN AND HUXLEY AND AGASSIZ.

It is claimed by Drs. Darwin and Huxley, and also by Prof. Agassiz, that the *human* embryo undergoes the development of the *lower* animals; that the fœtal brain, heart, etc., are at one stage like those organs in the *fish*, then *reptilian*, then *mammalian*. Prof. Huxley says: "It is quite in the latter stages of development that the young *human being* presents marked differences from the *young ape*; while the latter departs as much from the *dog*, in its developments, as the man does. Startling as this last assertion may appear to be, it is demonstrably true."

If these renowned investigators are right, why may we not account for some of these freaks in which the human is so closely animal in form, by ascribing them to *arrested fœtal evolution*?

I might give many more cases of deformities.

FROG-BABY.

The *frog-baby* which I have exhibited at my lectures, was the result of mental influences of the mother, as follows: The mother was quite good-looking and intelligent. During her preg-

nancy she had her hair cut quite short, so much so that it mortified her greatly ; she would not go a shopping, or to church, or anywhere that she might be seen. She sent to the store and purchased a net, and for several months during the first part of gestation she would stand for several hours each day before a mirror inclined to the wall, striving to make her hair stay in the net. The child, when born, looked more like a *frog* than anything else. Its eyes were on the top of its head, it had no neck, and there was *excessive growth of hair* on the head.

Whether this peculiar position of the mother before the mirror, and the solicitude manifested by her in regard to her hair, were the *cause* of this peculiar deformity, it is difficult to say ; if it was not, it is certainly a very strange *coincidence*.



CHAPTER XI.

HEREDITARY INFLUENCES.

THERE is no fact better established than this, viz., that the *physical* and *psychical* peculiarities of both parents at the moment of sexual intercourse are indelibly stamped on the embryo resulting from such coition. Science has now dissipated the clouds of mystery that formerly enshrouded this subject. The effects that were formerly considered as *freaks*, have been traced to their exciting cause. Mental and moral impressions, mothers' marks, monstrosities and deformities, peculiarities of form, feature, color and disease, are all produced by *law*.

Physiology and pathology have thoroughly unraveled the mysteries of these protean forms, and have explained them as so many departures from perfect development.

HEREDITY OF LOWER ANIMALS.

In improving the quality of the lower animals, the most careful attention is paid to *pedigree*. *Pure blood* is the great desideratum. Thorough-

breeds bring fabulous prices. The herd book is carefully studied. Each fact and principle pertaining to improvement of quality has been watchfully scrutinized.

Very little regard has, however, been devoted to the facts and principles of *human procreation*; and when parents will devote as much attention to procreating the human species, as farmers do in raising Durhams and Jerseys, Normans and Morgans, Berkshires and Poland Chinas, South-downs and Cotswolds, we shall have a *healthier* and a *happier* race.

OFFICE OF AMATIVENESS.

Amativeness is the invisible magnet that attracts the sexes to each other. It is a God implanted instinct. Its mission is a *holy one*. Those civilities that the sexes extend to each other have their origin in this instinct. It makes women more *queenly*. Like all the other propensities, it is a *blind passion*. It *impels*, but does not *direct*. It needs an engineer. This instinct, undirected by the higher faculties, is peopling the earth with beings most assuredly not in the image of the Creator, as they were at first.

HORACE MANN'S OPINION.

Horace Mann, in one of his lectures, says :
"Examine the book of Genesis, which contains the

earliest annals of the human family. As is commonly supposed, it comprises the first twenty-three hundred and sixty-nine years of human history. With *child-like* simplicity this book describes the infancy of mankind. Unlike modern histories, it details the minutest circumstances of individual and social life ; indeed, it is rather a series of biographies than a history. The false modesty of modern times did not forbid the mention of whatever was done or suffered. And yet, over all that expanse of time, for more than one-third part of the duration of the human race—not a *single* instance is recorded of a child born *blind*, or *deaf* or *dumb*, or idiotic, or malformed in any way. During the whole period not a single case of a natural death in infancy or childhood, or early manhood, or even of middle manhood, is to be found. The simple record is, ‘and he died,’ or ‘he died in a good old age and full of years,’ or, ‘he was old and full of days.’ No epidemic, or even endemic, disease prevailed ; showing that they died the *natural* death of *healthy* men, and not the *unnatural* death of *distempered* ones.”

CAUSE OF DIVORCES.

Without the least doubt, misguided amative-ness is the prime cause of the many divorces, unhappy homes, broken-hearted wives, reckless

husbands, and ill-organized offsprings. Who should marry, and who should not, will be con-



ILL ORGANIZED.

sidered in a future chapter, and I shall show regard should be had not only to the physical and psychical happiness of the parents, so that marriage may be a holy bond of union, and the word divorce may become an ob-

solete term, but, at the same time, the hereditary traits of the offspring, whether they be physical, mental, moral or social, will be considered.

CHILD'S BIRTHRIGHT.

Every child begotten is entitled to a healthy organism, and the time will come when parents will be *ashamed* to have sickly children. They will be *shut out* from the society of the good, if they beget more than they can properly feed, clothe and educate.

Let us learn to *generate* properly, and then there will be less trouble in *regenerating*. Some talk about making the earth a paradise. They cherish the idea of christianizing the world. It never can take place until there is a more enlightened parentage. The laws of procreation must be better understood and obeyed, to secure the quickest and the greatest good to mankind.

The old maxim, *Poeta nascitur, non fit* — poets are born, not made — is a true one. Equally true is this one, *Christians are born*, as well as made. Too little regard to the laws of reproduction is making more drunkards, libertines, murderers, and every other form of criminal doer, than all the preachers in the land can convert.

TWO KINDS OF SINNERS.

If we violate a moral law, we are moral sinners; if we violate a physical law, we are physical sinners. If you use your Maker's name in vain, if you transgress the commands of the decalogue, if you violate the moral code of the Savior, *you sin morally*; but if you violate any of the laws of health, you sin *physically*. If you can be a christian with a *diseased* body, you can be a better christian with a *healthy* body.

If our clergymen in the pulpits, instead of devoting so much time in discussing their theological dogmas, and wrangling over some unimportant church rite or creed, would devote the same, and more time, in teaching their hearers how to keep their physical temples pure, their efforts would be crowned with greater and quicker success.

PHYSICAL CONJUGAL MATES.

Physiology is the true adviser in regard to physical adaptability. Marriage should never

take place when the physical qualities of both are to either extreme. The true rule to be observed is this: if your organism is *well balanced*; if the mental, the motive and the vital temperaments are harmoniously blended in your physical structure, to form a perfectly developed



MARRIED, BUT NOT MATED.

manhood or womanhood, select a partner of like structure; but so far as there is a preponderance, or deficiency of either one of the aforesaid temperaments, so that true physical unity is disturbed, seek a mate that will restore an equilibrium.

As perhaps some of the readers do not under-

stand what I mean by the aforesaid temperaments, I will explain them, somewhat cursorily.



WELL BALANCED TEMPERAMENT.

NERVOUS TEMPERAMENT.

The nervous temperament is known by the small and delicate frame, pyriform face, large brain compared with the body, small, spindling muscles, fine silky hair, and generally auburn or light colored, more activity than strength, *lightning talkers*, hard brain workers, but a *little lazy* when it requires *muscular* exertion.

When the nervous temperament predominates, the body suffers from the great drain made by

mental exertion. Persons of this temperament lead a brilliant but a short career. *Too much blaze* for the oil.

If two should wed with this temperament to the extreme, they would live too fast; the cares of the kitchen would *irritate her*, and the chores pertaining to house-keeping would *worry him*. They would be over-sensitive and annoyed at trifles. If they should be so fortunate as to have children, which rarely would be the case, the children would be puny, nervous, but *smart*, and their race for life would be short—too finely organized for the vicissitudes of earth.

MOTIVE TEMPERAMENT.

The motive temperament is known by the predominance of the osseous and muscular system, stout frame-work, generally black hair, and coarse at that, high cheek bones, oblong face, dark, swarthy complexion, harsh features.

Persons of this temperament have great powers of endurance; they are good workers, care more for physical toil than study, rather coarse and blunt in their language, care little for books, slow to anger and slow over it.

Two persons with this temperament to the extreme, if married, would generally *be too late for the train—behind the age*—and their children, if there were any as the fruit of the

wedlock, would be far from being brilliant—generally at the *foot of the class* in school—yet physically they are tough and hardy.

VITAL TEMPERAMENT.

The vital temperament is a combination of what can be termed the *sanguine* and the *lym-*



phatic. Persons of this temperament are on the *rotund* stamp. They generally have broad shoulders, deep chest, fine muscular development, ruddy complexion, blue eyes; they are *epicurean* in their nature; believe in "*live to-day* and let to-morrow take care of itself"; they have strong

passions—spasmodic in their nature—quick maddened and quick pleased; work hard when they do work, but take *frequent* and *long* rests; learn easily but will not bear much in-door confinement, hence do not make as good scholars as those of the nervous type. Two persons married with this type of organism to the extreme, will live too much on the *high pressure* order. They attend all the parties, especially the *festivals*, and will have plenty to eat, if nothing else, and their children will be duplicates of the parents.

MENTAL CONJUGAL MATES.

PHRENOLOGY is the true guide to conjugal happiness. The rule to be observed is this: if you have any organ of the brain large, its edict is *law*; select a partner with this same organ, not large, not small, but just *fully* developed. If this rule were observed there would be less mental alienation between husband and wife; instead of family quarrels, dinner-table spats and Caudle lectures, harmony and bliss will prevail throughout the household. "*Caudle, you are a brute,*" and "*Mrs. Caudle, you are a hypocrite and a virago,*" will no longer be heard over the threshold. When the rule is observed that neither physical nor mental extremes or similars should wed, husbandhood and wifehood will be enviable positions, and the ranks of the old bachelors and old maids will be thinned.

MARRIED, BUT NOT MATED.

Suppose the wife has large order — *precision* and *method* is her watchword; the broom is always in its proper corner; the towel is always on the same nail; she has a place for everything and everything in its place, a time for everything and everything in time; *the husband*, on the contrary, is of the opposite extreme; is *shiftless* and *slovenly* in his habits; has a slipshod way of doing everything. "Wife, where is

my hat?"—where is this, and where is that, are every-day questions. They are poorly matched, as far as order is concerned: she is annoyed by his carelessness, he is equally irritated by her precision. There is too much antagonism.

Take another case: Suppose the wife has large ideality, she has an innate perception of the beautiful; everything she does must be *finished*; she observes the most precise personal neatness; she is refined in her actions and choice in her language; she is a great lover of the fine arts; her motto is *perfection*. The husband, on the contrary, is of the opposite extreme. He has no eye for the beautiful; cares but little for ornament; not refined in manners or speech; his language is full of *slang phrases* and *uncouth* remarks. There is but little harmony. Suppose they are invited out to a party: she arranges her toilet with the greatest care; he, on the contrary, wears the same old coat he wears every day; he has a good one in the closet but will not wear it; he says he feels *too awkward*, *too stuck up*. She worries, but it does no good. At the party she is mortified at his bungling mishaps, and every once in a while she gives him a secret *nudge* in the ribs, but it only makes matters worse. Another case: Suppose the wife has large benevolence, imitation, veneration and spirituality,

naturally kind, sympathetic, reverential, and even *inspirational*; she has too little firmness and self-esteem; lacks in mental independence and moral courage; she is in fact one of those *true queens* among women, and makes friends wherever she may go. Suppose the husband is of the opposite extreme; his firmness and self-esteem tower up like *Pilot-Knob*; he is willful, conceited, tyrannical, venerates nothing higher than self; charity, hope, faith and reverence are not in his vocabulary. This is no *pen picture*, no fancied photograph. There are thousands of matches in the land in which as great a diversity exists between husband and wife. They are married, but not mated. Such diversities cannot blend in harmony.

THE PICTURE REVERSED.

Sometimes the sleeve is on the other arm. The husband may be one of those *good-natured* souls who always say *yes, yes; just so, just so*; but the wife, on the other hand, is a regular *fiend* incarnate. She carries the pocket-book, and the husband is a mere hired man working for his board and clothes. He is a *basswood* man, she is a *boss woman*.

TROUBLE IN THE CAMP.

Take another case: Suppose the intellectual and the moral faculties of husband and wife are

of opposite extremes, but the governing powers are large in both, then there will be trouble on hand. *Earthquakes, thunder-storms, blizzards and cyclones* would be pigmies compared to the turmoils of that household. When phrenology is better understood, and applied in selecting the partner for life, then there will be less domestic trouble, and married life will be one perpetual sunshine, and the sentence, "*Home, sweet home,*" there is no place like *home,*" will be verified.

So far as your brain is well balanced, every organ marked full, select a partner like yourself. Phrenology says, *similars* should wed *similars*, if there be a *medium* development; but, at the same time, *extremes* should not be united, whether similars or opposites.

Some writer has truly advised, when he said: "Young man, in selecting a partner for life, do not let the *barbed* arrows of love which Cupid is selecting from his quiver and hurling at your heart, so influence your judgment that you will not appeal to science for counsel before the matrimonial knot is tied."

INTERMARRIAGE.

So far as there is no hereditary taint, so far as there are no particular hereditary eccentricities, so far it is proper for distant relatives to marry. The laws of Kentucky prohibit marriage between

cousins, yet marriage between cousins has been attended many times with the most complete conjugal happiness, and the offspring resulting from such unions have been perfect specimens of health.

It is claimed that marriage between cousins generally results in *sterility*, and statistics would show that the majority of the offspring resulting from such marriages are diseased physically, or demented.

The predispositions to disease, both physical and mental, that is *lurking* in many families would be intensified by intermarriage; hence, as a rule, they should be avoided.



CHAPTER XII.

WOMAN'S SEXUAL RIGHTS.

HOWSOEVER we may differ in regard to woman's *political rights*, whether enfranchising her will lower her moral standing, cause her to neglect her social and maternal duties, which view is both *indorsed* and *opposed* by many sound logicians in moral ethics, yet, it seems to me, every *unbiased* mind will grant to woman the *exclusive* right to her own person in *sexual matters*.

There may be some doubting Thomas in regard to this subject. Therefore I will give a few reasons why she should be endowed with this *God given*, if not *man given*, privilege.

MOTHER'S RELATION TO CHILD.

Woman is more *intimately* related to the offspring than man. Man is physiologically related to the offspring only by the *transient* moment of sexual intercourse. Woman furnishes the *ovum*, man the *sperm*, and so far they are entitled to *equal* credit. All through gestation the mother

and fœtus are connected *soul and body*, but at parturition the physiological link is apparently severed. Such is not really the fact. At the *first* inhalation, the child apparently becomes an independent being; but like some of our South American republics, its freedom is limited. The mammary secretion of the mother must be, and is, the natural nourishment for the infant for at least *a year longer*, until it is sufficiently developed to contend with the *rough diet* of the world. Still the spell is not broken. Its independence is not *fully* established. The mother is the *chief* director of its physical, mental, moral and religious life until *infancy is past*.

MOTHER A SACRED NAME.

No wonder the name MOTHER is spoken in reverence. It is not strange that we say our MOTHER COUNTRY. Mother is the sweetest term in the Anglo-Saxon. The *first* word we lisp is *mamma*, the *last* word we breathe is MOTHER.

LIMITATION OF OFFSPRING.

The opinion of the world is changing on this point. It was formerly supposed that children are sent the same as the *snow-flakes*, and that it is a sin to *even investigate* the facts and laws of propagation. It was formerly argued that children have a *right* to be born. They would quote

the command to our first parents, "*Multiply and replenish.*" Many have considered that they were doing *God's service*; that it was their *religious* duty to beget offspring as fast as the order of nature would allow, and that it made no difference whether or not they could properly feed, clothe or educate them.

The opinion, *to-day*, of our best moralists is, that we should exercise our reason, moral powers and will in regard to this subject.

MOTHERS SHOULD HAVE THE WHOLE SAY.

I think woman should have the whole say in regard to the number of children, and I will give my reasons why. Many wives have *no right* to beget children, because if they do it is a *suicidal* act; every child born is another *nail in her coffin*. I will illustrate: Here is a wife with a consumptive tendency; scrofula lurks in every artery, vein and capillary. Every child she begets is a *puny* thing, full of scrofulous poison. During its stay on earth, it is in reality a *living corpse*. Its stay is short and full of pain and sorrow; death soon claims it as a victim. If you cannot beget *healthy* children, beget *none*. The child is thrown into this world a *passive* being; it has nothing to do with its organization, and I claim it has a *God-given* right to a healthy body.

Take another case: Here is a lady with dis-

placement of the womb — or perhaps it may be organically diseased — possibly it is CANCER — every child she has brings her nearer the grave.

Take another case: Here is a case where children are born as fast as nature permits. The mother is sliding down the inclined plane to that goal that awaits us all.

COMMAND DIFFERENT NOW.

When the command was given to Adam the circumstances were *quite different* from what they are to-day. Six thousand years ago there were but *two* on the earth, now there are about 1,394,117,000.

The earth was as large *then* as at the *present*, and if geology is right, a *little* larger, as it has been cooling and shrinking ever since. Adam and Eve were *fresh* from the hand of the Creator. They had nothing to transmit but *health*; whereas, parents of to-day have little else to transmit but *disease*. Scrofula, rheumatism and dyspepsia then were not known. PANDORA'S BOX of diseases had not then been opened.

THE DOUBTER ANSWERED.

“But,” says a doubter: “If woman is to be the sexual dictator, the earth will soon be *depopulated*, and the human race become *extinct*, for the reason that woman possesses so little amative

passion." I would file this answer—that if woman has *too little* passion, man has *too much*, and in many cases it is unbridled at that, and of two evils choose the least.

Mrs. Duffey was right when she said, in her book on the sexes: "If ever the world becomes depopulated, or seems in danger of becoming so, then, perhaps, we may regard it as a duty to replenish. But there seems no need just now for *special* exertions in this direction." That woman is naturally *less* amative, and therefore *more* virtuous than man, is a *fact*. I can find *ten* virtuous women to *one* virtuous man in most towns or countries. Statistics and phrenology teach the same thing.

WOMAN MORE VIRTUOUS THAN MAN.

When I hear a man make the remark that there are no virtuous women, that they are given more than man to licentious thoughts, I place him either in the scale of a *fool* or a *libertine*. No man that is accustomed to the society of the *refined* and intelligent, no man *married* or *single*, that is not governed by his animal passion more than by his moral sentiments, will venture such a remark. A drunken man thinks everyone he meets is *tipsy*, because he is *drunk* himself; a lustful man can see no virtue in woman, for the same reason.

When I hear some old debauchee haranguing before a mixed crowd of old and young, in some public place, about the lewdness of women, I say to myself, "*You poor old rake*, your words and acts show the company you keep." There should be a statute enacted to silence the tongue of such reprobates as can be found in most towns.

MOTHERS DESIRE CHILDREN.

The objection to woman being entrusted with the *whole say* in regard to how many offspring and how often, is ill-founded. Whoever has studied woman's social nature will find implanted there *much larger* philoprogenitiveness—love of offspring—than in man. Most married ladies desire children, upon whom they can lavish the outpourings of this God-given instinct. Notwithstanding woman's *amativeness* is *smaller* than it is in man, yet her *love of children* is enough *larger* to make up the deficiency. These would-be moralists need have no hesitancy in entrusting women with *exclusive* dictation in sexual matters. Fowler says: "If there existed no particular attachment to children, as such, the burden of raising and educating them would be *intolerable*, seldom submitted to; whereas the effect of this faculty is to make them to their parents the *dearest* of all objects, their *richest* treasure and their *greatest* delight."

Combe gives the following case of large philoprogenitiveness: "A lady, in whom this organ was large, told me that she frequently *dreams* of children. She described one dream which imparted to her the most exquisite delight, in which she seemed to have her *lap full of babies*, which were smiling, sprawling, raising their hands, and tossing about in the most interesting manner imaginable."

MRS. ISABELLA BEECHER HOOKER'S VIEWS.

Mrs. Isabella Beecher Hooker, in a pamphlet entitled "WOMANHOOD, ITS SANCTITIES AND FIDELITIES," remarks as follows: "I think it is a perfectly fair statement of the case as between men and women the world over, that it is not in any great degree desire for offspring on his part that draws the husband to the wife in the closer relations of married life; while on the part of the wife the love of offspring mingles *largely* as an impelling motive with the love of her husband." Again she says: "And now permit me to say that a great part of the physical and moral deterioration of the present day arises, it seems to me, from the fact that children *are not conceived* in the desire for them, and out of the pure lives of their fathers as well as their mothers; and that far worse misfortunes might befall our race than *decreasing* families, as long

as children are born to such an inheritance as too many young men of the present day are liable to transmit."

HOW TO END THE CAREER OF THE ABORTIONIST.

Although all our standard medical writers teach that there are cases where not only *prevention*, but also *abortion* is justifiable, yet its indiscriminate practice is both *culpable* and *criminal*. We are opposed to abortion because it is nothing less than MURDER, if willfully brought about; and the true way to end the career of the abortionist is to impart to the mothers of the land *accurate knowledge* in sexual physiology, hygiene and pathology.

MISCARRIAGE AND ITS DANGERS.

When the fœtus is expelled from the uterus within four months after conception it is termed ABORTION, but if the expulsion does not take place until between the fourth and seventh months of pregnancy it is termed MISCARRIAGE. If the expulsion takes place at any time between the seventh month and the end of gestation it is termed PREMATURE LABOR. All of these attempts on the part of the uterus to expel the fœtus before its complete development may be the results of the *same* predisposing and exciting causes.

PREDISPOSING CAUSES.—Any disease or displacements of the uterus and its appendages; plethora or debility; death of the fœtus; disease of the afterbirth. Some ladies acquire the *habit* of aborting, so that it is impossible for them to go beyond a certain period.

EXCITING CAUSES.—Coition during gestation; Drastic purgatives, especially those containing *aloës*. Suckling the child after again becoming pregnant. Violent exercise; dancing; piles; mental excitement.

PREVENTION.—Observe perfect rest, especially at the times when menstruation would occur if not pregnant. Coition should be abstained from, at least during the *first five months* of gestation.

In a case of threatened abortion, Dr. Robert Lee says: "The greatest mental tranquillity and absolute rest in the horizontal posture on a mattress or couch, with the body slightly covered, should be enjoined. If the patient is plethoric and the pulse accelerated, blood is immediately to be detracted in quantity, proportioned to the urgency of the symptoms." If there are any signs of a miscarriage, a rectal injection of a gill of starch water, in which has been put one-half teaspoonful of laudanum, will often quiet the uterine contractions.

DANGERS OF MISCARRIAGE.

The immediate cause of danger in miscarriage is *profuse hemorrhage*, which requires the prompt attention of the physician.

Mrs. Duffey, in her "Relations of the Sexes," says: "If by intent or accident it [the foetus] is disturbed before the period, the whole of Nature's plans are *thwarted*, and nothing is in readiness. A hundred bleeding wounds remain when the child, with its accompanying membranes, is torn untimely from the womb of the mother—mouths that would have closed at the appointed time, but now remain open *to bleed away* the mother's life."

The hemorrhage may be controlled, and the mother is apparently safe, but that she is so is by no means the case; death is stayed *for a time*, yet the effects, which may lie latent *for years*, soon will, perhaps, *outcrop* in the most intractable uterine disease—even cancer itself. Mothers should not look upon miscarriage as a *trivial* affair, and should observe every hygienic precaution to avert it. "Miscarriages," says Dr. Storer, "are a *thousandfold* more dangerous in their immediate effects than the average of natural labors."

CHAPTER XIII.

MISCELLANEOUS QUESTIONS ANSWERED.

CONCERNING FŒTUS.

Ques. Can the child breathe or cry in utero?

Ans. No; but there have been cases where the membranes have been ruptured, and the waters have escaped so that *air has entered the womb* in sufficient quantities that the fœtus could, to a limited extent, *breathe*. Before the membranes are ruptured it is impossible.

Ques. In case of twins, where one is a *male* and the other a *female*, is the female always *sterile*?

Ans. It is generally considered to be a fact, yet there still exist some doubts concerning it.

Ques. Can the sex be known before birth?

Ans. M. Mattei claims he can *predict* the sex by listening to the pulsations of the fœtal heart. If there are *130 to 135* per minute, it is a *boy*; but if from *140 to 150* it is a *girl*.

Ques. What is the natural position of the fœtus in the womb during gestation?

Ans. The head is toward the os uteri, for this

reason: the head of the fœtus is *larger* and *heavier*, in proportion to its body, than it is *after* birth, and as the fœtus is floating in amniotic liquid, *gravity* would naturally incline the head *downward*. Many have the idea that the feet tend downward until just before parturition sets in, and then the fœtus turns one half of a *somersault*, making it a head presentation.

Ques. Can *nævi materni*—mother marks or *fancy spots*—be removed from the child?

Ans. I have been told by several lady midwives that the application of the placenta to the marks will cause them to disappear. I consider it a *whim*. The best way to remove is to *avoid* the causes that produce them.

Ques. At what period of gestation is there the greatest danger of *marking* the fœtus?

Ans. There is danger all through gestation, as there is the *same* relation between the mother and fœtus from *conception* until birth.

CONCERNING THE INFANT.

Ques. When should the child be first allowed to nurse, and when weaned?

Ans. Let the child nurse as *soon as it is washed and dressed*, and although milk proper is not secreted at first, yet the *early* application of the child to the breast hastens its secretion, and the child, by the early application, extracts the *colos-*

trum, which is a natural purgative. The time of weaning, the mother must determine for herself; it will vary with the development of the child and the health of the mother. *Prolonged* nursing is good in one sense, for this reason, viz: the *stuffing* and *cramming* process to which too many children are subjected does not begin *so quickly*.

Ques. Is the practice of dosing the infant with *Godfrey's Cordial*, *paregoric*, and some of the so-called *soothing* and *teething* syrups deleterious to the child?

Ans. It is, because most of the so-called *baby syrups* contain either opium or some equally deleterious narcotic. This continual dosing the child with medicines, and cramming down its throat, every time it cries, more *cracker stuff*, is despicable; and the *more* they are dosed and stuffed, the *harder* they will *kick* and the *louder* they will *bawl*. Pure milk, as prepared in Nature's laboratory, the mammary gland, is better than all the baby mixtures prepared by GRANDMAS and *doctors*.

Ques. What causes those two *soft spots* or openings in the child's skull?

Ans. Those soft spots are called, many times, openings in the head, by the uneducated. The scientific name applied to them is *fontanelles*. The one in *front* is called the *anterior*, and is

formed by the straight (sagittal) suture meeting the coronal. The posterior is formed by this same straight suture meeting the lambdoidal. The point of union is membranous at birth, but in a short time bony matter is deposited and the opening is *obliterated*. The position of these openings assist the midwife in determining the position of the head in the pelvis.

CONCERNING THE MOTHER.

Ques. Should the mother be especially attentive to physical and mental hygiene during nursing?

Ans. She should, because the quantity and quality of the mammary secretion fluctuates with the varying conditions of her body and mind. A *fit of anger* on the mother's part, during nursing, has resulted in *death* to the child. Sir A. Cooper says: "The secretion of milk proceeds *best* in a tranquil state of mind and with a cheerful temper; then the milk is regularly abundant and agrees with the child. On the contrary, a *fretful* temper lessens the quantity of milk, makes it *thin* and *serous*, and causes it to disturb the child's bowels, producing intestinal fever and much griping." *Anxiety, fear, terror*, influence the quality of the milk for the *worse*. *Hope* and *joy*, for the *better*. Carpenter says: "There is even evidence that

the mammary secretion may acquire an actually *poisonous* character, under the influence of violent mental excitement." He gives the following case: "A carpenter fell into a quarrel with a soldier billeted in his house, and was set upon by the latter with a drawn sword. The wife of the carpenter at first trembled from fear and terror, and then suddenly threw herself furiously between the combatants, wrested the sword from the soldier's hands, broke it in pieces and threw it away. During the tumult some neighbors came in and separated the men. While in this state of strong excitement the mother took up her child from the cradle, where it lay playing and in the most perfect health, never having had a moment's illness; she gave it the breast, and in doing so *sealed its fate*. In a few minutes the child left off sucking, became restless, panted, and sank dead upon its mother's bosom. The physician was instantly called in; found the child lying in the cradle as if asleep, and with its features undisturbed, but all his resources were *fruitless*; it was *irrecoverably gone*."

Mothers should be as attentive to hygiene during *nursing* as during *pregnancy*; hence, they should be cheerful. Laugh *more* and give *less soothing syrup*.

Physical hygiene should be attended to all through the nursing period. The quality of

the food the mother eats will affect the quality of the milk. The dietary should be strictly on the health plan.

Ques. What is meant by the *hour-glass* contraction, and how overcome?

Ans. Many times the womb in expelling the fœtus does not contract *uniformly*, but is constricted near its middle, dividing the womb partially into two compartments, one above and one below, connected by a constricted canal, which would cause the womb to assume the shape of an *hour-glass*. The placenta may be either in the upper or lower cavity. The hour-glass contraction is quite *rare*, and to overcome it *anti-spasmodics* may be given, or the physician can insert his hand into the uterine cavity and by *physical force* overcome the spasm.

Ques. Is *absence of pleasure* on the part of the wife a cause of barrenness?

Ans. No; those women that do not experience the least pleasure, and to whom sexual intercourse is *repugnant* or painful, are as *prolific* as those that do. Any lawyer will tell you the old laws of England were that if a woman made complaint of *rape*, and at the same time was *pregnant*, it was proof positive it was not rape. This *unjust* law was the result of the *false physiology* then extant, which taught that *pleasure* must be experienced if conception is

effected. The mere fact of pregnancy proved the rape a *nullity*.

Physiology of to-day teaches—and the laws conform to its teaching—that a woman may be placed under the influence of any narcotic or anæsthetic, she may be senseless, and if coition is effected pregnancy may be the result; but I claim a woman cannot transmit to the foetus *her own* qualities as completely as she would if there were pleasure.

Ques. Should there be coition *during gestation?*

Ans. There is a wide difference of opinion in regard to this subject. Those who claim that the true office of coition is to *propagate the species* emphatically say NO; and if we take the lower animals as a guide, we must come to that conclusion. The male, among the lower animals, never attempts sexual intercourse except when the female is in the *heat*. Repeated coition during gestation is, without doubt, a prominent cause of the many miscarriages married women are subject to.

Ques. What is the CÆSARIAN SECTION?

Ans. It is performed when the foetus cannot be born through the natural passages, and where there is danger that the life of both mother and child will be sacrificed. Churchill says the operation is performed as follows: Cutting through

the abdominal and uterine parietes, so as to come to the child, and then removing the entire contents of the uterus, and closing the external incision by sutures and sticking plaster.

The great danger will be *hemorrhage* and *inflammation*. The mortality to the mothers, in the operation, extended statistics would show, is 1 in $2\frac{1}{3}$, to the children, 1 to $3\frac{1}{3}$.

It is claimed that some of the most noted personages have been born in this way. The CÆSARS, SCIPIO AFRICANUS and ÆSCULAPIUS, of *ancient* times, and EDWARD VI, KING OF ENGLAND, and ROBERT II, KING OF SCOTLAND, of more *modern* times, it is claimed, were born by means of the Cæsarian section; and for this reason, to be born in this way is considered a *royal birth*.

There are well authenticated cases where the child has been removed alive by a post mortem Cæsarian section *forty-eight hours* after the death of the mother.

Bedford gives the following case: "The death of PRINCESS OF SCHWARTZENBERG, which occurred in Paris in 1810, was as follows: She was one of the gay party participating in the pleasures of a ball given by her brother-in-law, the Austrian ambassador. During that night of festivity there was an appalling conflagration, which, together with other victims, caused the death of

the princess, who was far advanced in gestation. On the day *succeeding* her death a *living child* was removed by the Cæsarian section."

As a rule, the fœtus dies as soon or sooner than the mother; but this rule, also, has its exceptions.

There was a statute in the old *Roman code*, that no deceased pregnant woman should be buried until the child had been removed by this operation. The senate of Venice, in 1808, made it a heinous crime for the medical man not to observe as great precautions in performing this operation after death as he should if she were alive. It is recorded in history that the *king of Sicily*, in 1749, sentenced to death the physician who failed to perform this operation on a female dying in the latter months of gestation.

This operation is not held in high repute by the majority of obstetricians of to-day.

Ques. Should coition be indulged in *just before* the menses?

Ans. No; because the spermatozoa might travel through the uterine cavity, and fertilize the egg in the ovary, or while it is traveling down the fallopian tube, and if from any cause (and such causes do sometimes exist) the egg should fail to arrive in the uterus after being fertilized, there would result *extra uterine* pregnancy, which we have before spoken of. If

intercourse is not indulged in until *after the menses*, the egg will have arrived in the uterus before the sperm could come in contact with it. Bedford, Thomas, and many other obstetricians, claim that the *natural place* for impregnation is the *ovary*. The experiment of Bischoff would at *first* seem to be satisfactory that such is the fact. But Carpenter *justly* remarks: "From the experiments of Bischoff, however, it appears that in rabbits, bitches, and probably in most other mammalia, sexual union usually takes place *previously* to the escape of the ova from the ovary, and that sufficient time often elapses for the seminal fluid to reach the ovary before their extrusion takes place. In such cases, therefore, it would seem probable that fecundation is effected at the ovary itself." If the ovary is the natural place for the sperm and germ to meet, there would be *greater liability* to conception if coition should occur *just before* than *just after* the menses, which is not the fact.

Ques. What is FALSE CONCEPTION, and how produced?

Ans. There is no such thing as *false conception*. The term is a *misnomer*; a blighted ovum would be a much better name. The egg, sometimes, after fertilization, and before scarcely any development has occurred, dies; it may be at once expelled; sometimes, however, it is retained

a long time after its death, and is changed into a fleshy substance, termed a *fleshy mole*. Sometimes there springs from the ovum or its appendages a *fungous* growth, varying greatly in quality and quantity, termed HYDATIDS. The three varieties of abnormal growths, viz: *blighted ovum*, *moles* and *hydatids*, are considered good evidence that coition has been indulged in.

Ques. Why do children by the *second* husband sometimes resemble those begotten by the *first* husband.

Ans. Mental impressions left by the first husband on the mother, is one way of explaining this remarkable phenomenon; another way of explaining it is this: the blood of the mother has received certain elements from the fœtus begotten by her *first* husband, and these *same* elements or attributes she has imparted to the fœtus begotten by the *second* husband. There is quite a practical point connected with this subject.

Ques. Why does the mother experience so much urinary trouble the first, second and ninth months of pregnancy?

Ans. During the first two months the womb *sinks* into the pelvis, partially displacing the bladder and compressing the urethra, and *just before* and at quickening it rises gradually into the abdominal cavity, and of course the pressure is removed. During the last month of pregnancy

and just before parturition, the womb *again* descends to such a degree as to again produce urinary troubles.

Ques. What is the cause of hemorrhage before birth of the child?

Ans. The placenta is sometimes attached to the womb over the os uteri, and when such is the case it is termed *Placenta Prævia*. When the os dilates, in the first stage of labor, the placental blood-vessels are necessarily ruptured, and there is hemorrhage from the start. Send for a physician immediately, as there is danger ahead. *Placenta Prævia* is quite rare.

Ques. What is meant by *turning* the fœtus?

Ans. To facilitate delivery of the fœtus, the accoucheur introduces his hand, between the labor pains, into the uterine cavity; he grasps the feet, and by bringing them to the dilated os he effects the version. No one but the scientific midwife should attempt to produce version.

Ques. Can quickening be *feigned*?

Ans. It can, and it may *deceive* the best observers. Prof. Bedford remarks as follows: "Women, from *avaricious* or other motives, will feign pregnancy, and among their other devices will attempt to impose upon the judgment of the practitioner, by *simulating the movements of the fœtus* through the contraction of their abdominal muscles. When I held the professorship of ob-

stetrics in Charleston, South Carolina, Dr. Bennett, of that city, kindly afforded me an opportunity of presenting to my class a very interesting case in the person of an old colored woman, answering to the name of AUNT BETTY. She was well known in Charleston as the *old woman* who had been pregnant for *fifteen* years, and I was informed that she had accumulated some money by showing the curious how actively her little child *jumped* in the womb.

Ques. Is pregnancy a safeguard against disease?

Ans. No; the pregnant woman is subject to the same diseases as when not in that condition.

Ques. What *really* cures disease, *nature* or *medicine*?

Ans. *Nature.* There is an old Latin maxim termed *Post hoc ergo propter hoc*, which literally translated signifies, if a certain *effect* follows a certain *cause*, the *effect* is the *result* of the cause. This is *true* in many instances, but in many cases it is *delusion*. The Indians during an eclipse beat their *tom-toms* and *strike their cymbals* until the eclipse passes away. You tell them that the eclipse would disappear as quickly if they were to keep quiet, and they would pronounce you a humbug. So you tell the poor invalid, after he has been dosing himself with pills and blood purifiers, that he might have

regained his health if he had taken nothing, and he will *scorn* the idea. There is another Latin maxim, termed *Natura sanat medicus curat*. Nature *cures*, but medicine merely *takes care* of the disease. To illustrate: Suppose I cut my hand and then apply a poultice, an ointment or lotion. It is not the medicine applied that effects the cure. *Nature* does the work. Suppose I have run a sliver into my finger and I do not remove it myself, I do not call the surgeon. Nature will remove it if you will only give her time, and the manner in which she effects its removal is as follows: At first it becomes *congested* about the sliver, in a short time it becomes *inflamed*, and soon after it begins to *suppurate*, and a short time after the sliver is extruded. Nature is a very *safe surgeon*, but sometimes a little slow; and if mankind would study and practice *hygiene* more and *dose* themselves less, life would be prolonged and much suffering averted.

Ques. Can any *one* medicine cure *all* diseases; that is, is there any such thing as a *panacea*?

Ans. No. The ancient alchemists sought diligently in their secret laboratories to find the true *elixir of life*, and they cherished the idea that if they could make a *liquid preparation of gold*, the desideratum would be gained.

There are thousands of *cure-alls* advertised

through the land to-day. They are not *liquid gold* such as the ancients sought, but it takes the *solid gold* to buy them. They are advertised to-day under the head of *purely vegetable*, with a *little Indian* thrown in.

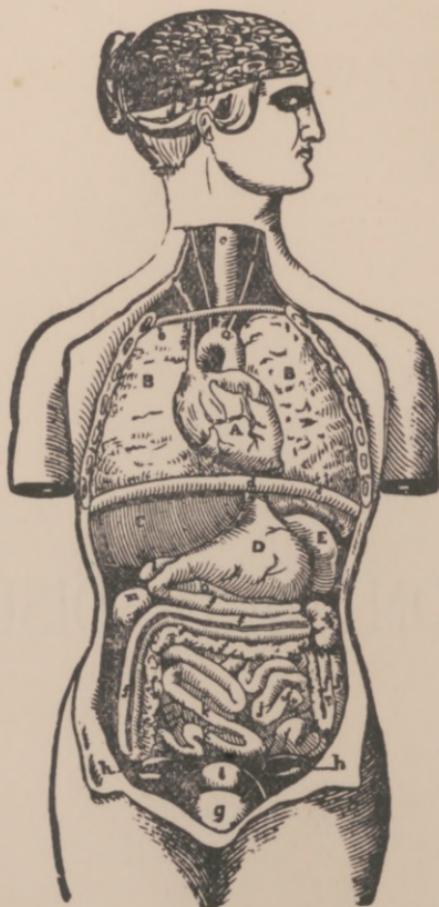


Many of the *cure-all nostrums* are prepared from scientific prescriptions; so that the humbug is not in the *prescription*, but in their *application to everything*.



PART SECOND.

PHENOMENA OF DISEASE.



A—Heart.
B—Lungs.
C—Liver.
D—Stomach.
E—Spleen.

a—Aorta.
d—Diaphragm.
g—Bladder.
f—Colon.
i—Uterus.

PHENOMENA OF DISEASE.

CHAPTER I.

DISEASES OF WOMEN.

MY descriptions of disease are mere sketches. To specify details would make the work *too large*. All the prominent facts and phenom-



ena are described in a language easily understood by the general reader—knowledge that has, as a rule, been *privy* to the *physician* and

mysterious to the outside world, has been *simplified*. Only those diseases to which woman is subject; those to which she is most liable, and therefore the most interested in, will be portrayed in this chapter. The treatment given is both *hygienic* and *therapeutic*. Our motto is, the *simpler* the treatment the *better*. The medical prescriptions are in plain *Anglo-Saxon*; the hieroglyphics of the prescriptionist have been omitted. This work is not for the physician, but for the masses; hence, I trust the profession will be mild in their criticisms. To simplify the old, and not to teach anything new, has been the object in view.

PREDISPOSING CAUSES OF DISEASES PECULIAR TO
WOMAN.

The women of the nineteenth century are becoming a race of invalids. Where you will find a perfectly healthy woman, I will find ten that are suffering more or less from some of the protean forms of uterine or ovarian diseases. Healthy women are like the *oases* in the desert. Why is woman such a sufferer? The casual observer says it is because she is the *weaker vessel*; she does not possess the same recuperative power as man, and hence her susceptibility to derangements of health. To the superficial observer such an answer is satisfactory, but what

are the *facts* as taught by *science*? If we go among the Indians, where both sexes are subject to the same surroundings, the *squaws* are as *hardy*, can endure as much fatigue, and perform as long journeys, as the males, and it is claimed by some, their physical endurance is even greater. If you go among the peasants, whose occupation keeps them mostly in the open air, and calls into activity their muscular powers, you will never hear the term *female weakness*. The anatomical, physiological and mental powers are different by nature; but I claim the predispositions to disease in women arise from the *foolish teaching and customs* peculiar to the refinements of civilization.

When considering the individual diseases, I have spoken of the special *exciting* causes, but I wish now to consider the general *predisposing* causes.

ERRONEOUS METHOD OF EDUCATING GIRLS.

Our girls, in the larger towns especially, are reared as so many *hot-house* plants, from infancy to puberty. They are restrained from participating in out-door muscular labor or amusements, for fear it will make them coarse and vulgar — *healthy*; they are denied the invigorating powers of sunlight, because they will get tanned and freckled — *healthy*; they are taught

by their foolish mothers that to be healthy and possess ruddy cheeks is *coarse* and *vulgar*; to be *pale*, *nervous* and *sickly* is *lady-like* and *refined*. The age of puberty arrives, but the grand change from girlhood into womanhood is imperfect, and all through life she is a fit subject for disease.

NERVOUS EXCITEMENTS.

The *fashionable* habits and education of to-day stimulate the brain, weaken the body, and so destroy the healthy equilibrium that should exist between body and mind, that there is a marked tendency to disease.

IMPROPER DRESS IN CHILDHOOD.

The foolish custom of improperly clothing the lower extremities predisposes to disease. Boys wear in cold weather woolen pants and hose and heavy boots, thick-soled; girls too many times, on the other hand, wear thin, sleazy pantalets, cotton hose, and wafer-soled shoes.

IMPRUDENCE *just before and during the menstrual effort* is a prominent cause which we have considered in detail when treating on the menstrual disorders.

INATTENTION TO HYGIENE during pregnancy and after parturition are considered in their proper place.

TIGHT LACING.

The chest is shaped like a pyramid, apex at the *top*, but in those ladies who lace tightly the order of nature is reversed, and the apex is at the *bottom*. On account of the constriction of the chest the lungs are compressed at their base, and encroach upon the heart; so those ladies who lace tightly will, on account of the imperfect circulation of the blood, be troubled with cold feet and subject to fainting fits. Hogarth says "*nature* is the standard of beauty"; but you would suppose, in our fashionable circles, *deformity* is the standard. Any lady that laces interferes, in the *first place*, with the purification and circulation of the blood. In the *second place*, she will suffer from the various displacements of the womb and their attending effects. In the *third place*, if she becomes pregnant and still indulges in tight lacing, she is interfering with the life of another being. If the child *in utero* receives not the proper quantity and quality of blood, when born it will be a dwarf, either physically or mentally.

There are many more predisposing causes, but they will be considered when treating on the individual diseases.

Thomas has truly remarked, in his admirable work on the diseases of women, as follows: "The Indian squaw or southern freedwoman

may go half-naked while menstruating, carry heavy burdens from morning till night, or rise to labor or to travel in a day or two after parturition, and yet no evil will result, but to the *civilized* woman, any one of these imprudences may prove a source of disease. It is the combination of evil influences, or the action of a single cause on a system so deteriorated by others as to be made incapable of resisting it, which produces the unhappy climax."

PRECAUTIONS AGAINST DISEASE.

Thomas remarks as follows: "No one will doubt the conclusion that if in cold weather the feet, legs and abdomens of civilized women were clad in some *woolen* material, if they understood the necessity of caution during the *period of menstruation* and *after labor*, if they allowed the uterus to hold its proper place in the pelvis, uninterfered with by pressure; if they kept the sanguineous and nervous systems in their normal state of vigor by exercise, fresh air and plenty of good food, and at the same time avoided any habits which directly produce disease by injuring the genital organs, much, very much less of uterine and kindred disorders would be seen by the physician. All these reforms would probably bring forth results in one generation, but it would require many

generations of reformers to restore woman to her proper physical sphere."

When *strict hygiene* is observed, the *dangers* and *pains* of childbirth will be greatly lessened. When our fashion-makers look to *health* as the pole star to guide them, when the livery of health is made *more popular*, and the livery of disease *more odious*, unestimable blessings to womankind will be the result.

PRURITUS OF VULVA.

This is by no means a rare disease, and though it has no fatal tendencies, yet it is one of the *most vexatious* of all female affections.

SYMPTOMS.—There is a peculiar sensitiveness, sometimes accompanied with pain and tenderness of the vulva; often it is of an *itching sensation*, and it is not confined to the vulva, but may extend the whole track of the vagina. The mucous membrane is generally highly congested, sometimes bordering on inflammation. Dr. Dewees observed an *aphthous* state of the mucous lining.

CAUSE.—Inattention to *cleanliness*, *leucorrhæal* secretions, acrid secretions from the sebaceous follicles.

TREATMENT.—Sitz baths in warm water; vaginal injections of tepid water.

Churchill uses the following lotion: Decoction

of poppy head, one pint; sugar of lead, one half drachm — mix, and apply to parts.

Dr. Meigs favors the following lotion: Take of borax half an ounce; distilled rosewater, six ounces; sulphate of morphia, six grains — mix, and apply the lotion frequently in the course of the day.

Pruritus is a *symptom*, and not really a disease. Hence the first thing to be done is to remove the cause. The remedies recommended are more palliative than curative. Glycerine, one ounce; rosewater, eight ounces, is recommended in mild cases.

LEUCORRHŒA.

The name given to this disease is from two Greek words, signifying a whitish flowing. The term *whites* — *fluor albus* — refers to the same disease. This is the most prevalent affection of the reproductive organs. *One half* of the ladies of the land are subject to it in some of its various forms. From the time of Hippocrates until now it has been the most marked female complaint. No *age*, *climate* or *nationality* is exempt.

Dewees says: "Women of the sanguine temperament and rigid fibre are less liable to this complaint than those who are fair-skinned, light-haired, and of a relaxed fibre."

Women in the country are less liable than those in the city.

Leucorrhœa consists of a whitish, yellowish or greenish mucous discharge from the vagina. So says Prof. Thomas.

Leucorrhœa is divided into two varieties, *vaginal* and *uterine*. The *former* is quite *amenable* to treatment, the *latter* many times *baffles* completely the skill and patience of our best practitioners.

VAGINAL WHITES.

The mucous membrane of the vagina may be either congested, inflamed or ulcerated.

SYMPTOMS.—Sense of heat, fullness and soreness in the vagina, sexual commerce painful, difficult urination, general feverish condition, backache, mental depression. There is no discharge in the *first stage* of congestion. The mucous membrane in a healthy state is of a *pale, pinkish* appearance, and the mucous secretion keeps the part in a moist, quiescent state; but when *congestion* begins, the membrane becomes at first *dry*, but in a short time there is a *watery* secretion, which soon is supplanted by a *mucopurulent* discharge.

CAUSE.—Cold, fatigue, excessive coition, mental depression, prolonged lactation, sedentary habits, ill-ventilated rooms, menstrual imprudence.

TREATMENT.—In the congestive and inflammatory form, take sitz baths in warm water, yet the feelings of the patient must be consulted generally, however. The water should be about 80° Fahr. to start with, and let the water be one degree lower at each successive bath. Vaginal injections of warm water morning and evening, and general bathing daily should be observed. Keep off the feet as much as possible. Let the diet be simple.

Dewees recommends Epsom salts to be taken in small quantities at a time, until there is free purgation, and then twenty drops of *unct. of cantharides* to be given twice a day, in a little sweetened water. If there is any *strangury* produced, cease giving the medicine.

Generally no internal remedies are required if proper attention is devoted to local applications. Thomas recommends the following: "Every fifth or sixth hour the patient, placing under the buttocks a bed pan, upon which she lies, and between the thighs a vessel of warm water containing *boiled starch, infusion of linseed, bran, or poppies*, to render it soothing, should, by means of a syringe, with a continuous jet or irrigator, throw a steady stream against the cervix uteri for fifteen or twenty minutes, or even a longer time."

After the acute symptoms have subsided, mild

astringent injections are beneficial. Sulphate of zinc (white vitriol), ten grains; rain water, one pint; tincture of opium, one drachm—mix. Inject twice a day.

In chronic vaginal whites, where there is tendency to debility, the patient should live more on beef, and take mild out-door exercise.

Dr. Tanner, of London, recommends, in the chronic form of this disease, penciling the parts with the following solution: Carbolic acid, ten grains; glycerine, one ounce. Where there is a tendency to debility and loss of appetite, the following internal remedy is recommended by the same author: Citrate of iron and quinine, thirty grains; tincture of lemon peel, one and one-half drachms; water sufficient to make eight ounces—mix. Take one-sixth part three times a day.

UTERINE WHITES.

In this affection the membrane lining the womb is diseased, and it may undergo the same stages that the vaginal lining did in vaginal whites, viz., congestion, inflammation and ulceration.

SYMPTOMS.—Weakness in the back and loins; almost constant headache; a general languor; neuralgic pains in different parts of the body; bearing down; frequent urination; sense of heat and fullness about the pelvis. The excretion is *white* and *glairy*, more like the white of an egg,

but the acid secretions of the vagina change it so that it resembles closely *boiled starch*. In *vaginal leucorrhœa* it is more of a *creamy* appearance.

CAUSE.—Repeated suppression of the menses ; miscarriage ; prolonged lactation ; excessive child-bearing ; too frequent coition.

TREATMENT.—Sitz baths in warm water ; vaginal injection of the same ; observe as much rest as possible ; keep off the feet.

Astringent injections will do no good, as they cannot be brought in contact with the diseased membrane ; but the prolonged use of warm vaginal injections will accomplish wonders ; they act as a *poultice*.

If there is constipation, use Epsom salts ; in small doses they are *purgative, diuretic* and *refrigerant*.

In the acute form of this disease the treatment should be *antiphlogistic*, but in the chronic form, where there is a tendency to debility and general relaxation, let the treatment be *supportive* ; and the best tonics are good diet, fresh air, mild exercise out-doors, change of scenery, attention to general bathing, vigorous hand rubbing or thorough use of the flesh brush, and last, but not least, the SUN-BATH. In both the vaginal and uterine forms of this disease there are soon manifested symptoms of *general debility*, an *inward weak-*

ness, an all-gone feeling. There is an excessive discharge, but the parts from which it exudes are more passive than active. For such cases *iron*, in some of its various forms, is the great desideratum, as it enriches the blood by increasing the number of blood corpuscles. The following is a pleasant and effective prescription: Take citrate of iron, two drachms; simple syrup, one-half ounce; water, six ounces — mix. A tablespoonful to be taken three times a day before meals.

SUN-BATHS AS A TONIC.

Prof. Hammond says: "In *anæmia*, *chlorosis*, *phthisis*, and, in general, all diseases characterized by deficiency of vital power, light should not be debarred. In convalescence from all diseases it acts as a healthful stimulant, both to the mental and physical systems. The delirium and weakness which are by no means seldom among convalescents kept in darkness, disappear like magic when the rays of the sun are allowed to enter the chamber. I think I have noticed that wounds heal with greater rapidity when the rays of the sun are allowed to reach them, and when they are as far as possible exposed to diffused daylight. Care should be taken in both health and disease to insure a sufficient quantity of light to the inmates of houses. Sun-baths, or apartments in which the solar rays can fall upon

the naked body, are doubtless highly advantageous to health."

MENSTRUAL DISORDERS.

The menstrual discharge is pure blood, which has escaped from the ruptured blood-vessels of the lining membrane of the womb. When menstruation is perfectly *normal*, there is a sense of fullness in the uterine system, slight pains in lumbar region, general fatigue, restlessness, despondency; but when it is *abnormal*, the pain may equal that attendant on labor, and the protean forms of neuralgia manifested are beyond pen descriptions.

AMENORRHŒA.

This is the first disorder to which I invite your attention, and it is divided into two classes: *first*, where the menses never have appeared; *second*, where they have been suppressed.

We have stated that menstruation generally begins at about the fifteenth year, and many mothers evince much anxiety if their daughters manifest no show at that time, and they give powerful emmenagogues many times, hoping thereby to hasten this tardy appearance.

If mothers knew more in regard to this subject, they would show much better common sense. Mothers, if your daughter's health is not

declining, you need not *worry*, even if they do not appear until she is out of her teens.

TARDY MENSTRUATION.

Menstruation may be tardy because the ovaries are tardy in their development. The ovaries may be all right, but the *uterus is wanting*, or so *atrophied* that there is no discharge. In both of these cases *nothing* is to be done, only to wait.

Sometimes there is an *obstacle* to the escape of the menses, and when such is the case, the treatment should be to remove the barrier.

The prominent obstacles are: *impervious canal* in the cervix, *occluded os uteri*, *absent vagina*, or an *imperforate hymen*. If there is no decline of health, it shows the menstrual discharge has not been effected; but if the menses are prevented from escaping, there will be marked local and constitutional symptoms. The retained menses will distend the uterus, producing pain, tenderness, and general feverishness of the whole system; and when such is the case, do not give emmenagogues, as they will only make *matters worse*. Call in a scientific physician, and have him make a vaginal examination, and determine what is the cause of the retention. Show *common sense* in this matter, the same as you do in the *cuisine* department.

Sometimes there will be every month all the symptoms peculiar to menstruation, viz., pain in the back, weight in the uterine region, general lassitude, etc., and yet a vaginal examination reveals no barrier.

Churchill terms such cases SIMPLE AMENORRHŒA. He says: "The subjects of simple amenorrhœa may be either of a plethoric habit of body and robust health, or weak, pale, and delicate in constitution, and the symptoms vary in each."

TREATMENT.—Where there is *plethora*, there should be *depletion*. *Abstain from meat diet; try the hunger cure; avoid stimulants.* Epsom salts should be taken until there is free purgation.

But the main thing to be observed is administration of hip baths in warm water, as warm as it can be borne, warm pediluvæ, vaginal injections of warm water.

TREATMENT, where there is *debility*, should be *supportive*, viz., nutritious diet, mild out-door exercise, iron tonics, electricity. Anything that will enrich the blood, stimulate the nervous system and improve the general health will be beneficial. If the ovaries and uterus are normal, if there are no obstructions in the genital passages, all that is required is to secure general health, and then this important symptom, men-

struation, will ever be present; the time, quantity and quality will be normal.

When debility is the cause, Dr. Tanner recommends iodide of potassium, 18 to 30 grains; citrate of iron and ammonia, 40 grains; tincture of nux vomica, one drachm; infusion of quassia sufficient to make eight ounces—mix. One-sixth part to be taken three times a day.

SUPPRESSED MENSTRUATION.

Many times the menses are suddenly checked, producing an aggravated chain of symptoms, viz., intense throbbing headache, severe lumbar pain, quick pulse, loss of appetite, difficulty of breathing, sometimes a sense of suffocation.

CAUSE.—Cold, either *during* the interval *just* as the discharge *appears*, or *after* its appearance; mental depression and intense emotional excitement may be the cause.

TREATMENT.—Let the patient go to bed and apply over the uterine region a large linseed poultice on which is sprinkled a drachm of laudanum. Hot sitz baths should be persevered in several times a day. Copious vaginal injections of water as warm as can be borne. Free purgation should be secured by rectal injections of warm water impregnated with common salt.

If the flow is not re-established, all through the interval be attentive to general hygiene; see

that the lower extremities are well protected from cold, and when the time approaches for the next menstrual effort, persevere in the same treatment as recommended before. Do not place too much confidence in the so-called *forcing remedies*—*emmenagogues*—they will fail nine times in ten.

HYGIENE.—If it is cool weather, dress warm; wear flannels, so that the circulation in the skin is not impeded. Wear thick soled shoes. Mothers should instruct their daughters in regard to the dangers produced by repeated suppressions. Inattention to hygiene during and at the approach of the menses, is the chief cause of the long and complicated train of uterine affections and ovarian disease. Dr. Dewees gives the following: "A young lady put her feet several times into cold water during the flow of her menses, because she expected *her lover*, which quickly arrested them; an inflammation of the womb followed, and she was brought dying into the hospital."

PAINFUL MENSTRUATION.

Many women suffer more pain during menstruation than they do in childbirth. Many ladies have told me that they would much rather have a child as often as nature would permit, than experience the excruciating pain peculiar to the menstrual effort.

The pain may be the result of different causes :

First.—It is many times strictly *neuralgic*.

Second.—The membrane lining the womb may be *congested* or *inflamed*, and when it becomes still more engorged with blood at the time of the menses, *dull, heavy, or sharp lancinating* pain would be the result.

Third.—Anything that prevents the easy escape of the menstrual discharge from the womb ; for instance, *displacements* or *constricted* cervix. A very *peculiar* variety of painful menstruation is that in which every month there is a *membranous cast* of uterine cavity extruded. Some ladies at the time of its expulsion have genuine bearing down pains.

TREATMENT.—Should vary with the peculiar variety you are treating. If the first two varieties present themselves, use the same treatment recommended for suppressed menstruation. If the third form, where there is an obstructed flow, presents itself, first determine the cause and remove it. If there is a *displacement* of womb it must be *replaced*; if a *contraction* of the cervical canal, it must be *dilated*, either by the introduction of graduated metallic or hard rubber sounds or bougies, or by the use of tents made of sponge. To insert the bougies or tents the services of a scientific physician are

required. Dr. J. Marion Sim's method of *cutting the walls of the cervix uteri* and then inserting a roll of cotton, saturated in glycerine, is indorsed and practiced by our best surgeons.

For the membranous form but little can be done, only to quiet the patient. Inhalation of sulphuric ether, sufficient to quiet the nervous excitation, is recommended.

To lessen the pain peculiar to the different varieties of painful menstruation, Prof. Thomas, of New York, recommends the following :

“ Hydrate of chloral, two drachms ; chloroform, one drachm ; morphine, one and one-half grains ; syrup of orange peel, eight ounces. Mix, and take a dessert spoonful in a wine glass of sweetened water every four hours while in pain.” This prescription is palliative, and not curative.

Prof. Jewett, of Bowdoin Medical College, recommends the following :

Gum camphor, two and one-half drachms ; extract of belladonna, sulphate of quinia, one-half a drachm of each ; pulverized gum arabic, a sufficient quantity to be made into eighty pills. One to be taken every four hours until there is relief.

Bromide of potassium is strongly advocated by some as almost a specific, and should be given as follows : Bromide of potassium, one

drachm ; syrup of orange peel, one ounce ; water, six ounces—mix. One ounce to be taken every five hours.

PROFUSE MENSTRUATION.

Many ladies lose more blood at the time of their *menses* than they would at childbirth, and before they can recuperate from the languor produced by *one menstrual* effort it is time *for another*. The quantity of menses varies in different women. Peculiar *idiosyncrasies* are manifested in regard to the amount in a state of health. In one there may be scarcely enough to stain the clothes, in another you would mistrust an abortion, the discharge is so profuse. Yet both may be in a state of health. If there are no constitutional effects there need be no anxiety. In this form of menstruation the blood often comes away in clots, which is not the case when the discharge is normal.

SYMPTOMS are similar to those peculiar to excessive loss of blood, viz., languor, weakness across the loins, dizziness, headache, pale countenance, etc.

CAUSE.—Frequent miscarriages, excessive coition, prolonged lactation, displacements of womb, general plethora, or its opposite, debility.

TREATMENT.—Remove the cause if it can be determined, and to check the flow, apply cloths,

wrung out of cold water, over the uterus; give iced drinks; rectal injections of *ice-cold water*. Have the foot of the bed *elevated* some ten or twelve inches; the room should be cool and the covering light. If these appliances do not check the flow, as a last resort use the *tampon*, and completely plug the vagina, as there will be no danger of *internal hemorrhage*, which we have said accompanies its use after childbirth.

Dewees recommends the following internal astringent: Sugar of lead, two scruples; gum opium, four grains; to be made into twelve pills; one of these to be given every hour, as the symptoms warrant.

Dr. Tanner, of London, uses the following: Gallic acid, fifteen to twenty-five grains; elixir vitriol, fifteen to twenty drops; tincture of cinnamon, two drachms; distilled water sufficient to make one ounce. This is for one dose. Mix it with two or three tablespoonfuls of sweetened water, and take every few hours in profuse menstruation.

Eberle says: "Thirty to sixty drops of the tincture of cinnamon every hour or so works wonders in mild cases." He also recommends the following: Pulverized alum, one scruple; pulverized ipecac, twelve grains—mix. Divide into six powders; one to be given every three or four hours.

IRREGULAR MENSTRUATION.

One of the most *common* questions I have been asked, is this: "Why is there such a *variety* in the *time, quality and quantity* of the menses?" In the same woman there may be all the aforesaid irregularities within a short period.

CAUSES.—Changes in the physical and mental organism. Menstruation is a symptom, and for its normal appearance health must rule, and the irregularities will ever correspond with the departures from it. A modification of the causes that produce *absent* and *profuse* menstruation will effect *all* the peculiarities in regard to time, quantity and quality. *Hygiene* and not *dosing* is required.

VICARIOUS MENSTRUATION.

Many times, when the menses are suppressed, the hemorrhage will take place in some other part of the body; it may be from the *nostrils, lungs, stomach, gums, ears, bladder*, and, in fact, from any part of the body. Dr. Churchill gives the following interesting case: "A young lady had enormous vicarious menstruation from the mouth and gums, losing about six quarts each time." Dr. Blundell gives the following case, in which there was every three weeks, for at least three times in succession, a discharge from a *sore on the hand*, in the place of a discharge from the

uterus, observing the *same period* to which the patient had been accustomed.

As, sometimes, there will be a *leucorrhœal* secretion from the womb, instead of *sanguineous*, so sometimes there will be an increased flow of *saliva*, supplanting the menses. Siebold gives a case to the point.

TREATMENT.—Same as for suppressed menses during the interval. If the vicarious bleeding is from the lung, or any important internal organ, internal astringents, of which gallic acid is the best, should be administered in from five to ten grain doses, to be taken in simple water.

CHLOROSIS, OR GREEN SICKNESS.

The popular name applied to this disease is *green sickness*, on account of the pale, bilious and *greenish* hue presented by the skin. It is most common about puberty. Prof. Thomas considers it a *nervous* affection. Churchill considers *impoverished blood* and a *deficiency of uterine action* as the prominent causes. The predisposing causes are sedentary, in-door life, grief, home-sickness, disappointments in love, fear, or anything producing bodily *inactivity* or mental or emotional *depression*.

Thomas says: "Chlorosis generally develops itself very insidiously. In a girl who has been previously in good health, languor, sadness and

aversion to company first attract attention. These are followed by palpitation of the heart after exertion, scantiness of the menstrual flow, and a characteristic pale or greenish complexion. There is generally a deficiency in the red corpuscles of the blood.

TREATMENT should be more hygienic than therapeutic. Anything that will invigorate the body and dissipate the *melancholic* fancies and morbid imaginings pervading the mind will be beneficial. Light gymnastic exercises in the open air, playing croquet, horseback riding, sun-baths, nutritious diet, such as milk, raw eggs, beef, fish, ale, general bathing in water as cool as can be borne if no chilliness attends its use, *electric baths*. To *dispel* the *mental gloom*, traveling and attending amusements is recommended. As there is generally more or less *anæmia*, the following nerve and blood tonic may be used: Phosphate of iron, one drachm, to be divided into twelve powders, one to be taken thrice daily in water. Also the following nerve tonic may be used: Take tincture of nux vomica, one half ounce, six drops to be taken three times a day. The non-appearance of the menses in this disease results from the impoverished blood, hence emmenagogues proper will do no good, and might result in harm. *Enriching* the blood and *quieting* the nerves are the

best *emmenagogues*. Dr. Churchill says: "Stimulating injection into the vagina has been tried with success." Dr. Ashwell uses the following: "The ammonial injection, composed of one drachm of pure liquor ammonia to a pint of milk, daily injected into the vagina, has proved very efficient in the hospital."

A WORD OF ADVICE.

Mothers, you should be very watchful over your daughters' health as they approach puberty. You should not be so *false modest* as not to inform them in regard to the *grand change* they are about to undergo. Inattention to hygiene at this stage of woman's life has shattered more constitutions, and laid the foundation for a greater variety of diseases, than all other causes. Place in their hands books that scientifically treat of the anatomy, physiology and hygiene of the sexual system.

PHYSOMETRA.

The uterus sometimes is distended with a *gaseous* substance, which produces so much distension that all the outward symptoms of pregnancy are manifested; and in fact it has often been confounded with it, as it is accompanied with some of the most prominent sympathetic symptoms of gestation. The menses are generally suppressed, the breast enlarged and milk

secreted. Percussing over the uterus gives the *hollow* sound. The origin of the flatus is a *mooted* point; some claim it is a *secretion*, others that it is the result of *decomposition* of menstrual clots, others still, that it is nothing but *air drawn up into the womb*. Many physicians have been deceived by this disease and have called cases pregnancy, whereas if they had made only a superficial physical examination they would have found it all—GAS.

TREATMENT.—The os uteri is generally closed; hence, kneading the abdominal walls, coughing, jumping, will sometimes effect the expulsion of the flatus. If these means do not succeed, the surgeon will have to insert a catheter into the uterine cavity. Many more women are troubled with this gaseous accumulation than is generally supposed.

UTERINE DROPSY.

The womb sometimes is greatly distended by the accumulation of a *liquid* in its cavity. The origin of the liquid is not fully settled. The os uteri is closed, so that the escape of the liquid is impossible. Percussion over the abdomen gives the *flat* sound. This affection may be confounded with pregnancy if there is not the proper physical examination.

TREATMENT.—Same as in *physometra*, viz., at-

tend to the general health. A general alterative treatment would be beneficial. Take iodide of potassium, two drachms ; water, eight ounces — mix. Take a tablespoonful before each meal.

UTERINE DISPLACEMENTS.

PROLAPSUS UTERI, popularly termed *falling of the womb*, is a very common affection. The degree of descent varies from the fraction of an inch to its appearance at the vulva, and in some cases more or less of the organ projects into the external world. This affection, as a rule, comes on quite slowly, and then again, in lifting and jumping, etc., it may take place *suddenly*.

Virgins are sometimes affected, but it is more common in married women.

SYMPTOMS.—There is a fullness in the pelvis, sense of weight and dragging down, pain in the back and loins, irritation of the bladder and rectum. All the symptoms are aggravated when standing on the feet. There is a general fatigue and despondency of mind.

CAUSES.—The vagina, we have said, is the *main support* of the womb ; hence, anything that increases the *weight* of the uterus will favor its descent, and at the same time, anything that *weakens* the vagina, even if the womb is normal in size and weight, will likewise produce prolapsus.

Chronic vaginal whites produces relaxation of the vagina, which would favor uterine descent.

Increased weight of womb may result from hypertrophy, tumors, engorgement of blood during menstruation; all of which conditions would favor prolapsus.

Tight lacing, by constricting the chest, presses the intestines down, and hence is a common cause, especially in fashionable circles.

TREATMENT.—If relaxation of vagina is the cause, use mild astringent vaginal injections after the womb has been replaced. The use of *pes-saries* is highly important in many cases; but great care should be used in their *adjustment*, and in selecting the *proper* kind.

HYGIENIC ADVICE.—Throw aside the corsets; give the ribs freedom of action; have suspenders so arranged that the weight of the clothing is borne by the shoulders and not the hips.

Abdominal supporters, if properly constructed and adjusted, are very useful, as they remove the weight of the intestines from the womb. They should be so adjusted that the intestines are not *pressed down* instead of *elevated*.

Thomas says: "The principle upon which these supporters act is this—they should do just what the patient's hands do when she places them above the pubes and lifts the abdominal viscera."

During menstruation assume the *reclining* position as much as possible. The womb during the menses is *twice* as heavy as usual.

Do not be in such a hurry to get around after childbirth, as it takes the womb at least three weeks to return to anything like its original weight.

For want of space we must dismiss any farther remarks concerning this interesting and most common affection.

ANTEVERSION OF WOMB.

The uterus, in its normal position, is slightly inclined *forward*. An imaginary line drawn from the *umbilicus* to the *coccyx*, would pass through the center of the womb when it is in its natural situation; but sometimes it is so far *bent forward* that it so presses against the bladder that cystitis or inflammation of the bladder is the result, and there will be quite frequent and many times *painful* urination. As the fundus of the womb is tilted forward, the os for the same reason will be pressed backward, which would result in painful menstruation, and be a prominent *cause of sterility*.

The *round ligaments* that extend from the fundus are sometimes shortened, and therefore pull it forward. Churchill says: "Now the oblique position of the pelvis, when joined to

the spinal column, would naturally favor the occurrence of anteversion were it not that the presence of the bladder, so often distended, offers an obstacle to its descent anteriorly. So long as the bladder *contains much urine*, this accident may be considered impossible."

CAUSES.—A tumor on the anterior of the fundus would, through the influence of gravity, tilt it forward; a distended rectum, and the same general influences that produced simple prolapsus.

SYMPTOMS.—Difficult urination, and oftentimes retention, and the os uteri pressing against the posterior part of the vagina, would result in *rectal irritation*, and perhaps *constipation*.

TREATMENT.—Lying on the back, allowing the bladder to be distended, removal of all pressure from above. In addition to these precautions there should be used an abdominal supporter, and a *properly adjusted anteversion pessary*.

In the worst varieties of anteversion the physician, by proper manipulation, should restore it to its place.

RETROVERSION OF UTERUS.

This signifies that the fundus is tilted in just the *opposite* direction from that in anteversion. A *retroverted* womb is most common in *married women*, an *anteverted* in the *virgin*.

SYMPTOMS.—Urinary trouble; pressure against the rectum would induce a dull aching pain in that region, and a constant desire to evacuate the bowels. In addition to these symptoms, there will be those peculiar to falling of the womb heretofore described.

CAUSE.—Over-distended bladder, pressure from above and in front, ill-adjusted abdominal supporters. Thomas says: "It is no exaggeration to assert that the usual plan of management after parturition supplies one of the others mentioned above. The woman lying almost constantly upon her back, the *heavy fundus* naturally tends to fall *backward* into the hollow of the sacrum. Many nurses insist upon this position, and often for days refuse the patient the privilege of lying upon the side."

But this is not all, many a nurse's reputation among ladies rests upon her capacity for *preserving the figure* by tight bandaging. A *powerful* woman will often expend her *whole force* in making the bandage as tight as possible to accomplish this purpose. No one who has watched this process can doubt its influence in displacing the uterus by direct pressure.

TREATMENT.—Sir Jas. Y. Simpson says: "Some have recommended that the patient should be kept for a length of time in the horizontal position, and the late Dr. Rigby used to advise his

patients to lie in the *prone* position, as that which was likeliest to benefit the morbid condition."

The first thing to be done, as in all the forms of displacement, is to *remove the cause*, if it can be determined; then the physician should restore the organ to its proper position, which sometimes is easily effected.

After it is once restored, a *retroversion pessary* should be inserted and adjusted. If there is constipation, the distension of the rectum will be a *posterior support*, although great care should be exercised that there is not too violent straining and bearing down in defecation, which can be in part obviated by copious rectal injections of simple water. Be sure and see the bladder is not over-distended at any time. In all forms of uterine displacements keep off the feet as much as possible.

FLEXIONS OF THE UTERUS.

ANTE-FLEXION is where the womb is flexed or doubled upon itself forward.

Retro-flexion, where it is doubled backward.

The *cause, symptoms and treatment* are so similar to those of the corresponding versions, I pass them without further comment.

ULCERATION OF OS UTERI.

This is a very common disease, and you would suppose, to hear some practitioners talk, it was the *sum total* of all uterine affections. Some physicians, when they cannot determine what is the matter, *look wise*, and finally say it must be *ulceration*.

LOCATION.—The mucous membrane covering that portion of the womb that projects into the vagina.

The membrane may be at first only congested, but finally becomes inflamed, terminating in ulceration. By using the speculum the surface is found to be covered with a creamy liquid, composed of mucus and pus, and sometimes streaked with blood. When this liquid is removed, a *red granulated* surface is presented. The membrane that lines the cervical canal sometimes presents the same appearance.

SYMPTOMS.—Simulate often those of uterine leucorrhœa.

Headache, dirty sallow hue of the skin, neuralgic pains in the rectum, bladder and mammary gland; fixed pain not only in the *back*, but also in the *center* of the pelvis. Coition is painful and often accompanied with an increased purulent secretion; great distress in walking.

CAUSES.—Repeated suppression of the menses;

irritations from excessive coition; pregnancy; difficult parturition; use of irritating injections, and improper use of pessary.

TREATMENT.—Warm water should be injected so as to cleanse the diseased membrane, and then mild caustics applied directly to the part. Thomas says: "Applications should be made not only by the *physician*, who will probably use the speculum not oftener than once a *week*, but also by the *patient*, who should make them *daily* by injections and suppositories."

Vaginal injections should be made thus: one gallon of warm water, one ounce of glycerine, and one drachm of white vitriol—mix. When there is much heat and irritation in the parts, Dr. Simpson recommends the topical application of *bismuth*. He describes the mode of using it thus: "But the most efficient remedy is *bismuth*, which you may prescribe in the form of a pessary, or which you may apply better still in the *form of powder*, either through a common speculum or by means of a small tube."

In all the varied forms of disease of the mucous membrane lining either the vagina or the protruding os, vaginal injections of water at that temperature which is *most agreeable* to the patient are beneficial.

If the ulceration does not yield to the above treatment, the physician should be called, and

by the use of the speculum he will apply some mild caustic to the parts affected.

Carbolic acid, one part, and sweet oil, two parts, is a caustic used by many. Each time the caustic is used the parts should be thoroughly syringed with simple water before its application. Sexual intercourse should be interdicted.

UTERINE TUMORS.

There is nothing that will *alarm* the patient any quicker, and cause her to sink into a general despondency, than to inform her she has a TUMOR forming on the womb. There is apparently something *disheartening* in just the *mere mention* of the name, but many times there is no cause for so much despair, for the simple reason there may be a tumor forming or formed that produces but *very little* constitutional trouble, and then again surgery is so far advanced, that many of them are easily removed. There has always been a mystery connected with the *nature* and *cause* of the varied forms of tumors. Prof. Miller, of Edinburgh, says: "The origin of tumor is yet a question *unsettled*." Again he remarks: "Now any cause which in a person so predisposed, leads to an *interruption, even temporarily*, of the normal function of growth in a part, must necessarily

lay that part peculiarly open to the action of the predisposing causes of tumor." Carpenter says: "The tumor, in its growth, imitates *no natural shape* or construction; the *longer* it continues the *greater* its deformity."

TUMORS are divided into two classes, viz., NON-MALIGNANT and MALIGNANT. The *former* are *amenable* to treatment, can be extirpated and never again appear; the *latter* are peculiarly *dangerous* in whatever part they may occur, and they are so related to the constitution that they manifest a tendency to *recur if removed*. All the surgeon can do in the malignant forms is to *palliate*; nothing but *death* can ever stay their destructive march. I will have time to refer to only a few of these *abnormal* growths.

FIBROID TUMOR.

This is a *non-malignant* growth, and is the most frequent disease of the womb, if we except congestion and its sequelæ. It is claimed by some that *forty per cent* of the women that arrive at the age of *fifty* have this form of uterine tumor, and without doubt many of those *intractable forms* of uterine displacements are the results of these tumors. This form of tumor may affect any part of the uterine substance, and varies in size from that of a *pea* to one *fifty pounds* in weight.

The appearance of the tumor varies from a fleshy vascular substance to that of a hard fibrocartilaginous nature.

SYMPTOMS.—They are many times quite slight, their weight sometimes producing only a bearing down sensation; then again they will produce the *greatest* constitution trouble.

Large uterine fibroids many times simulate all the signs of pregnancy. Prof. Simpson gives the following: "One of the most striking examples I ever met was in the case of a young unmarried lady—a governess—whom I saw many years ago. Everybody was talking of the *tremendous blunder* which had been made by a distinguished obstetrician, in having diagnosed pregnancy in the case of one of her Majesty's maids of honor, who was the subject of an ovarian tumor.

"It seemed as if many women were led to examine their own abdomen, and in this way the young lady, of whom I speak, first had her suspicions aroused, and, although she had never suffered from any kind of discomfort, the uterus was found enlarged to that of a uterus at the full time of pregnancy, from the growth of its walls of a large fibroid tumor." The tumor itself is but very little sensitive to pain, yet it often produces *sympathetic neuralgia* in nearly every part of the body. No physician, from a *general*

examination, should pronounce a case a fibroid tumor, as its presence *can never* be determined for a fact, without a *personal* examination.

Thomas says the causes are: "RACE, the *African* being peculiarly liable; *age*, from thirty-five to forty-five; *sterility*; *menstrual disorders of long standing*." Anything that is foreign to the womb, as a *retained coagula*, blighted ovum, etc., may be the *nucleus* for this abnormal growth.

In regard to the cause, Prof. Miller says: "We had better *confess our ignorance* than to busy ourselves with vague and valueless hypotheses."

TREATMENT.—This should be *palliative*, yet *surgical* interference can be solicited, but never should be unless the most grave symptoms are present. Whether the tumors can be discussed, or, in popular language, *scattered*, writers do not agree. Scanzoni says: "We do not remember a single case in which, with the means indicated or with others, we have obtained the complete cure of a fibroid tumor."

The following preparation is recommended by some of our best practitioners, and should be used for a great length of time. If it does not lessen or discuss the tumor, it may prevent its further enlargement: Iodide of potassium, one-half ounce; water, one pint. Take one half table-spoonful three times a day.

Bromide of potassium, in five-grain doses, three

times a day, is favored by Dr. Simpson, and he claims it is more to be relied on than the iodide. General hygiene should be attended to. Good health and the development of the tumor are, to a degree, antagonistic.

POLYPUS OF THE WOMB.

This is quite a common affection of the womb, and is not confined particularly to any age, though, many times, it does not manifest itself until the *turn of life*. This tumor varies greatly in size, and its structure varies from the *hard cartilaginous* structure of the ordinary fibroid tumor to a *soft vascular* nature. It is generally attached by a pedicle or foot stalk to the membrane lining the uterine cavity. The tumor sometimes hangs in the vagina, whilst the pedicle is attached to the inside lining of the womb; then again the pedicle may be attached to the fundus, and the tumor is, so to speak, suspended in the uterine cavity.

CAUSE.—Any prolonged irritation whatever.

SYMPTOMS.—Similar to those in ordinary fibroids with this exception, that there is a great tendency to *hemorrhage*. Simpson thus describes it in his lectures: "Frequently the first symptom that attracts the patient's attention, and sends her to consult a doctor, is the *increase* in the quantity of blood escaping at the menstrual times,

and the prolongation of the individual periods. Or it begins to escape irregularly and unexpectedly during the inter-menstrual period, under any physical exertion or mental emotion, or without any kind of disturbance to which as a cause the bleeding can be referred. It may go on *so frequently* that the patient is *oftener unwell* than otherwise, the discharge continuing for *two or three weeks* at a time, and only drying up for a short interval. The quantity, too, may be so great that her strength gets drained away, and she becomes reduced to the last stage of *anæmia*."

When the tumor projects *wholly* or *in part* into the vagina, the diagnosis is *easily* made, but it is not so when it is situated in the uterine cavity.

TREATMENT.—This is strictly *surgical*. Either by applying a ligature, incision or torsion, the pedicle is easily separated from its base. It is generally a simple operation, and has no bad train of symptoms attending it. When the tumor is wholly within the uterus the operation is not so easy, and where such is the case, the os must be dilated in the first place with the sponge tent.

These polypi in the womb are one great cause of many of those *menstrual irregularities*, affecting *time, quantity* and *quality*.

CAULIFLOWER TUMOR.

This tumor is of a soft, vascular nature, and fleshy appearance. It presents an uneven surface, whereas the polypus is generally smooth. It is destitute of a pedicle, and much more prone to bleed than the polypus.

Churchill says: "The first symptom that attracts the attention of the patient is an *unusual moisture* about the external parts, and which soon assumes the appearance of a copious watery discharge from the vagina."

Its *external appearance* and its *proneness* to bleed easily distinguish it from other tumors.

There is no way to effect its removal, only by the use of the ligature, and this will be only a temporary cure, as this tumor manifests that peculiar quality of *malignancy* by reappearing after the operation.

The great source of danger is *hemorrhage*, and, as a rule, all cauliflower tumors are *fatal* in their tendency. A physician should be *very careful* in his diagnosis of this affection, and not pronounce a case cauliflower tumor until he has submitted a thin slice of it to the microscope. The *microscope never deceives*.

CANCER OF THE UTERUS.

Of all affections to which woman is subject this is the most to be dreaded. Its *synonym* is

DEATH. It destroys, according to statistics, three times as many females as males. The nature of this disease is still a mystery; no two agree. Rokilansky considers it a *blood poison*, a constitutional disease; others claim that it is of a *local* origin. It manifests itself in two forms, but they are merely *different stages* of the *same* complaint. When the tumor is *hard* and there is *no discharge*, we term it SCIRRHUS; but when it *softens* and there is a *breach of surface* from which there is constant exudation, then we term it CANCER.

CAUSE.—*Hereditary transmission*; but further than that we know *but little*. Anything that will debilitate the physical or depress the mental powers will predispose to cancer as it does to other diseases. It makes its attack between forty and fifty years of age, and for that reason many ladies suppose the *turn of life*—the critical period—favors its attack. It is a *coincidence* rather than a *cause*.

SYMPTOMS.—The pain, which sometimes does not manifest itself until quite late in the disease, is peculiar. Churchill says: "The character of this severe pain is described as *lancinating*—as though *knives were plunged into the body*." Sometimes it is more of a *burning* sensation. The moment the hard tumor becomes opened the *fetor* of the discharges is different from

anything manifested in other diseases. General emaciation, profuse hemorrhage at the time of the menses present themselves. *Nothing* can be done, in the way of treatment, only *to quiet the pain*, correct the fetor of the discharges, make the patient as quiet as possible. All hope of cure is delusive. The patient may linger along for years, but *death* will not give up his victim.

OVARIAN DISORDERS.

The ovaries, which are the *analogues* of the testes in the male, are glandular in their structure, and are subject the same as other glands to a great variety of abnormal growths and diseases. We have space only to give a few hints, yet I find that ladies are eager for knowledge on this subject.

OVARIES ATROPHIED OR ABSENT.

The ovaries are sometimes *absent*, or so *atrophied* that they cannot perform the office of ovulation, and when such is the case the period is much delayed. When you see a young lady, past the age of twenty, troubled with amenorrhœa, and presenting the appearance and action of a girl, nine times in ten there is ovarian deficiency. About all that can be done is to tone the system with nutritious diet, mild exercise in the open air; general bathing, followed by fric-

tional applications, likewise iron tonic, are useful. Galvanic electricity may be applied with advantage, by placing one pole over the spine and the other over the ovarian region.

OVARIAN HYPERTROPHY.

HYPERTROPHY of the ovary is where it is enlarged. Dr. Bright gives a case where the ovary was enlarged to the size of a kidney.

CAUSE.—Prolonged irritation, which finally terminates in a low grade of congestion.

SYMPTOMS.—A sense of *weight* and *fullness* in the ovarian region, and yet scarcely any pain or tenderness. Its increased size and weight may cause its displacement.

TREATMENT.—Discussant remedies are recommended. Apply iodine externally, and take five grains of bromide of potassium in water three times a day, internally.

OVARIAN INFLAMMATION is not a rare affection. It may be caused by suppressed menstruation; by a blow over the iliac region; and it seems to result many times from uterine disease. The left ovary is more frequently attacked than the right.

SYMPTOMS.—Acute pain in the ovarian region, great tenderness to the touch, and an aching sensation to the groin and down the thighs. There is a great tendency of the disease to ex-

tend to the peritoneum, from which the pain and tenderness would be extended over the whole abdominal region.

The inflammation may terminate by resolution, or pus may be formed.

TREATMENT.—Hot hip-baths night and morning are beneficial. Hot cloths frequently changed should be placed over the diseased organ. The most perfect quiet should be observed. Further treatment would be the same as in any inflamed organ.

OVARIAN DROPSY.

This is perhaps the most common form of ovarian disease. When speaking about the ovaries, you will recollect that I said that after puberty they contain twenty or more ovisacs; these ovisacs contain a peculiar liquid, in which floats an egg, and it is claimed that *ovarian dropsy* is really a *dropsy* of the *ovisac*; and most writers give the disease a different name, according as *one* or *more* of the ovisacs become distended. The quantity of fluid contained by these sacs varies from a *few ounces* to *several gallons*. Dr. Churchill removed *140 gallons* from one patient. A case is given by Ford where the patient was tapped 49 times, and 2,649 pints of liquid were removed. It is wonderful how an organ that, many times, in a state of health is not larger than an *almond*, can be dis-

tended to such *enormous size*; and recollect it is generally not the *whole organ* that is affected, but only *one or more of its cysts*. The quality of the liquid varies from a *clear serum* to that of *dirty brown material*, more semi-liquid than liquid.

CAUSE.—Thomas says: "Very little is known positively upon this subject. The predisposing causes which are generally admitted are the following: Age, child-bearing, chlorosis, scrofulous diathesis, menstrual disorders."

SYMPTOMS.—These are not prominent at first, although there is often a dull pain and sense of fullness from the very commencement. When the cysts become so much distended that they cannot remain in the pelvis, they, as a matter of course, rise into the abdominal cavity, and then the nature of the disease is better manifested.

Churchill says: "Let us first enumerate the more prominent symptoms while the tumor is in the pelvis. These are at first very deceptive; the patient feels a weight in the pelvis without any illness, and as it often happens, the menses are suppressed, the breasts painful, increasing in size, and sometimes secreting milk. She, of course, fancies herself pregnant. It is said that morning sickness occurs as in early pregnancy."

But when the tumor *rises up* into the abdominal cavity, the pressure having been removed, all *rectal and urinary trouble ceases*; as the

accumulation of liquid increases, there will be manifested most of the symptoms of ordinary abdominal dropsy, or those peculiar to the advanced stages of pregnancy.

TREATMENT.—Medicine is of but little avail in this disease. *Diuretics* are sometimes given, with the hope to lessen the amount secreted. *Iodine* is given *internally* and used *externally*, with the hope of producing a certain amount of *absorption*. They are generally ineffectual.

About all the physician can do is to *combat symptoms* and *quiet the fears* of the patient. The symptoms produced by the accumulated effusion soon become so grave the surgeon is called. He can *relieve*, but cannot *cure*. He plunges the trocar through the abdominal walls into the sac, and allows the liquid to escape. The patient cherishes the hope *that now all will be well*. Not so; it is relief only for a brief time. The sac becomes *gradually* distended again, and she soon is as bad, or worse off than before. Her strength is constantly failing, and the trocar *again* is brought to the rescue. Martineau tapped one patient *80 times* and drew off 6,631 pints.

IS OVARIAN DROPSY EVER CURED?

Miller says: "There is sometimes a *spontaneous* cure, and the tumor becomes *smaller* and *smaller*,

and finally *disappears*." Some claim they have effected *permanent* cures by injecting into the empty sac, after the operation of tapping, a *weak iodine* solution; and if it does not effect a permanent cure, it may *temporarily* arrest the disease.

I am often asked: "Is tapping a dangerous operation?" Prof. Simpson will answer for me: "I believe it by no means free from danger, more especially when performed for the first time." One in six die either immediately or within a very few hours after the first tapping.

Many surgeons at the present time, instead of tapping the patient *pro re nata*, resort to that king of operations, OVARIOTOMY, which consists in cutting through the abdominal walls, and removing the diseased ovary and its attached sac. The result of the operation is *one death* to about *three recoveries*.

"Is the operation, as a rule, justifiable?" Churchill answers: "On the other hand, bearing in mind that the ovarian disease must end *fatally*, and is but *little influenced* by medicine, and, moreover, that after the other operation for its relief—tapping—nearly *one half die* after the first attempt, we may conclude from the results of ovariectomy, that in some cases the operation is justifiable."

Simpson says it should be performed only in *rare* and *exceptional* cases.

Thomas says: "Great as are the dangers of the operation, it offers a *better prospect* for recovery than any of the other plans mentioned; and in case of their failure, it always remains as a reasonable hope for the patient, whose life will probably terminate in three or four years if art does not interfere."



CHAPTER II.

DISORDERS DURING PREGNANCY AND AFTER CONFINEMENT.

NAUSEA AND VOMITING.

WE have before stated that the *morning sickness* is a very common though not a constant attendant in gestation. There is no fixed time when it makes its appearance. Some ladies have told me that from the very *moment of conception*, and all through the pregnant state, they have had more or less nausea. Generally this troublesome symptom does not appear until four or five weeks after conception. Morning sickness is the term by which this disorder, or rather *symptom*, is known, yet it is not *strictly correct*, because it may manifest itself after *each meal*, and continue through the *whole day*. As a rule, this symptom requires no medical attention; then again it is beyond the control of the physician's skill.

TREATMENT.—If the nausea is slight, a seidlitz powder is recommended.

Dr. Heberden states that the application to the stomach of a folded cloth, moistened with

laudanum, quiets when internal remedies have failed.

Lemon juice and water, spearmint tea, mild bitter infusions, have their advocates. In ordinary morning sickness nothing is to be done only to be careful of the diet; let it be *simple* and *plain*.

WAKEFULNESS.

Many ladies during pregnancy complain of *sleeplessness*, and they are restless, peevish and feverish. Churchill says: "The sleeplessness of pregnant women appears to be a purely *nervous* affection, excited by various causes, such as a *heated bedroom*, too little exercise, excessive motion of the child, uneasy sensations of the uterus, or sometimes apparently without any cause at all."

TREATMENT.—Sponge the body with cool water just before going to bed, and it will often remove the feverishness. Foot-baths in warm water invite the blood to the extremities. Prof. Hammond advocates wine or lager beer, in small quantities. Brown-Séquard's favorite prescription for this affection is: Take bromide of potassium, one-half ounce; cinnamon water, two ounces. Take a teaspoonful on going to bed.

HEADACHE.

This affection arises from the sympathy

existing between the brain and the uterus. It may be purely *nervous*, or it may arise from *too much blood* in the brain. The *entire* head may be affected or it may be confined to just *one-half*, or even limited to a *small spot*.

All that is required is cool applications to the head and warm foot-baths on going to bed, or at any time. Bromide of potassium is recommended where the headache is *plethoric*, and tincture of valerian where it is purely *nervous*.

Cold lotions should be applied to head, and hot applications to back of neck.

CRAMPS.

These are produced by the pressure of the womb on the nerves emerging from the pelvis, and they prevail more at the fourth and ninth months of gestation.

VARICOSE VEINS.

These are the result of pressure on the veins conveying blood from the lower extremities.

SWELLING OF THE LOWER EXTREMITIES.

This is a dropsical condition, and the cause of the effusion is pressure by the womb that retards the return circulation.

TREATMENT.—In the last three disorders, about all that can be done is rest, in a recum-

bent position, as thereby the pressure will be partially removed.

TOOTHACHE, SALIVATION, ETC.

These are purely *sympathetic*, and but little, if anything, is to be done.

Most of the other disorders peculiar to gestation we have considered in another place.

DISORDERS AFTER CHILDBIRTH.—MILK LEG.

This is the popular term applied to the colorless swelling of one or both legs after childbirth. It is not so common after the *first* birth as it is in *subsequent* deliveries. It generally makes its attack in a very short time after delivery.

SYMPTOMS.—There is generally more or less pain and uneasiness in the pelvic region for a time, and soon the patient suffers with acute pain in the leg, commencing oftentimes in the calf of the leg. Dr. Burns says: "Sometimes the first symptom is sudden pain in the calf of the leg. Within twenty-four hours after the pain is felt the limb swells and becomes tense; it is hot, but not red — it is rather *pale* and somewhat *shining*."

CAUSE.—Churchill says: "Almost all the cases I have seen have occurred after leaving bed at *too early* a period after delivery."

TREATMENT.—Foment the limb with cloths

dipped in warm hop tea. Envelop the limb in a linseed-meal poultice, and after the acute symptoms are controlled pencil the limb with the following lotion : Tincture of iodine, one-half ounce ; alcohol, one ounce — mix.

In the last stages, after the tenderness has disappeared, a moderately tight flannel bandage may be applied to the limb.

Dr. Burns observes : " This is not generally a fatal disease, but it is tedious and often accompanied with hectic symptoms."

PUERPERAL MANIA.

It is a species of *insanity* peculiar to childbirth. It may make its attack, however, at any time from the commencement of gestation until the close of lactation. Its most frequent time of attack is a few days after childbirth. Patients suffering with this affection will manifest every stage of insanity, from that of *despondency* to *acute mania*.

CAUSES.—Churchill says : " Fright, anger, sorrow, or any species of mental emotion, are often the mental excitants." Sleeplessness, excessive secretion of milk, irregularities of diet, etc., are the physical excitants.

TREATMENT.—Remove the causes and send for a physician.

CHAPTER III.

VENEREAL DISEASE.

THIS form of disease is divided into two classes—*Gonorrhœa* and *Syphilis*. Some authors claim that both classes are produced by the *same* poison; other, and by far the greater number, advocate that they are the result of *entirely distinct* poisons.

GONORRHŒA.

Promiscuous sexual intercourse on the part of the female engenders in the vagina a specific animal virus. What it is we cannot determine—we cannot see it with a microscope—we cannot analyze it; all we know about it is *its existence*. If a male has coition with such female, the virus attacks the mucous membrane of the urethra at its external orifice—the meatus urinarius—and after a period of incubation, varying from a few hours to several days, the following symptoms are manifested: *heat* and *itching* of the glans penis; the meatus is *red* and *swollen*; urination painful. The inflammation, which was at first confined to the *external* orifice, soon extends the whole length of the urethra, even to the membrane lining the

bladder. At first the membrane implicated is dry, as is usual when any mucous membrane is congested; but congestion is soon followed by inflammation, and the membrane, at first dry and swollen, soon shows a secretion which, at first, is limpid, but soon becomes dark, turbid and puriform. At this stage of the disease there is generally a feverishness of the system, and sympathetic pains in the groin, testicles, and other parts of the body, are felt.

CHORDEE.—An abnormal erection of the penis occurs when the whole track of the urethra is inflamed, and it is attended with severe pain.

Gonorrhœa, in its grave forms, may produce inflammation of the *bladder, prostate gland and testes, stricture* of the urethra.

HYGIENIC TREATMENT.—If hygiene is carefully observed, the disease requires but *very little* medical regimen. Rest, low diet, abstinence from sexual intercourse, sitz baths in cold water urethral injections of ice-cold water, abstinence from condiments and alcoholic stimulants, cold mucilaginous drinks, slippery elm tea, will generally effect a cure, if they are attended to early. Many times this disease terminates in *gleet*, a condition in which the grave symptoms have subsided, and the secretions are partially restored to their natural condition.

MEDICAL TREATMENT.—If the physician is

seen early, he will perhaps inject up the urethra a *strong* solution of nitrate of silver. This is called the *abortive* cure, but should never be resorted to except in the *first* stages. If the physician is not seen until the inflammatory stage has commenced, then his treatment should be strictly *antiphlogistic*. The same hygienic precautions as before mentioned should be observed. Epsom salts should be given daily in small doses; they are cathartic, diuretic and refrigerant. If chordee exists, apply cloths dipped in cold water to the penis, and take a pill, at bed time, composed of opium and camphor, one grain each. As soon as the inflammatory stage has subsided, then mild stimulating or astringent injection may be used; also stimulating diuretics should be given internally. The following injection is recommended in the last stages: Take sugar of lead and white vitriol, two grains each; rose-water, four ounces; inject morning and evening.

The following has its advocates: Take chloride of zinc, two grains; glycerine and water, one ounce each; inject morning and evening.

The following *diuretic* is recommended: Take tincture of cubebs, two ounces; morphine, two grains; aqua camphor, four ounces — mix; a teaspoonful every four hours, to be taken in a tablespoonful of water.

Injecting a little sweet oil or glycerine into the urethra, just before urination, will obviate the *scalding* effects of the urine. We have, so far, confined our remarks to gonorrhœa in the male; we will now note the peculiarities of the same disease in the female.

GONORRHŒA IN FEMALE.

We have already shown that the gonorrhœal virus produces a congestion and inflammation of the mucous lining of the urethra, and oftentimes the bladder in the male. In the female it inflames the membranous lining of the vulva, vagina and urethra. The origin of the virus we have already considered; the symptoms produced by it are, at first, an itching sensation, soon followed by heat and burning in the vagina and urethra; frequent desire to urinate; sense of weight and fullness in the perineum. The mucous lining passes through the same stages that it did in the male. *Leucorrhœa* — vaginitis — often closely simulates this disease, but generally the urethral irritation, scalding sensation of the urine, suddenness of the attack and greater virulence of the symptoms peculiar to gonorrhœa, distinguish it from any other disease. The treatment is quite similar to that given for the same disease in the male. If the physician is called early, the abortive cure —

viz., nitrate of silver injections — may be tried ; but if the disease is fully developed, you must allay the inflammation most by hygienic applications. Sexual intercourse should be interdicted ; sitz bath in cool or warm water, just as is most agreeable ; copious vaginal injections of cool water medicated with one scruple of sugar of lead and three grains of morphine to each pint. The rest of the treatment is the same as that given for the male, recollecting that the stimulating injections and internal diuretics must not be given until the inflammation *has subsided*.

I am often asked whether the *leucorrhœal* secretions ever are so virulent as to produce *gonorrhœa* in the male. I answer by saying this is still a mooted point ; there are good authorities on both sides. That the acrid secretions of leucorrhœa will sometimes produce urethral inflammation is *a fact* ; the point not yet settled is this : Is the inflammation *identical* with that produced by the specific poison peculiar to gonorrhœa ?

SYPHILIS IN THE MALE.

No disease is more to be dreaded than this. Whereas the *hungry cancer* devours, as a rule, only *one part* at a time, syphilis, especially in its last stages, *swallows its victim alive*. No tissue or organ is exempt from its ravages. Bone,

muscle, lymphatic and nerve are equally relished. Not only does its victim suffer *directly*, but untold misery may be transmitted to *future generations*.

The animal virus of this most *despicable* disease is supposed to have its origin in impure and promiscuous coition, but just what it is no one can tell.

If a male has coition with a female suffering with syphilis, after a period varying from one to ten days there will appear on the glans penis one or more *red, fiery pimples*. In a short time they become so many little *vesicles*; finally the bursting vesicle becomes an *ulcer*; the ulcer is termed a CHANCRE. This stage of the disease is termed *primary*, and is *easily* cured. If the chancre is thoroughly cauterized with nitrate of silver, an eschar is formed. By fomenting the parts with cloths dipped in warm water or linseed-meal poultice, the eschar is soon separated, and the base from which it has been removed will heal like any healthy granulating surface. The disease is cured, and none of the poison has contaminated the blood. But *shame* and *false modesty* silence the patient; not even his bed-fellow knows it. The secret is kept within his own breast; he allows the disease to continue its *ruthless* march.

If the primary stage is not treated, the poison

in the chancre is taken up by the hungry absorbents, thence it is conveyed by the lymphatics to the lymphatic glands in the groin. The glands soon become congested and inflamed, and finally end in suppuration. This affection of the inguinal glands is termed BUBO. The onward march is still continued, and soon the blood in every artery, vein and capillary is *tinctured* with the *deadly* poison. It is now termed SECONDARY syphilis. The hair begins to fall out; there is a copper-colored eruption on the skin; the fauces are soon inflamed and ulcerated, and syphilitic neuralgia may affect any nerve in the body. *Iritis* is a frequent complication.

If therapeutical aid is still unsought, *onward to death* is the watchword, and what is termed the TERTIARY stage is now established. The last citadel, *the skeleton*, is besieged by the deadly foe. Bony tumors, termed nodes, are formed on the tibiæ, ulnæ, clavicles, sternum, and may attack the *cranium*, and many times the QUARTERNARY stage—DEATH—does not take place until syphilitic ulceration has consumed a portion of the skull, and made its attack on the palace of the soul—the brain.

The hasty sketch we have given imparts to the general reader a *bird's-eye* view of some of the metamorphoses of this *loathsome* disease. Yet, if we should be *specific* in our descriptions,

we should find that the syphilitic virus manifests its effects primarily in the production of at least *four* different kinds of chancre, viz., *simple venereal ulcer*, *ulcer with* raised and well defined *edges*, the *Hunterian* or true chancre, and the *phagedenic* ulcer. It is advocated that four different degrees of *virulence* of the same poison cause these four peculiar effects. Others, on the other hand, claim they are the result of four *distinct specific poisons*. We have not the space, and it is not very important, to specify their differences, as they all require nearly the same treatment in the commencement, viz., they should all be thoroughly cauterized, either with nitrate of silver, potassa fusa, or nitric acid.

TREATMENT.—During the *secondary* stage, succeeding especially the *hard* or *Hunterian* chancre, mild mercurials are recommended; yet they should be watched closely. Napheys uses the following: “Corrosive sublimate and muriate of ammonia, six grains of each; compound tincture of Peruvian bark, two ounces; water, four ounces. Directions: Take a teaspoonful morning and evening for one week; afterward, thrice a day after eating. When the medicine has been taken for twelve or fifteen days, it is a good plan to omit it for four or five days, and then resume it again. In the first and fourth forms of chancre, mercurials should be avoided.

For *tertiary* symptoms, which generally appear, if the disease is not stayed in its course, several months after the blood first becomes poisoned, the iodide of potassium is the anchor of hope. The principle of cure is to *eliminate* the poison from the system, and to combat the pathological effects and their symptoms on general principles.

There is no better blood purifier than iodide of potassium. Prof. Miller says: "It is best given in the form of solution, beginning with a dose of two or three grains, given thrice daily, and gradually increasing it to half a drachm or more, according as it is borne."

In our sketch of this disease we have only given general facts, and have not time for special. No one afflicted with this terrible affection should attempt to treat himself. Let him consult a scientific physician as soon as there is the least evidence that a chancre is making its appearance.

SYPHILIS IN THE FEMALE.

This loathsome disease affects the female in just the same manner as it does the male; that is, the secondary and tertiary stages do not differ in the least, and the primary differs only in the *location* of the chancres or sores, they being found in the female on the *vulva* or *even high up* on the vaginal walls.

I am often asked whether syphilis is ever communicated except by coition. I answer, YES. It may be in any way by which the virus is brought in contact with an abraded surface of any part of the body, as by means of clothes worn by such patients, or by means of privy-seats, etc.

It is claimed by some that constitutional syphilis never affects the same person the *second* time; that once having it is a *safeguard* against a second attack; and syphilization has been advocated as the best means of arresting the spread of the disease.

Trall says: "Many experiments have been instituted for the purpose of determining the possibility of producing the various forms of venereal disease by inoculation. The method usually adopted has been the insertion of the virus under the cuticle, as in the case of ordinary vaccination. In some cases the cuticle has been removed by a blister, and the virus applied to the denuded surface. And in this way syphilitic pustules have been induced in persons whose whole systems were contaminated with the disease. Constitutional syphilis has also been induced in healthy persons by scarifying the skin, and dressing the wounds with the blood of syphilitic patients."

Syphilization consists in that condition of the

system by which immunity against the disease is established by inoculating the body with the virus as long as any development of syphilis results. The idea of inoculating the whole of mankind is to any person of moral culture both *shocking* and *disgusting*.

SYPHILIS IN THE INFANT.

This disease, like consumption, epilepsy and rheumatism, is transmissible from parents to fœtus.

If either father or mother is afflicted with constitutional syphilis in the secondary stage, the children begotten will be infected, and if both parents are free from the disease, it may be communicated to the child by nursing a female that has secondary syphilis.

Miller says the prominent symptoms of children born of syphilitic parents are as follows: "Hoarseness of cry; a shriveled, lean state of body; an anxious expression of face, often senile; chaps at the flexures of the limbs and on the nates; a copper-colored eruption, sometimes studded with pustules, more frequently scaly; discharge from the nostrils, excoriation of the mouth and throat."

Parents affected with tertiary syphilis *cannot* transmit the poison to their offspring, yet a child born of such parents will often manifest *scrofu-*

lous symptoms. The syphilitic poison may pass through several generations in a latent state, but finally, with perhaps *redoubled* force, will suddenly spring into activity.



CHAPTER IV.

DISEASES OF RECTUM.

CONSTIPATION.

THIS is regarded by many as a *trivial* complaint, yet it is very common, and I think is a prominent cause of ill-health. *Ladies* are *more* subject to it than men, for several reasons, viz: they are more sedentary in their habits, their muscular power is less, and hence the muscular coat of the lower bowel would have less expulsive power, and finally, during pregnancy, the gravid uterus pressing against the bowel, would naturally produce costiveness. Torpor of the liver, by its non-secretion of bile, favors this complaint. It is claimed by some that excessive action of the intestinal absorbents removes so much of the fluid portion of the *fæces*, that by the time the contents of the bowel arrive at the rectum they are *dry* and *hard*, and can be evacuated with great difficulty.

TREATMENT.—This should be mostly *hygienic*. The *constant* use of pills is a prominent cause of many of the confirmed chronic cases of constipation. *First*, regulate the diet; live more on

ripe fruits: three ripe apples a day should be eaten. *Brown* bread is better than that made of patent No. 1 flour; cracked wheat mush is better still. Abstain from all astringent and stimulating articles, such as cinnamon, nutmegs, etc. *Second*. Kneading the abdomen along the track of the colon is beneficial.

Copious injections of simple water, with the ordinary bulb syringe, is preferable to pills. Inject slowly, so that the liquid will be thoroughly absorbed.

I claim the most obstinate case of constipation can be cured nine times out of ten by establishing a *habit* of defecating at a *regular* time, each day. It has been said we are a *bundle of habits*; if such is the case, it is our duty to see there are more *good* than *bad* ones in the bundle, and this habit of regular defecation is a *good* one. This last form of cure may be ridiculed by some on account of its simplicity. Dewees recommends a tumblerful of rich bran tea, sweetened or otherwise, to be taken each morning before breakfast.

Drink a tumblerful of cold water on going to bed.

If the preceding treatment proves, after a thorough trial, to be ineffective, either of the following prescriptions may be tried. The first is that of Dr. Van Buren, of New York: Take

extract of aloes, one-half drachm; extract of nux vomica, six grains; extract of hyosciamus, one scruple; pulverized ipecac, one grain — mix and divide into twenty pills; one to be taken at night on going to bed.

The following is recommended: Take rhubarb, two scruples; aloes, one scruple; extract nux vomica, four grains — mix; divide into twenty pills; one to be taken three times a day.

PILES.

The scientific name for this disease is *hemorrhoids*, and it is divided into two classes — *external* and *internal*. The external pile tumor is nothing but a *varicose* or distended condition of the veins that are distributed to the rectum, but at the same time the mucous membrane is highly congested and inflamed. The tumor varies in size from a *pea* to that of a *goose egg*. When the tumor, from ulceration or any other cause, emits blood, it is termed *bleeding piles*; when there is no emission of blood, it is popularly termed *blind piles*. *Internal piles* may be either a varicose condition of the hemorrhoidal veins, or they may be fleshy tumors attached to the mucous membrane, and as a rule are not visible, unless they are very much enlarged and elongated, and then especially during defecation they are pressed down into the outer world,

and when constricted by the sphincter ani, they are the source of the most *excruciating pain*.

As there is but little danger of mistaking this affection for any other, I will pass by the symptoms and specify somewhat minutely the causes. Anything that will prevent the return of the venous blood from, or determines the arterial to the rectum, will tend to produce this affection.

The arteries convey the blood to the rectum, and the veins convey it back. The walls of the arteries are quite *thick* and *unyielding*; the walls of the veins are *thin* and *relaxed*. The blood flows *swiftly* through the *arteries*, but has a *tardy, sluggish* motion through the *veins*. With these three anatomical and physiological facts just mentioned, we can easily understand how the following causes produce this most *vexatious* and many times most painful affection.

CAUSES.—*First. Sedentary habits*, or standing on the feet too long at a time. *Second. Constipation*: the impacted *fæces* press so hard against the walls of the bowels that the return circulation through the veins is impeded. *Third. Torpidity of the liver*: the veins arising from the intestines, large and small, from the spleen and stomach, run into each other and form what is termed the *portal vein*, which enters the liver and sends its ramifications to every part of it; hence you can easily understand how the *torpor*

of the liver would produce venous distension. *Fourth. Drastic purgations:* for the reason that the irritation produced by them would invite the blood through the arteries in larger quantities than could be returned. Without doubt the pernicious habit of *pill dosing* every time there is any ailment, however trivial, is a very prominent cause of much of the rectal trouble of the day. *Fifth. Pregnancy:* by the pressure of the gravid uterus, especially at that point where the bowel is in contact with the brim of the pelvis.

Some of the principal predisposing causes are —

First. Temperament: the bilious or lymphatic favors it. *Second. Age:* from twenty-one until fifty. *Third. Highly seasoned* and stimulating food. *Fourth. Clothes worn so tightly* they compress the abdomen.

TREATMENT.—This should be both *constitutional* and *local*. If there is *torpor* of the liver, overcome it with the following: Hydrargyrum cum creta, two grains; white sugar, thirty grains — mix; divide into six powders, one to be taken at night on going to bed. Overcome constipation as described when treating on that subject. Particular attention should be devoted to hygiene, as prescribed when treating on constipation.

Local Treatment.—If the piles are inflamed and painful, sitz baths in cold water work wonders; let the temperature be as low as 55° to 60° Fahrenheit. Inject into the bowel just before defecation at least four ounces to a pint of *ice-cold* water. Many times when the pain is very severe, the insertion of a small piece of ice into the rectum, and allowing it to remain until melted, is recommended. Care, of course, should be observed in the insertion that the parts are not irritated. If the tumor is pressed down and constricted, it should be immediately replaced. After the stage of excitement is passed, and the pile and adjoining tissues are somewhat indolent, then the proper application of *astringents* is indicated, but in *no case* should they be applied when there is a high state of congestion.

Many of the pile ointments are highly astringent, and of course must aggravate the disease if used indiscriminately. The following astringent is often used:

Take tannin, ten grains; morphine, four grains; lard, one ounce—mix, and apply to parts on going to bed. If possible insert some above the sphincter. Be sure and inject cold, and not warm water, before each defecation.

RADICAL CURE.

The tumors are sometimes excised and no ill consequences follow. The great danger would be hemorrhage, and on account of the highly congested state of the tissue, it is almost uncontrollable. The safest, and just *as sure* if not quite *so quick* a mode, is resorting to the ligature. *Fistula in ano, abscess exterior to the rectum, prolapsus ani*, and many of the urinary affections, are the result of or aggravated by piles.

To control the profuse hemorrhage that many afflicted with the piles are subject, either inject some highly astringent liquid or perhaps resort to the tampon. Burne, a noted writer, recommends the following: one half teaspoonful of turpentine, mixed with yolk of egg, to be taken internally.



CHAPTER V.

DISEASES OF THE URINARY ORGANS.

GRAVEL.—ITS CAUSE AND CURE.

HEALTHY urine is of a straw color, and has a specific gravity a little higher than water, for the reason that it holds in solution certain solids. The gravity varies in a state of health, in the same person, at different times during the day; it is least in the morning and greatest after meals. The more *profuse* the urination, as a rule, the *less* the gravity. Ordinarily about two pints are passed in twenty-four hours. When urine is tested it reddens vegetable blues the same as acids do. If healthy urine is allowed to remain for some time in a vessel there is scarcely any deposit, except a small amount of mucus, but when there is any departure from health it deposits a sediment which varies in quantity, quality and appearance. There are at least *five* different kinds of deposits, but we have space to refer to but *three* of the *most common*, and most important to the general reader.

1. THE URIC ACID.—This is the most common of the five. The acid may exist either in a *free*

state, or it may be combined with ammonia, magnesia, lime, etc. The sediment is of a reddish hue, and is popularly called the *brick-dust* sediment. Although many of the deposits do not take place until the urine is emitted and cooled, yet the uric acid may be while it is retained in the bladder or kidney.

CAUSES.—Dr. Golding Bird, who is the highest authority in urinary disorders, enumerates the following causes: “1. Waste of tissues more rapid than the supply, as in fever, rheumatism, etc. 2. Supply of nitrogen in food in greater quantities than is required for the reparation of tissues, as by excessive indulgence in animal food and by too little exercise. 3. Digestion insufficient to assimilate an ordinary and normal supply of food, as in dyspepsia. 4. Obstruction to the cutaneous outlet for nitrogenized excretion by skin diseases or other cause. 5. Congestion of the kidneys, following injury of the organs, or disease wherein they are affected by sympathy.”

TREATMENT.—Avoid the causes and live mostly on vegetable diet, and abstain from alcoholic stimulants; let alkalies be taken internally, of which *bicarbonate of potash*, in fifteen-grain doses, dissolved in a half tumbler of water, is the best. The medicine should be taken about an hour after each meal.

2. OXALATE OF LIME DEPOSIT.—The urine in which this deposit takes place, many times is perfectly normal in appearance, but some twelve or twenty-four hours after it is voided, a *fine colorless* deposit can be seen. The crystals are many times deposited while the urine is retained in the bladder.

CAUSES.—Miller enumerates the following: “Over-exertion of mind or body; excess of venereal indulgence; habitual and gross errors of diet; exposure to cold; injuries done to the lower part of the spine.”

3. THE PHOSPHATIC DEPOSIT.—This deposit is of a white appearance, and when analyzed is found to be *phosphoric acid*, combined either with lime, or ammonia and magnesia.

CAUSE.—Anything that exhausts the nervous system. To counteract the formation of these *last two* deposits, the mineral acid should be given in doses of but a few drops, very much diluted.

These various sediments are often deposited around some *nucleus* in the bladder, or even in the kidney itself, forming calculi or concretions, which may vary in size from that of a millet seed to that of a goose egg.

Perhaps before now you have experienced *sharp needle-like* pains darting through the lumbar region; probably you have called it neural-

gia or lumbago, but if the truth were known, those stinging, lancinating pains are produced by the concretions of the kidney passing down the ureter to the bladder. This is termed a *fit of gravel*, and as soon as the concretions arrive in the bladder, the pain ceases at once; and if they remain in the bladder long, they will become larger and larger by still further deposits, and finally will be the cause of great urinary trouble. The surgeon now is called, and if he cannot give internal remedies that will effect the solution of the concretions, or if he cannot, through the use of instruments passed into the bladder, crush them so that the fragments can pass through the urethra into the external world, as a last resort he performs the operation of *lithotomy*, which consists in cutting through the tissues into the bladder and removing them through the opening.

IRRITABLE BLADDER.

The bladder is composed of three coats. The external is a *serous* membrane, similar in structure to the pleuræ that envelop the lungs. The middle coat is *muscular* in its nature. The inner membrane, or that with which the urine comes in direct contact, is a *mucous* lining. This last named coat is subject to congestion and inflammation, and when such is the case it is termed *inflammation of the bladder*. Some-

times the membrane is not inflamed but is very *sensitive*, and the urine, if acrid, will produce the following symptom: a constant desire to urinate. There is not so much pain as uneasiness, and if the condition is not rectified, the membrane will soon be congested.

TREATMENT.—Search for the cause and remove it. If the urine is high-colored or there is much sediment deposited, the treatment heretofore described under the head of gravel should be observed. Drink freely slippery elm tea; it will tend to dilute the urine and at the same time quiet the sensitive membrane.

RETENTION OF URINE IN THE MALE.

When the kidneys do not perform the secretory office there is a *suppression* of urine, and *fatal* symptoms soon manifest themselves; but the urine sometimes is properly secreted and passes readily into its proper reservoir, the bladder, and there it is *retained*. The bladder is sometimes distended to *three times* its usual size. There is a constant desire to evacuate the bladder, but it is impossible. There is straining, pain and great distress. We shall mention but a few of the many causes of retention. *First*, In old persons, many times, the muscular or middle coat of the bladder is *partially paralyzed*; the bladder becomes greatly distended, and yet

there is not sufficient muscular power to expel the urine. Treat this form of retention with *nerve* stimulant, such as small doses of nux vomica, or by the application of electricity. *Second* cause, *stricture* of urethra. *Third*, enlarged prostate gland. To remove these last two causes belongs to the surgeon.

The last cause to which I invite your attention is a *spasm* of the neck of the bladder. To overcome the spasm, sitz baths in warm water will generally be all that is needed.

RETENTION OF URINE IN THE FEMALE.

The gravid uterus, by displacing the bladder, is a common cause. Tumors, by pressing against the urethra, will produce complete retention many times. Paralysis of the muscular coat, the same as in the male. *Hysterical* patients many times suffer from this affection. There may be a spasm of the neck of the bladder, as a cause, or stricture of the urethra: but in the female these last two forms are *quite rare*. In case of retention of urine in the female seek the services of an educated physician. Sitz baths in water as warm as it can be borne are always advisable.

INVOLUNTARY URINATION IN OLD AGE.

Many old persons, and likewise those of middle age in certain diseases, as low fevers and partial paralysis, seem to have *no control* over urination. The principal cause is *atony* or *partial paralysis* of the sphincter muscle of the bladder, and when urine accumulates in the bladder it is beyond the control of the will power to retain it; or the urine may dribble away as fast as it arrives in the bladder from the kidneys.

TREATMENT.—Sitz baths in *cool* water, electricity to the urinary region, small doses of tincture of nux vomica or tincture of cantharides.

PAINFUL URINATION.

This arises oftentimes from congestion of the membrane that lines the urethra, and as the acrid urine passes over this highly sensitive membrane, it produces *scalding, burning, lancinating* pains.

The cause is, *first*, the *acrid* urine; *second*, the *congested* membrane; and hence the cure is to remove both conditions. Rectify the urine as described heretofore, and take sitz baths daily in warm water; abstain from stimulants and condiments; live mostly on vegetables; drink slippery elm tea freely.

CHAPER VI.

RUINOUS HABITS OF YOUTH.

MASTURBATION, SELF POLLUTION, SELF ABUSE, SOLITARY INDULGENCE, ONANISM, which are different names for the *same* habit, is more frequent than most parents realize. No habit more than this so *debilitates* the *physical* system, so *stultifies* the *intellect*, and *degrades* the *moral* powers; and if you visit our insane and idiotic asylums, you will find more taken there on account of *over-indulgence* of the sexual appetite than from the use of whisky, tobacco, over-excitement of business, or any other cause. The reason there is such prostration of body, dethronement of mind, and perverted moral power, is because the indulgence of this habit robs the brain of the *very elements* upon which the *mind feeds*. If you analyze the brain and nervous system, they contain more phosphorus than any other part of the body. An analysis of the semen shows it likewise contains more phosphorus than any other secretion of the body. A German philosopher has truly said, "*without phosphorus no thought*"; and we might say that

every emotion, every passion, is accompanied with a *phosphorescent glare*.

It is the duty of parents to exercise a cautious but careful watch over their children, to ascertain, as soon as possible, whether this debilitating habit has been commenced. As it is always practiced in private, it is not so easy to ascertain the fact, hence I will give some of the symptoms manifested by one who has practiced this habit for any length of time. Lallemand, the great French authority, gives the following: "However young the children may be, they get thin, pale and irritable, and their features become haggard. We notice the sunken eye, the long, cadaverous looking countenance, the downcast look, which seems to arise from a consciousness in the boy that his habits are suspected, and at a later period, from the ascertained fact that his *virility is lost*. I wish by no means to assert that every boy unable to look another in the face *is* or *has been* a masturbator, but I believe this vice is a very *frequent* cause of timidity. Habitual masturbators have a *dank, moist, cold hand*, very characteristic of great vital exhaustion; their sleep is short, and most complete *marasmus* comes on. They may gradually waste away if the evil passion is not got the better of; nervous symptoms set in, such as spasmodic contraction, or partial or entire convulsive movements, to-

gether with epilepsy, eclampsy, and a species of paralysis, accompanied with contractions of the limbs."

The appetite of the masturbator is often quite *capricious*, there is a longing for some *unnatural* food. Jackson, the distinguished water-cure advocate, specifies some symptoms that he considers as almost a *sure test* if the habit is practiced, viz: "A *hankering after cloves, cinnamon, caraway, mace, and the like.*" He likewise makes this *sweeping* remark: "I never knew a girl to eat *lime off* the wall, or to chew up her *slate pencils*, who was not to a greater or less extent a victim of this practice. I never knew a boy who was accustomed to eat *lumps of salt* without anything with it, and in fact I might say who was an inordinate eater of salt upon his food, who was not or had not been at some period of his life a masturbator."

MENTAL SYMPTOMS.—The memory is impaired; it is more like a *sieve* than anything else; reason is next partially dethroned. There is not a faculty of the mind that is not affected.

DUTIES OF PARENTS.

Parents, if you are satisfied that your child has commenced this habit, it is your *religious* duty to give the warning. Approach it not as you would a *criminal*, as if some *great offense*

had been committed, but rather look upon it as a *sufferer*, manifest *pity* rather than *scorn*. Acton says: "I esteem it false delicacy and a wrong, that a parent should hesitate to warn his boy when, at the most, he can only *anticipate*, by a few days or weeks, the offices of a youthful schoolmaster in vice as ignorant of consequences as the pupil."

He further says: "I have no hesitation as to the advice I should give to parents in such matters. In all cases I would tell them the best preventive step to be taken is to *watch* their children, if not actually to *warn* them against what is to be hoped they are ignorant of, and to develop their muscular powers by strong gymnastic exercises."

Hygienic Precautions.—The diet should be plain and unstimulating. Animal food, salt and the various condiments should be used sparingly. Sponge bathing, and especially sea bathing, are beneficial. Demand *early* rising. The great remedy, however, is to *fortify* the *will* against further indulgence.

SPERMATORRHEA.

This affection is often produced by *masturbation*. The popular term by which this disorder is known is *involuntary nocturnal emissions*.

SYMPTOMS.—Nervous irritability, a dreamy state of mind, impaired memory, etc.

TREATMENT.—Let the diet be simple and mostly vegetable. Take a sitz bath in cold water on retiring. Sleep on a mattress, with light covering. Abstain from alcoholic stimulants, tobacco, tea and coffee. Seek *refined* society among the opposite sex. Perform more or less muscular labor.

The following prescription is highly recommended by Dr. Tanner: "Take camphor, five grains; extract of opium, one grain; blue mass, four grains—mix and divide into two pills, one to be taken at bed time."

Bromide of potassium in fifteen grain doses, to be taken at bed time, is a good sedative.



CHAPTER VII.

OUR CHILD IS SICK—WHAT IS THE MATTER?
WHAT TO DO.



IT requires more skill to diagnose the diseases of *childhood* than those of the *adult*. The child being unable to talk, the only source from which the parents or physician can gain any information concerning its ailments, is by *studying the external signs*, as manifested by the countenance, etc. The signs of health should be first studied, then all departures from that base-line are so many indices of disease.

SIGNS OF HEALTH.

Condie gives the following pen-picture: "The skin is soft, flexible, and of a rosy hue; the complexion lively and fresh; the eye, when attracted by any object, has a peculiar quickness and suddenness in its movements, and always more or less turned upward beneath the upper lid. The countenance, when in repose, exhibits, in the earlier stages of infancy, but little or no expression, except that of perfect calmness; but, at a later age, it becomes quickly lighted up, smiling and animated at the approach of the parents or nurse, or when attracted by any pleasing object. The surface of the infant is cool; the abdomen full and soft—gentle pressure upon it seeming rather to please than to cause the slightest uneasiness. The tongue is generally slightly covered with a whitish mucus; the mouth is always moist, and the lips fresh colored and often protruding. The sleep of a healthy infant is quiet and profound; it awakes from it cheerful and smiling, and soon demands food. During the waking hours after, at least, the first month or two, it is inclined to as much activity as its limbs will permit, and exhibits a surprising *springiness* and rapidity in all its movements. It delights to be played with and carried about, and when old enough, to roll and crawl upon the carpet."

SPECIAL SIGNS OF DISEASE.

Most diseases in childhood, as in the adult, present *many* symptoms that are *similar*; yet nearly every disease has some *characteristic* symptom which, if properly interpreted, isolates it from any other affection; and when considering the individual affections, I will note the symptoms that especially designate them.

HYGIENE OF CHILDHOOD.

Many mothers are so ignorant of the general principles of hygiene necessary to be attended to in rearing children that they cannot perform the true office of mother. A mother's office is a noble one, and to fulfill its duties *well* requires care, patience, and *accurate hygienic knowledge*.

DIET.—Until the child is weaned the mother's milk should be its almost *entire* sustenance. Do not be in a hurry about *cramming* it with *cracker stuffs*, *sweetened liquids* and GRANDMA'S *herb teas*; there is time enough for that after it is weaned; let it enjoy its first year of existence in peace. Weaning should be done *gradually*. Wean it first from *day* nursing, but allow it to nurse *once* or *twice* in the night, and in a short time the mother should refuse it the breast entirely. After weaning, cow's milk should be its principal diet, although at the same time light gruels of oatmeal, arrowroot, and other farina-

ceous substances, may be administered. When the teeth are sufficient to perform mastication, then a little more solid diet may be administered. Do not be afraid, when it is old enough, to let it play in the open air. Let it play in the sunshine and in the dirt. Do not try to make fashionable *little* ladies and gentlemen of your children too quickly. Proper diet, air, exercise, sunlight and sleep will establish sure foundations for present and future health.

A WARM BATH.

A MANUAL OF NURSING, prepared for the nurses attached to Bellevue Medical College, New York, gives the following sensible advice in regard to *baths* and how to administer them to children: "When a child begins to be fretful and uneasy, and to manifest some of the first signs of disturbance of the health, there are many advantages to be gained from putting it at once in a warm bath. The temperature of the body is very apt to be elevated from a slight cause, and the child seems hot and feverish, and serious illness is apprehended. The change which the warm bath will produce in these symptoms is often very great. It lowers the temperature, thus quieting the sensitive nerves of the skin; it relieves the pains of colic by relaxing muscular spasm, and the child falls into

a calm and restful sleep, and often when it awakes all uncomfortable sensations will have vanished. Again, if the child has contracted any of the eruptive diseases to which young children are liable, it will generally be made manifest, as the heat and moisture tend to bring out the rash."

The mother's good sense ought to enable her to administer the bath properly. The main point to be kept in view is to have the water warm enough; the room in which it is given should be warm. After the child has been in the bath from three to five minutes, it should be taken out and wrapped in a warm blanket. See that the skin is thoroughly dried and mild reaction established by hand rubbing. The night gown, properly warmed, should be put on and the child put to bed.

Common affections not requiring the doctor.

SORE MOUTH.—THRUSH.

The infant, before it is weaned, is often troubled with this affection. The lining membrane of the mouth is often quite *red, fiery* and *extremely sensitive* to the touch. The child is *restless*, and refuses to nurse. If the mouth is examined there will be often noticed a *curd-like* exudation, appearing at first in the form of *white specks* or *patches*. These may be confined to only a *small*

surface, or they may cover the *whole* mucous lining, extending even down the whole length of the alimentary canal. This form of sore mouth, accompanied with exudation, is termed *thrush*, and is peculiar to the infant at the breast.

APHTHOUS SORE MOUTH resembles very *closely* thrush, but it scarcely ever makes its appearance until *teething*. The causes of thrush may be exposure to cold, irritating quality of the milk, difficulty in nursing from an over-distended breast, too small or imperfect nipples.

TREATMENT OF THRUSH.—Mucilaginous washes, of which slippery elm tea is as good as any. Condie recommends the following: Take borax and white sugar, equal parts; pulverize and mix; then drop some of the powder on the tongue. In thrush internal remedies are not often given. Topical application of the powder above described, and careful attention to hygiene, is about all that is required.

In aphthous sore mouth Prof. Lewis, of New York, uses the following: "Take of chlorate of potash, one drachm; honey, one-half ounce; water, two ounces; a teaspoonful to be given every two or three hours. In giving this solution it should be allowed to come in contact with the affected membrane."

Dr. Tanner recommends "borax, 120 grains;

glycerine, one ounce ; to be painted over affected parts with a camel's hair pencil." A weak solution of carbolic acid and glycerine is a nice preparation.

COLIC.

Children are liable to this affection, and when it makes its attack suddenly it is very apt to create great alarm in the household. The distension of the bowels with flatus is the principal cause of the pain, and there is generally *no organic* disease.

TREATMENT.—Put the child into a *warm* bath, or apply cloths dipped in *warm* water to the abdomen. Rectal injections of warm water will often prove efficacious. If the spasm and pain are not relieved by aforesaid treatment, give small doses of essence of anise, peppermint, or paregoric. Small doses of calcined magnesia may be given where there is acidity of stomach. Parents should be very careful in the giving of opiates in this affection. *Costiveness* is a very common thing in children subject to colic, and it should be counteracted by attention to diet and enemas of simple warm water. If, after the spasm is removed, there is any tenderness over the abdomen, inflammation may be setting in, and the physician should be sent for immediately.

WORMS.

These were formerly considered the most common cause of infantile affections. If anything was the matter which was *not visible*, why it was *worms, of course*. It is not well settled whether worms are the *cause* or merely the *result* of certain conditions of the body, and old Dr. Rush considered their presence in the alimentary canal as *beneficial* to health. But very little importance is attributed to worms as a cause of disease at the *present* time. Dr. Eberle says: "Sedentary habits, habitual exposure to a humid atmosphere, the abundant use of fat and farinaceous articles of diet, and of fresh milk," are remote causes. Some think *sugar*, if used too freely, is a cause. In regard to their origin, cause and effects, our best physicians differ; there is still a *cloud of mystery* obscuring this subject.

SYMPTOMS.—The only decisive symptom, and one in which there can be *no mistake*, is their presence in the evacuations. Those signs generally regarded as almost *certain*, are the pale, leaden appearance of the countenance, tickling of the nose, swollen upper lip, capricious appetite, dilated pupil, foul breath and general emaciation, etc.

TREATMENT.—Take of santonine, ten grains; white sugar, twenty grains — mix. Divide into

six powders; give one powder at bed time, to be followed in the morning with a small dose of castor oil. Ten to fifteen drops of turpentine, combined with sugar, given two or three times a day, is a favorite with some. After the worms are expelled, to prevent their reappearance, tonic treatment should be given. Carbonate of iron, in five-grain doses every morning, is very good.

CROUP.

This is quite a common affection in childhood, and one that, on account of the *suddenness* of its attack, is the source of great alarm in the household. There are *two varieties* of this affection, termed *genuine* and *spasmodic* croup.

Genuine or *diphtheritic* croup may occur at any time between weaning and puberty, and many times is the most *intractable* disease with which the doctor has to contend. The mucous membrane lining the wind-pipe is the seat of the disease. This membrane becomes inflamed, and if the affection is not controlled, it becomes in a short time coated over with a *plastic fibrinous* substance, which accumulates many times in large quantities and completely *closes* the air passage, *death* resulting from *suffocation*.

SYMPTOMS.—The child at first manifests all the symptoms of a cold—*sneezing, coughing, hoarseness, feverishness*. The cough is of a

ringing, brassy nature. There is what is termed a *crowing* inspiration. The attack may be gradual, and then again it may be sudden. It is not contagious, but many times more than one, and perhaps all the children will have it in quick succession. This is quite a fatal disease if it does not receive proper and prompt treatment.

TREATMENT.—As soon as the child becomes hoarse and begins to cough, and especially if it is predisposed to this affection, put it into a *warm bath*, or foment the chest with cloths dipped in *warm water*, as *hot* as it can be borne. See that the temperature of the room is agreeably warm and uniform; give at the same time the following: Wine of ipecac, three drachms; syrup of tolu, five drachms; mucilage of gum arabic one ounce—mix; give a teaspoonful every hour or so. If nausea or vomiting result, *so much the better.*

If the attack comes on suddenly give on the start a mild emetic. Hive syrup given in small and repeated doses until vomiting results, is as good as anything.

SPASMODIC OR FALSE CROUP.

This form of the affection is generally *unattended* with fever; *more sudden* in its attacks. Watson gives a good pen picture of it, as follows: "The child is seized all of a sudden,

roused perhaps from a sleep, by a catch or interruption of its breathing, more or less complete. It strives and struggles to inspire, but is apparently unable to do so." The cause of this affection is a *spasmodic* closure of the glottis, or opening of the wind pipe.

TREATMENT.—About all that is required is a mild emetic on the start, a warm bath, and hot applications to the throat. This form is generally of short duration. Nauseating doses of hive syrup may be given, or syrup of ipecac may be given in 15 to 20-drop doses to a child two years old, and should be repeated in ten or fifteen minutes if the spasm is not relieved.

DIPHTHERIA.

This is a *constitutional* affection, in which there is a marked tendency *to debility*. It shows itself locally by an inflammation of the throat, on the lining membrane of which soon appear more or less patches of a *whitish* exudation.

HYGIENIC CARE.—Immerse the feet in as warm water as can be borne. Hot fomentations to the throat. Quench the thirst with ice-cold slippery elm tea.

TREATMENT.—Prof. Lewis' favorite remedy is as follows: Tincture of chloride of iron, one drachm; chlorate of potash, one drachm; simple

syrup, two ounces—mix; give a teaspoonful every two or three hours.

For a wash or gargle in the first stages, Condie says “equal parts of good vinegar and water” is as good as anything.

The following wash may be used for the throat: Fluid carbolic acid, one-half drachm; glycerine and water, one ounce each—mix. If it irritates too much, add more water.

In the last stages, if the debility is great, stimulants may be resorted to.

This is a disease with *strong fatal* tendencies, and a *good* physician should be sent for if there is not a favorable change soon after using the above remedies.

WETTING THE BED.

This affection is apparently of a *trivial* nature, but many times it is beyond the power of the parents or physician to effect a cure; and I even know of children being *punished* for this habit, as it is termed; you might as well punish them for having a *hare-lip* or the *mumps*.

CAUSE.—Partial paralysis of the neck of the bladder is the most common; although irritability of the bladder and highly acrid urine, and pin worms in the rectum, may produce it. This disease is apt to effect *puny* children, rather than those of *robust* habits.

HYGIENIC CARE.—Do not let the child drink

much after supper. See that the bladder is emptied on retiring. Awaken the child in the night, in order that the bladder may be emptied. The bed should be a mattress; the covering should be light. Child should lie on the back.

TREATMENT. — Give a sitz bath in cold water. Two drops of tincture of chloride of iron in a tablespoonful of water, is a good tonic. If the urine is high colored with reddish sediment, give small doses of bicarbonate of potash in slippery-elm tea.

DIARRHŒA.

In simple forms of this affection, where there is little or no fever, give in the first place a full dose of castor oil, so that all irritating excitants in the bowels may be removed, and then use the following favorite remedy of Prof. J. Lewis Smith, viz: Paregoric and tincture of catechu, one drachm each; chalk mixture, one ounce — mix. Give one teaspoonful every two to four hours to a child one year old. If the abdomen is distended, and is tender to the touch, it shows there is already, or a tendency to, inflammation, and if such is the case, foment the bowels with cloths dipped in hop tea, as hot as it can be borne. The cloths should be frequently changed, and a piece of oiled silk placed over them, so as to confine the heat and moisture. Quench the thirst with pieces of ice placed in the mouth and allowed to dissolve.

CHAPTER VIII.

EVERYDAY EMERGENCIES, AND WHAT TO DO ON THE SPOT.

THIS is a world of accidents; the old and young, rich and poor, learned and unlettered, are liable. In every village, neighborhood, and I might say household, each day, there is some



casualty which requires *prompt* treatment. Many lives are sacrificed daily on account of the lack of *practical* knowledge. Send for a good physician or surgeon when there is cause for alarm, but if nothing is done until his arrival, it may be *too late* — *time* is the *essence* of cure.

HEMORRHAGE.

There is nothing that will excite the bystanders more than *profuse bleeding*. When the blood is emitted in a *steady* stream, and of a *dark-bluish* tint, a *vein* has been severed; when it *spurts* forth in jets, corresponding to the beating of the heart, and is of a *bright scarlet* tint, an *artery* has been severed. I will present a few physiological facts in regard to circulation, before describing what should be done.

The blood flows through the *arteries* from the *heart* to extremities; but in the *veins*, the motion is in the *opposite* direction. The main arteries and veins, distributed to the upper and lower extremities, pass along the inside; they are placed there for protection; the muscles and bone really perform the office of a shield. The arteries are *deep seated*, and are not as liable to injury as the veins, many of which are quite *superficial*. With these few hints we will now see what must be done: 1. *Cold water* should be continually applied; pressure, directly to the wound, is sometimes effectual. If one of the larger arteries is severed, secure pressure over the arterial trunk, and the pressure should be between the *incision* and the *heart*; but, if it is a severed *vein*, the pressure should be between the *incision* and the *extremity*. To illustrate: If the

artery severed is distributed to either extremity, in the first place take a handkerchief or towel and tie a knot in the center, and then place it around the limb, so that the *central* knot will be on the inside of said limb; tie the towel, and then insert a cane or broom-handle between the towel and skin; everything now is ready for action; give the cane several twists, and the bleeding is controlled. If the artery is a large one, it will have to be ligated, which requires the skill of the surgeon. The position of limb should be observed; it should be *elevated* as much as possible. In all cases of hemorrhage from internal organs, as the lungs, stomach, etc., drink ice-cold water; apply cold compresses to the chest; send for a physician at once.

SYNCOPE—FAINTING.

The principal cause of fainting is, too little blood is sent to the *brain*, and this may result either from loss of blood or from anything that interferes with the action of the heart. Generally, when any one faints, the bystanders will *crowd around*, and the patient's head is *propped up* with pillows; this is *all wrong*. The true and *common sense*, if not *common*, treatment should be as follows: Carry the patient where there is pure air and plenty of it; a recumbent position should be secured, with the

head, if possible, lower than the rest of the body; dash cold water in the face; unloose the clothing about the chest.

FITS.

Place the patient in a *recumbent* position, with head slightly elevated. Do not try to restrain the muscular action; only see that the patient, in the various contortions, is not brought in contact with anything that will injure him or her, as the case may be. Unloose the clothing and see there is free access of pure air. Secure good circulation in the extremities, either by warmth or friction. Send for a physician at once. The different kinds of what are termed fits, viz., *apoplectic*, *epileptic*, *hysteric* and *cataleptic*, are produced by different causes, and require different treatment, which should be intrusted to an educated physician. The directions we have given are those to be observed before the doctor arrives.

DROWNING.

Death results from at least *two* causes: first, *exclusion* of air from the lungs, and second, *loss of heat*.

Many have the erroneous idea that water passes into the lungs when a person is drowned, and that is the reason that many times the per-

son drowned is dangled in the air, head downward, with hopes of emptying the bronchial tubes and air cells so that air can enter. A person, in drowning, is constantly *expiring* air, but nothing is inhaled, on account of a spasmodic closure of the glottis.

What to do.—Place the patient in a reclining position, with head slightly elevated; remove the wet clothes and then apply warmth; see that the mouth and nostrils are freed from anything that would prevent ingress of air; then resort to artificial respiration, as follows: Place the patient prone (face downward) on a blanket or mattress placed on the floor; pressure then being made on the back would naturally produce an expiratory effort; the patient then being rolled on the side, the elasticity of the ribs, by enlarging the capacity of the chest, would produce an inspiratory effort.

Death from strangulation and the inhalation of poisonous gases, especially the carbonic acid, likewise results from deficient aeration of the blood.

SHOCK OF INJURY.

- A fall, a blow, a crushed limb, a severe burn or scald, etc., often produces a *nervous depression*, which is popularly termed a *shock*. There are two kinds of shocks; one is where there is more *fright* than bodily injury, more *scare* than

hurt; this form is termed a *mental shock*, and requires *little* treatment, except it be to lull the fears. PHYSICAL SHOCKS are often attended with the following symptoms: "The patient," says Dr. Miller, of Edinburgh, "is pale, shivering, cold, breathing rapidly, with an alarmed expression, and almost pulseless."

WHAT SHALL BE DONE?—Place the patient in a recumbent position, with the head, for a short time, lower than the rest of the body. Friction and warmth should be applied immediately. If the patient can swallow, mild stimulants should be given internally; hot teas or soups may be given at first, and if reaction does not soon appear, then resort to something stronger—wine or whisky. Great care should be exercised in giving liquids, lest they pass into the glottis.

Camphor and ammonia should be applied to the nostrils, but care must be observed in their use. In cases of this kind, in olden time, the first *resort* was to the *lancet*. Science of to-day teaches *better*.

Galvanic electricity might be applied with benefit, but it is not always available.

SERPENT BITES.

The first and important indication to be fulfilled is to *prevent* the absorption of the poison.

A ligature should be thrown around the limb between the part bitten and the heart, and the limb should be thoroughly corded, and in this way the return circulation will be partially obstructed. In the next place, excise, if it is possible, the part bitten. Favor profuse bleeding by pouring warm water on the wound. If some one present should apply his mouth to the wound and by suction increase the flow, it would be advantageous. No ill effects would be produced in the person so doing if the membrane lining the mouth is entire, not abraded. Internal treatment should be stimulating; any of the alcoholic stimulants will suffice. *Whisky* internally is considered by some to be a *specific*. Give it freely; the patient will bear twice as much as he would in a state of health and still manifest no external effects.

POISONS AND THE ANTIDOTES.

When any poison is taken in fatal doses, about the *best, quickest* and most *available* remedy is MILK-WARM WATER. Have the patient drink immediately all that is possible, if it is a quart. It acts as follows: The poison is diluted, more slowly absorbed, and free vomiting is soon effected. The emetic effect is hastened by giving at least a tablespoonful of ground mustard stirred in a little water. If the following

antidotes are handy they should be given first, and then the warm water and mustard immediately afterward.

POISONS.

ACIDS.

Nitric acid (*aqua fortis*),
Sulphuric acid (*oil of vitriol*),
Oxalic acid, carbolic acid,
Acetic and all acids.

ALKALIES.

Caustic potash, quick lime,
Liquor ammonia,
Salts of tartar, and all alkalies.

Corrosive sublimate,
Vermilion, red precipitate, and
all mercurial compounds.

Tartar emetic and all anti-
monial compounds.

Arsenic, paris green, and all
arsenical compounds.

Red lead, white lead,
Sugar of lead, and all lead
compounds.

Blue vitriol, verdigris, and
all copper compounds.

White vitriol.

Chromate of potash.

ANTIDOTES.

Alkalies; and the most available would be soda, such as is used in cooking, soap-suds, magnesia, powdered chalk, weak lye.

ACIDS; and the most available is *vinegar*. *Oils* are also antidotes: sweet, linseed, castor, melted lard.

The white of eggs; flour, stirred in water, given in the form of a thin paste.

Strong green tea, or any astringent liquid.

Olive oil; flour and water; powdered iron rust.

Epsom or Glauber salts.

Same as the antidotes for mercurial compounds.

Same as for copper compounds.

Same as for lead compounds.

POISONS.

Opium and its compounds,
Laudanum, paregoric.

Nux vomica, strychnia.

Belladonna
(*deadly night shade*),
Stramonium.

ANTIDOTES.

Coffee; belladonna; and
when great prostration exists,
carbonate of ammonia and
electricity.

Chloroform, and camphor.

Lime water; infusion of
galls; green tea; opium; sas-
safras.

The above are the principal poisons either taken *accidentally* or *suicidally*, but whether any of the antidotes specified *are* or *are not* given, be sure that there is free emesis produced by the warm water, as described at first, and after the vomiting, the administration of cooling, mucilaginous drinks, such as slippery elm tea, gum-arabic water, is advisable, as they quiet the irritation that might possibly terminate in congestion and inflammation of the stomach.

The constitutional symptoms must be carefully watched, and combated by the remedies as if they originated from other causes. In all cases of poisoning it is advisable to send for a physician, as it is hard to *prognose* the dangers ahead.

BURNS AND SCALDS.

These may be quite superficial, producing simple *redness*, or perhaps *vesication*, or they may be

so deep as to result in *sloughing*. In treating these affections, constitutional and local remedies must be used. The nervous depression or shock that accompanies severe burns we have already considered. Stimulants must be given sparingly, for as soon as reaction is established there is danger of *too much* excitement, and the sympathetic effects produced on the lining membrane of the lungs and stomach are to be counteracted.

LOCAL TREATMENT.—Immerse the part in cold water immediately, and keep it there for some time. See that the water is kept ice cold, and as soon as the part is taken from the water, envelop it in cotton wadding, so as to protect it from the air.

Dr. Gross recommends coating the part with white-lead paint, such as is used in the arts, and then envelop it in the wadding. Lint soaked in a solution of sweet oil, six parts, carbolic acid, one part, applied to burned surface, is highly recommended. If a large surface is burned or scalded, and there is great nervous depression, cold applications would not be so appropriate as warm, as the continuous application of cold would tend to prolong the shock. If vesicles are formed they should be punctured with care. If there is tendency to *sloughing*, as there always is in deep burns, it should be facilitated by the

application of linseed poultices, frequently renewed.

If the clothes are on fire and there is no water near, envelop the patient in a blanket, buffalo robe, or piece of carpet, and thereby smother the flame. Whatever is done must be done *quickly*.

LIGHTNING STROKE.

Lightning produces death, as a rule, by its action on the brain and nervous system, and when life is not extinct, the symptoms are quite similar to that of *concussion*. Many times the death is the result of the nervous shock, and the body shows no external injury. The treatment is same as that given for *shock*. Electricity applied works wonders in cases of great prostration, and although it smatters a little of the old maxim—"the hair of the dog that bites you will cure the bite"—yet, really, in many cases it is a fine therapeutic agent—a nerve *stimulant*.

FROST BITE.

In cold regions this is a common emergency. Long exposure to cold produces giddiness, dimness of sight, feebleness, and finally profound sleep. The indication to be fulfilled by treatment is to restore the circulation, but it must be done very *cautiously*, for fear that when reaction is secured it may run so high that it is uncon-

trollable, and violent inflammation and sloughing will be the result. Place the patient in a cool room and rub the body with snow. If there is a state of lethargy, mild internal stimulants may be *cautiously* given. If only a small part of the body is frost bitten, the part affected should be immersed in ice-cold water. We might compare the circulation of the blood to a *steel spring*; the excessive cold, like a weight, has pressed down the spring to the *lowest* point; now the application of snow or cold water lightens the weight *so gradually* that the spring slowly regains its original position. If the temperature has been so low as to break the *spring*, death of the part is the result, and when such is the case, warm linseed meal poultices should be applied to favor the separation of the dead from the living.

SPRAINS AND BRUISES.

We are liable to sprain the ankle, wrist, or in fact any joint, every time we move, but what to do no two agree. *Angle worm oil, skunk's fat, woodchuck's grease, powdered horse warts*, liniments by the *hundreds*, are still in this nineteenth century regarded as *specifics*. What do *science* and *common sense* teach? When a sprain or strain of any joint is produced, it is nothing more or less than a stretching or partial laceration of the ligaments. The indication to be

fulfilled is to guard against the congestion and inflammation which will soon set in, attended with their usual symptoms: swelling, pain, tenderness, etc. Rest of the part should be first secured, and then cold applications. The cold should be continuously applied and kept up for some time, but after all tendencies to inflammation have been averted, then there should be a gradual change to *warm* appliances—cloths dipped in warm water, or what is perhaps still better, warm hop tea. Simple water at the right temperature is all that is required until all the pain and excitement have been controlled. To remove the passive swelling and to restore the part fully to a healthy state, friction and bandaging the parts is beneficial, and in this last stage only should stimulating embrocations be used.

The application of strong liniments in the commencement would *aggravate* all the symptoms, and all friction to the part should be delayed until *late*.

The following liniment may be used in last stages. Take aqua ammonia, one-half ounce; sweet oil, one ounce; tincture of camphor, one ounce; laudanum, one ounce; chloroform, one-half ounce. Shake well before using.

SUNSTROKE.

Remove the patient to a cool, airy place in the shade, then combat symptoms. If the circulation is vigorous, face flushed, head hot, and extremities cool, apply ice-cold water to the head, and let its application be continuous. The ice cap, composed of small fragments of ice placed between oiled silk, would be better; hot applications to the feet, either mustard or bottles filled with hot water. If on the other hand the pulse is scarcely perceptible, and there is sense of relaxation and exhaustion, bathe the body in warm water. Ammonia and camphor should be inhaled, and if the patient can swallow mild stimulants in the shape of whisky, wine or brandy, they should be administered.

CHAPTER IX.

HOUSEHOLD RECIPES.

POULTICES.

THE office of a poultice is to impart *warmth* and *moisture*. The best material to be used is *linseed meal*. Stir enough of the meal in boiling water until a thick mush is formed; spread the mush on a cloth in a layer of one-third of an inch thick, then cover it with some gauze-like substance to prevent its adhering to the parts. After the poultice is applied to the parts, cover it with oiled silk, so as to retain the heat and moisture.

BEEF TEA.

This nourishing liquid, often prescribed by the physician in *low forms* of fever, is made as follows: Put a quarter of a pound of lean beef into a pint and a half of water, and allow it to boil for a quarter of an hour; flavor to suit taste.

ESSENCE OF BEEF.

This fluid extract of beef, which is more nourishing than beef tea, and hence can be given in smaller doses, is made as follows: Put a

quarter of a pound of beef, cut into thin slices, into a wide mouthed porter bottle, then cork tightly; place the bottle in a kettle of cold water, which is then heated until it boils. The bottle should remain in the boiling water for an hour or so, then the liquid in the bottle is decanted and flavored to suit taste.

WINE WHEY.

This is both nourishing and stimulating, and is often prepared for the sick where there is great debility. It is made as follows:

Add to a pint of milk, as soon as it has reached the boiling point, as much sherry wine as will coagulate it; strain, sweeten and flavor.

HOW TO TAKE A SITZ BATH.

Miss Harriet N. Austin, in her pamphlet on baths and how to take them, gives the following directions: "The SITZ BATH may be taken in a common-sized wash-tub—though we have tubs made on purpose which are higher at the back,—with so much water as nearly to fill the tub when the person sits down. The person should remove all his clothing, except his shoes and stockings, and be well wrapped up in his bath with a comfortable. Many times it is desirable to undress the feet also and take a warm foot bath while a tepid sitz bath is taken. In this

case the feet should be dipped into *cool* water when taken out of the warm bath. A *cool* wet cloth or cap should be worn on the *head*. This bath is continued from five to ninety minutes to meet conditions, though the usual time is from fifteen to thirty minutes."

We have prescribed this form of bath many times in this volume, and I consider it, if properly taken, a fine therapeutical agent; and although I graduated in the *calomel, ipecac, colocynth, big pill—regular* school—yet I can secure oftentimes *quicker* and *more favorable* results from the use of water than I can from any *drug* proper. When I prescribe water, I do not mean necessarily *cold* water, *hot* water, *warm* water, but water *at that temperature* that will fulfill the indications. If I could have but *one* therapeutical agent, *water* would be my choice.

WET SHEET PACKING.

Dr. Tanner gives the following advice in regard to its proper administration:

"The patient is closely enveloped in a sheet which has been dipped in *cold* or *tepid* water and well wrung out. Or a long towel is wrung out of tepid water and applied along the whole length of the back, while another similarly prepared is laid over the chest and abdomen. In either case the patient is then carefully wrapped

in a blanket, covered with three or more blankets, and a down coverlet then tucked over all. The patient should remain thus for thirty, forty-five or sixty minutes, lying on his side or in a semi-recumbent position, the duration being timed by the sedative effect produced. On arising, the body should be thoroughly sponged with tepid water, and dried as soon as possible by enveloping the patient in a dry sheet. After the moisture is absorbed by the sheet, a vigorous reaction should be secured either by hand rubbing or flesh brush. While the patient is in the pack, cold should be applied to the head and warmth to the feet."

DRIPPING SHEET.

Tanner says: "The patient stands up in an empty bath, while the attendant placed at his back suddenly envelops him in a sheet dipped in cold water. The surface of the body is rapidly rubbed by the servant's flat hands for some three minutes, until the bather is in a glow, when a dry sheet is quickly substituted for the wet one and the rubbing continued. The whole process should be over in five or six minutes."

CHAPTER X.

COMMON DISORDERS, AND WHAT TO DO— ERYSIPELAS.

ERYSIPELAS is a diffused inflammation of the skin. The part affected is swollen, painful, and of a deep red color. *No part* of the



body is exempt from an attack of this disease. In England, 2,000 die annually with this affection.

Internally, the following may be taken: Tincture of chloride of iron, two drachms; glycerine,

four drachms ; compound tincture of cardamom, one ounce ; water sufficient to make eight ounces — mix. Take a tablespoonful every three hours.

External appliances are beneficial. The following have their advocates : Carbolic acid, twenty grains ; water and glycerine, one ounce each.

The following may be tried : Sugar of lead, one scruple ; laudanum, one-half ounce ; water, one pint. Apply to parts.

The inflammation may be prevented from spreading by penciling the adjacent sound skin with the tincture of iodine.

ARMY ITCH.

Besides attending to the *general rules* of hygiene, especially those of *bathing*, the following may be applied externally : Take iodide of sulphur, one scruple ; lard, one ounce.

WHOOPIING COUGH.

As I did not speak of this disease when considering the diseases of childhood, I will speak of it now. It is not necessary to dwell on the symptoms ; they are too familiar.

TREATMENT.—Besides seeing that the clothing is sufficiently warm, and that light, nourishing food and mucilaginous drinks are administered.

The following prescription is a favorite with

the noted London physician, Dr. Tanner: White vitriol, eight grains; extract of belladonna, two grains; water, four ounces — mix. A table-spoonful three times a day for a child three years of age.

Syrup of ipecac, in *nauseating* doses, is good where the bronchial tubes are loaded with mucus.

BOILS AND CARBUNCLES.

Science would say *poultice* until suppuration, then let there be *free incisions*. Painting the parts affected with tincture of iodine in the *early* stages is advocated by some to *prevent* pus being formed.

EPILEPTIC FITS.

Bromide of ammonium, in five-grain doses, administered in simple water, before each meal, comes the nearest to a specific of anything. If the cause of this disorder can be determined (which generally is impossible), it should be removed.

RICKETS.

In this disease the bones are deficient in earthy salts, hence the bones are *soft* and *flexible*. Scrofulous children are more subject to this disorder than any other. Besides strict attention to general habits, clothing, bathing, etc., particular attention to diet should be given. Milk, raw eggs, meat diet, is recommended. Phos-

phate of lime or iron in small doses should be administered internally.

CHRONIC NASAL CATARRH.

This disease is quite *common*, and is the result of *frequent colds*. At first the mucous lining is *acutely* inflamed, but in a short time a *chronic* inflammation affects the whole lining. There is an uneasiness and *stuffiness* of the nose, and after a time there is a very *fetid* discharge, which is sometimes accompanied with blood.

TREATMENT. — Iodide of potassium, in three-grain doses, to be taken before each meal and on retiring, is recommended. Use as an injection up the nostrils, once or twice a day, the following: Iodine, two grains; iodide of potassium, four grains; water, four ounces.

The following is used as a snuff: Chlorate of potash, fifteen grains; white sugar, two drachms. Subnitrate of bismuth, used as a snuff, has its advocates.

CHRONIC SKIN DISEASE.

The following lotion effects cures after everything else fails: Take sulphite of soda, two ounces; glycerine, four ounces; water, sufficient to make a pint. Apply to parts affected twice a day.

RHEUMATISM.

J. M. Da Costa, M.D., recommends the following: "Bromide of ammonium, one-half ounce; tincture of orange peel, one-half ounce; water, two and one-half ounces—mix. A dessert spoonful to be taken every three hours."

Foment the parts with cloths dipped in hop tea, as hot as can be borne.

A GOOD LINIMENT, FOR MAN OR BEAST.

Take chloroform, one-half ounce; aqua ammonia, one-half ounce; sweet oil, one ounce; laudanum and tincture of camphor, one-half ounce each—mix. Use as any liniment.

A GOOD COUGH SYRUP.

Take hive syrup, two ounces; syrup of wild cherry, one ounce; syrup of tolu, one-half ounce; paregoric, one-half ounce—mix. Give a teaspoonful every hour or two.

TO PURIFY THE BLOOD.

Besides observing the hygiene, pertaining to diet, bathing, etc., which is all important, take the following:

Take compound fluid extract of stillingia and fluid extract of sarsaparilla, two ounces each; iodide of potassium, two drachms; simple syrup

and sherry wine, two ounces each — mix. One-half tablespoonful to be taken before each meal.

CHILBLAINS.

Dr. Fox, of London, uses the following: "Oil of turpentine and tincture of aconite, one ounce each. Use as a lotion." Avoid exposing hands or feet when cold to the heat; to relieve the itching, glycerine should be applied to parts *acutely inflamed*.

SORE EYES.

When the conjunctiva or lining membrane of the lids and ball of the eye is acutely inflamed—is red, fiery and sensitive to the light—the patient should remain in a dark room, and bathe the eye frequently with cold water. Ice-cold slippery elm tea is soothing.

The following lotion, to be applied to the eyes every two or three hours, is highly praised by Dr. Lawson, of London:

Take alum, three grains; white vitriol, one grain; distilled water, one ounce—mix. The free use of Epsom salts internally is beneficial.

CHRONIC SORE EYES.

The following is beneficial: Take white vitriol, two grains; sulphate of morphia, one grain; distilled water, one ounce—mix. Bathe the eye

and allow a few drops to enter. A good household remedy is fresh milk dropped into the eye.

TAPE-WORM SPECIFIC.

The flowers of Kooso, in the form of a powder, are considered a sure cure. Put one-half ounce of the flowers, powdered, into a pint of warm water and allow it to stand for fifteen minutes, then stir it up and take the whole in two or three draughts at short intervals. If it does not operate on the bowels give a good cathartic, of which castor oil is the best.

BLEEDING AT THE NOSE.

Although generally this is a trivial affection, yet there are cases where the life is imperiled by the profuse hemorrhage. Many times, however, especially in apoplectic subjects, the bleeding is beneficial.

To stop the bleeding, the patient should sit upright, all constrictions about the neck should be loosened. Patient should hold both arms above the head, and cold should be applied over the nose and forehead, and to the back of the neck. Astringent liquids, sometimes, are injected up the nostrils.

BRONCHOCELE—GOITRE.

This is an enlargement of the thyroid gland which envelops the front and upper part of the

windpipe. Tanner recommends the following ointment, to be used on the part: Red iodide of mercury, eight grains; simple ointment, one ounce — mix.

SCALD HEAD, RINGWORM AND BARBER'S ITCH.

These three affections are the result of certain parasites that infest the skin; hence the common sense treatment would be first to destroy the parasite, which can be effected by using the following lotion: Sulphurous acid, one-half ounce; glycerine, one ounce — mix and apply to the affected parts, then treat the disease according to general principles.

ACNE—PIMPLES ON THE FACE.

Particular attention should be devoted to hygiene, especially bathing.

The following ointment may be used: Iodide of sulphur, ten grains; simple ointment, one ounce.

BED SORES—HOW TO CURE AND PREVENT.

Particular attention to cleanliness should be observed. Rubbing the back with alcohol one part, water two parts, will tend to harden the skin. Air cushions, properly adjusted, will not only prevent, but will also give great relief where they do exist.

ASTHMA.

This disorder results either from a partial constriction of the bronchial tubes, or from the excessive amount of mucus thrown off by the mucous lining. Smoking stramonium leaves will relax the spasm.

Dr. Tanner says he has succeeded with the following, when everything else has failed: Iodide of potassium, three to five grains; aromatic spirits of ammonia, forty drops; tincture of belladonna, five to fifteen drops; compound tincture of Peruvian bark, one drachm; peppermint water, one and one-half ounces. The whole to be taken three times a day.

CHAPPED HANDS.

This disorder is produced by various causes, among which the following is prominent: imperfect drying of the hands after washing.

Dust the part affected with bismuth or the oxide of zinc, or apply the mild citrine ointment.

SORE LIPS.

Apply carbolic acid, one part; glycerine thirty parts.

TO REMOVE DANDRUFF.

Dandruff are minute white scales or scurf. They may be thrown off from any part of the body, but especially the scalp.

The following is highly recommended as a lotion: Borax, one drachm; glycerine, one ounce; elder-flower water, sufficient to make eight ounces.

FOR DYSPEPSIA.

Take compound tincture of gentian, two ounces; tincture of rhubarb, two ounces — mix; take a teaspoonful before each meal.

GARGLE FOR SORE THROAT.

Take chlorate of potash, one-half ounce, water six ounces; use as a gargle.

NEURALGIA.

In the west, malaria is a common cause, although none of the symptoms of ague are present; and for these cases small doses of quinine, if given for a length of time, are beneficial. Two grains of quinine, three times a day, before each meal, should be given.

As an external application to the part affected, Dr. Hammond recommends tincture of aconite. Inhalation of chloroform is beneficial.

EAR ACHE.

This affection is sometimes the result of inflammation of the ear from the presence of foreign bodies in the external opening; when such, remove the cause.

When the ear ache is more of a *neuralgia* than anything else, blisters, applied back of the ear. Cotton wool saturated with laudanum may be inserted in the external opening. Syringing the ear with milk — warm water, is always beneficial. Steam from a decoction of poppy heads, allowed to pass into the ear, is always soothing. The old lady's application of the boiled bulb of the onion to the external ear is strictly scientific.

INGROWING OF THE NAIL.

Inflammation and ulceration of the side of the toe is produced by the margin of the nail being pressed into the flesh. This is oftentimes a very annoying and painful affection.

TREATMENT.—Nail should be cut off square instead of down the inner and outer sides. Scrape side of the nail very thin. Soak the toe in as warm water as can be borne; afterward insert a pellet of cotton wool saturated in glycerine, twenty parts; carbolic acid, one part; so as to separate the nail from the ulcer.

TO REMOVE WARTS.

Dr. Thomas recommends the following: Chromic acid, sixty grains; water, four fluid drachms; to be applied locally.

CORNS.

This affection is the result of undue pressure, from which arises an increased thickness of the cuticle, and enlargement of the papillæ of the true skin. Many times pus will be formed under the papillæ, and until it is allowed to escape there will exist the most severe lancinating pains.

CURE.—The first thing to be done is to wear a larger boot or shoe. Take a small piece of soft buckskin and cut a hole in it, and place it so the corn will be in the opening. Soaking the part affected in strong soap suds, will soften the cuticle so that it may be easily removed. Do not apply caustics. Use common sense in their place.

HEARTBURN.

This is a distressing burning sensation of the stomach, produced by imperfect digestion.

Subnitrate of bismuth, one drachm ; carbonate of magnesia, one drachm ; to be divided into ten powders, one to be taken before each meal. Abstain from eating indigestible articles, and be regular in the time of eating. Get up from the table a little hungry rather than eat too much.

DISINFECTANTS FOR THE SICK ROOM.

The best to be used is carbolic acid one part to thirty parts of water, sprinkled on the floor, or a sponge saturated in the solution and placed in a saucer in the sick room is well enough.



APPENDIX.

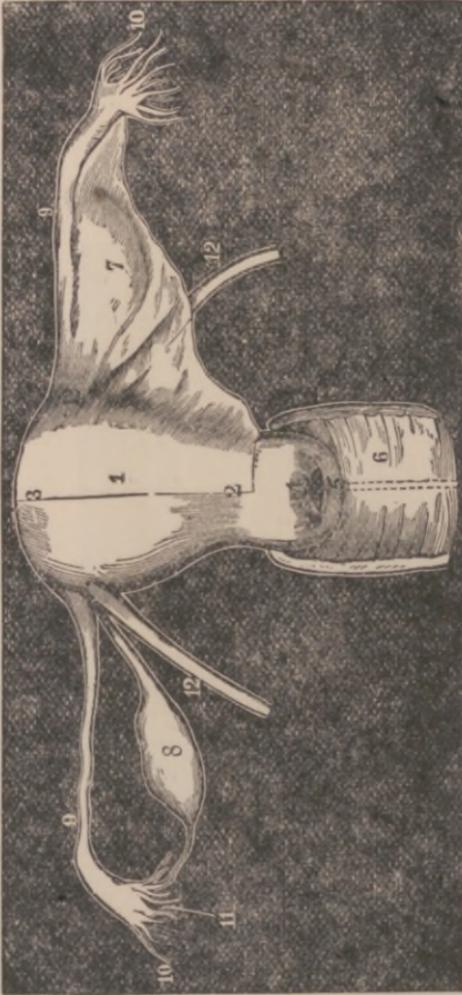
(See JOURNEY OF THE SPERM, page 50.)



BASE OF THE BLADDER AND THE ATTACHED
ORGANS.

1. Base of the Bladder; 2. Line of Reflection of Peritoneum; 3. Triangular Space; 4. Vas Deferans; 5. Vas Deferans Dissected; 6. Vesicular Seminalis; 7, 7. Ureters; 9. Right Ejaculatory Duct; 10. Urethra; 11. Prostate Gland.

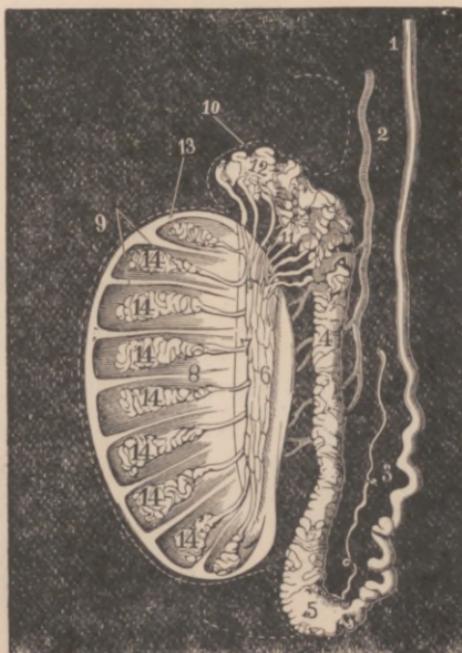
(See pages 37 to 43.)



THE UTERUS AND ITS APPENDAGES.

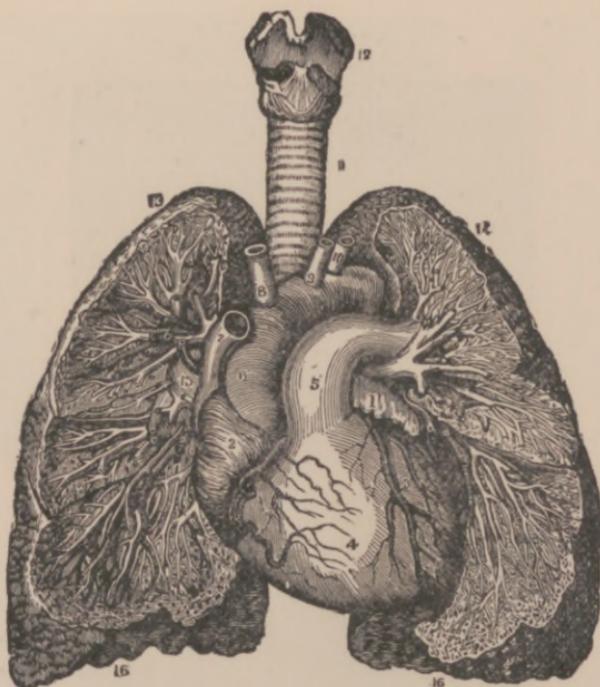
1. Body of Uterus; 2. Neck of Uterus; 3. Fundus Uteri; 4. The part of the Womb that projects into Vagina, Anterior Lip; 5. Posterior Lip; 6. Interior of Vagina; 7. Broad Ligament; 8. The Ovary and the Ligament that connects the Ovary with the Womb; 9, 9. Fallopian Tubes; 10, 10. Fimbriated Extremities; 11. Bristle passing into the Fimbriated Extremity of the Fallopian tube; 12, 12. Round Ligaments; 13. Peritoneum.

(See page 48.)



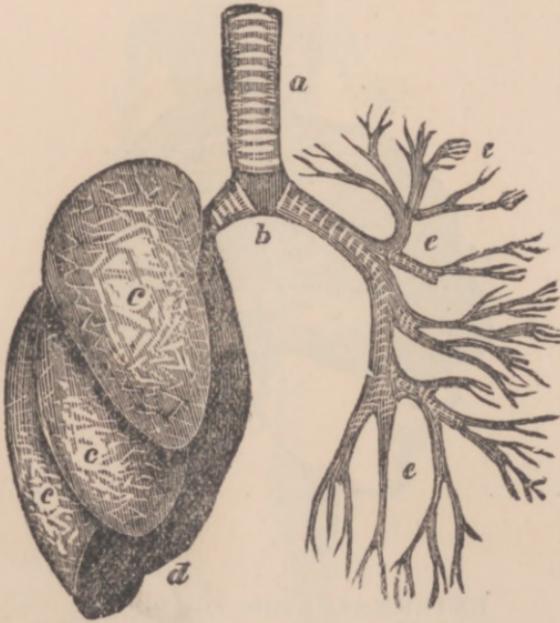
VERTICAL SECTION OF THE TESTIS.

1. Vas Deferans; 2. Spermatic Artery; 3. Vas Aberrans;
 4. Body of Epididymis; 5. Globus Minor; 6. Rete Testis;
 7. Mediastinum; 8. Vasa Recta; 10. Tunica Vaginalis; 13.
 Tunica Albuginea; 9. Its Septa; 11. Vasa Efferentia; 12.
 Globus Major; 14, 14. The Lobes.



THORACIC CONTENTS.

1. Left Auricle of Heart that receives the pure blood from the lungs; 2. Right Auricle that receives the impure blood from every part of the body; 3. Left Ventricle that pumps the pure blood to every part of the body; 4. Right Ventricle that pumps the impure blood to the lungs; 5. Pulmonary Artery; 6. Aorta; 7. Vein emptying impure blood into the right auricle; 8, 9, 10. Arteries; 11. Wind-pipe; 12. Larynx.



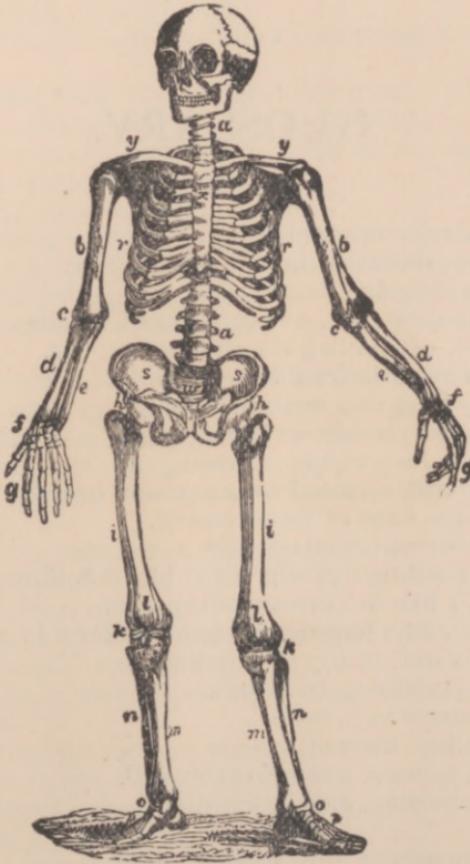
THE LUNGS.

a, Windpipe; *b*, Bifurcation of windpipe; *c, c, c*, The three lobes of the right lung; *d*, Base of lung; *e, e, e*, Bronchial tubes.



EXTERNAL VIEW OF BRAIN.

a, Muscle covering skull turned back; *b*, Membrane covering brain; *c*, *d* and *e*, Convolutions of the brain.



HUMAN SKELETON.

a, a, Backbone; *b, b*, Humeri; *d, e*, The two bones below the elbow; *f*, The wrist; *g*, Bones of finger and thumb; *s, s* and *w* form the pelvis; *w*, The sacrum; *x*, Breast bone or sternum; *i*, Thigh bone or femur; *n, m*, The two bones below the knee; *o*, Ankle; *p*, Bones of the toes; *y*, Clavicle or collar bone; *r, r*, Ribs; *h*, Head of femur or thigh bone.

GLOSSARY.

- ABSCCESS, a cavity containing pus.
ABERRATION, deviation from a straight line.
ABNORMAL, irregular, deformed.
ACID, a sour substance, a neutralizer of alkalies.
ALBUMINOUS, resembling the white of an egg.
ALIMENTIVENESS, desire for food.
ALKALI, anything that neutralizes acids.
ALCHEMIST, the chemist of olden times.
AMATIVENESS, love of the opposite sex.
ANTIPHLOGISTIC, opposed to congestion or inflammation.
ANTIMONY, the base of tartar emetic.
ANODYNE, that which allays pain.
ANÆMIA, a condition in which the blood is thin.
ANALOGUE, a like or corresponding term.
ANÆSTHETIC, anything similar to chloroform in action.
APEX, the summit or top of anything.
APHTHOUS, pertaining to thrush.
AQUEOUS, watery in nature.
ATONY, debility, want of tone.
ATROPHIED, become smaller than usual.
AUXILIARY, helping, aiding, assisting.
- BILLETED, quartered, furnished lodgings.
BLONDE, light hair and blue eyes.
BOTANY, science of plants.
BRONCHIAL, belonging to ramifications of windpipe.
BRUNETTE, brown or dark complexion.
- CADAVEROUS, resembling a dead person.
CALCULI, concretions formed around a nucleus.
CARBONIC ACID, composed of carbon, one part; oxygen, two parts.
CAUSTIC, that which burns or destroys texture.
CASUALTY, accident, emergency.

- CALCAREOUS, containing lime.
 CANTHARIDES, Spanish flies.
 CAPILLARIES, the hair-like tubes connecting the arteries and veins.
 CASEUM, that from which cheese is formed.
 CELESTIAL, belonging to the visible heavens.
 CERVIX, the neck; cervix uteri, neck of the womb.
 CHERUBIM, an order of angels.
 CHANCRE, a venereal ulcer.
 CHOLAGOGUE, anything that increases the flow of bile.
 CHLOROSIS, scientific name for green sickness.
 CLITORIS, small organ in female, analogue of penis.
 CLAIRVOYANT, discerning objects not perceptible by the senses.
 COCCYX, small bone at lower extremity of the sacrum.
 COSMETIC, that which beautifies the complexion.
 COCOON, the case that contains the larvæ or grub.
 COALESCING, uniting, growing together.
 CORNŪA, (cornua of the womb is where the fallopian tubes empty.)
 CONDIMENT, seasonings, as pepper and mustard.
 COLOSTRUM, the first milk secreted after confinement.
 COAGULA, clots of blood.
 COTERIE, circle of persons who meet socially.
 COITION, sexual intercourse.
 CUL-DE-SAC, a cavity open only at one end.

 DECALOGUE, the ten commandments.
 DEFECATION, act of voiding fæces.
 DELETERIOUS, injurious, pernicious.
 DIAGNOSE, to determine the nature.
 DIURETIC, increasing the flow of urine.
 DIATHESIS, bodily state or constitution.
 DISCUTIENT, that which disperses, scatters.
 DRASTIC, that which purges quickly and thoroughly.
 DUPLICATED, copied, transcribed.
 DYSMENORRHŒA, painful or difficult menstruation.

 ECLAMPSY, a symptom of epilepsy.
 EMPIRICAL, wanting in science.
 EMBRYO, first rudiments of an organized being.
 EMMENAGOGUE, medicines that produce monthly flow.

ENDEMIC, local in their origin.
 ENCEINTE, pregnant.
 EPIDEMIC, affecting a great number, prevalent.
 ERGOT, popular name is spurred rye.
 ERUCTATION, act of belching.
 ETHICS, rules of duty.
 EVOLUTION, act of evolving, developing.
 EXCRESCENCE, a morbid outgrowth.
 EXSANGUINE, bloodless, pale, death-like.
 EXTRUDING, throwing out, expelling.
 EXTRA-UTERINE, outside of the womb.
 EXPECTORANT, medicine that promotes discharges from lungs.
 EXPEDITE, to hasten.

FAUNA, the animals of a region.
 FÆCES, evacuations from the bowels.
 FECUNDATING, fertilizing, imparting life.
 FISSIPAROUS, reproducing by splitting.
 FIMBRIATED, having the border fringe-like.
 FLORA, list of plants.
 FLEXIONS, foldings.
 FLUCTUATE, to move in waves.
 FOSSILS, extinct animal and vegetable remains in the rocks.
 FOLLICLES, glands, cavities.
 FŒTICIDE, one who murders the fœtus.
 FREAK, caprice, pranks, whims.
 FRIGIDITY, coldness, indifference.
 FUNCTION, the office.
 FUNDUS, base, as fundus of the uterus.

GESTATION, the pregnant state.
 GEOLOGIST, one versed in geology.
 GLOTTIS, the narrow opening at upper part of larynx.
 GUY ROPES, ropes attached to steady anything.

HEMORRHAGE, flow of blood.
 HERMAPHRODITE, a being in whom both sexes are manifested.
 HIVE SYRUP, a standard cough syrup.
 HORTICULTURIST, a gardener.
 HYBRID, a mongrel, a mule.
 HYDRA, fresh-water polyp.

HYPERTROPHY, excessive growth.
HYGIENIC, pertaining to health.

IDIOSYNCRASIES, peculiarities.
ILIAC, pertaining to the groin.
IMPACTED, pressed firmly together.
IMPOTENCE, inability, defect of power.
IMPERFORATE, having no opening.
INTRACTABLE, incurable.
INGUINAL, relating to the groin.
INDICES, those things that point out.
INCESTUOUS, guilty of incest.
INFUSORIA, microscopic animals.
INFINITESIMAL, infinitely small.
IN SITU, in its place.
IRITIS, inflammation of the iris.

LANCINATING, tearing, lacerating.
LACHRYMAL, relating to tears.
LAMBDOIDAL, resembling the Greek letter lambda.
LARDER, a pantry.
LEUCORRHŒA, scientific name for the whites.
LOTION, a healing application in fluid form.
LUMBAGO, rheumatism in small of the back.

MAMMALIA, animals producing their young alive.
MARASMUS, a wasting away.
MATERNAL, pertaining to the mother.
MAMMARY, relating to the breasts.
MALIGNANT, threatening a fatal issue.
MASTURBATION, self-pollution, self-abuse.

MENSTRUATION, monthly flowing.
MECONIUM, the first fæces of infants.
METAPHYSICAL, pertaining to mind.
METAMORPHOSIS, change of form.
MEDUSÆ, sea nettles, jelly fishes.
MODUS OPERANDI, mode of operating.
MORBID, diseased.
MUCILAGINOUS, resembling mucilage.
MUCOUS, secreting mucus.
MUNICIPAL, pertaining to corporation or city.

NÆVI MATERNI, mothers' marks, fancy spots.

NAUSEATE, to produce desire to vomit.

NARCOTIC, producing sleep.

NORMAL, natural, healthy.

NYMPHÆ, inner lip of the vulva.

OBSTETRICIAN, one who practices midwifery.

OCCLUDE, to close up.

OMNE VIVUM EX OVO, everything living from an egg.

OVARY, organ in the female that forms the eggs.

OVIDUCT, duct that conveys the egg.

OVIPAROUS, producing young by eggs.

OVULATION, the act of extruding eggs.

OXYGENATION, purification.

PABULUM, food, sustenance.

PARALYSIS, palsy, loss of voluntary motion.

PANDORA'S BOX, a fabled box of innumerable evils.

PARTURIENT, giving birth.

PALLIATIVE, soothing, quieting.

PARIETES, walls.

PANACEAS, cure-all medicines.

PAPILLÆ, nipple-shaped elevations.

PARTURITION, childbirth.

PATHOLOGY, the science of disease.

PERINEUM, space between the genital organ and anus.

PENIS, male organ of generation.

PERITONEUM, a serous membrane, lining abdominal organs.

PHTHISIS, consumption.

PHAGEDENIC, spreading, eating, obstinate.

PLETHORA, superabundance of blood.

PLACENTA, the afterbirth.

POLYP, a low order of animal, vegetable in form.

PRONE, lying face downward.

PRO TEMPORE, for the time being.

PROSTATE GLAND, small gland at root of penis.

PROGNOSE, to predict, foretell.

PRO RE NATA, as the case requires.

PUERPERAL, pertaining to childbirth.

PUS, a creamy liquid of morbid origin.

PSYCHICAL, pertaining to the soul or mind.

QUICKENING, first sensation of foetal motion.
 QUADRUPLETS, four at one birth.

REFRIGERANT, cooling.
 RECUMBENT, lying on the back.
 RECTO-VAGINAL, between rectum and vagina.
 RECTUM, the lower bowel.
 ROUGE, a cosmetic giving a red color.

SALIVATION, increased flow of saliva.
 SAGITTAL, straight like an arrow.
 SANGUINEOUS, resembling blood.
 SANTONINE, a vegetable vermifuge.
 SCROTUM, sac containing the testicles.
 SEBACEOUS, producing waxy or oily secretions.
 SEXUAL, pertaining to sex.
 SINUS, a canal, a groove.
 SITZ BATH, hip bath — see index.
 SLOUGHING, separating dead from the living.
 SPERMATOOZOA, minute animals in the semen.
 SPERMS, spermatozoa.
 SPHINCTER ANI, the constrictor muscle of anus.
 SPERMATORRHEA, involuntary seminal emissions.
 STERILITY, barrenness.
 STOICS, a peculiar class of philosophers.
 STETHOSCOPE, instrument used in diagnosing disease.
 SUPERFETATION, a second conception after a prior one.
 SULPHATE OF ZINC, white vitriol.
 SYNONYMS, words that are equivalent.
 SYNCOPE, fainting.

TESTES, organs that secrete the semen.
 TINCTURE OF OPIUM, laudanum.
 TOPICAL, limited, local.
 TORPOR, laziness, inactivity.
 TROCAR, surgical instrument used in tapping.
 THYROID GLAND, the gland that is enlarged in goitre.
 THWARTING, opposing.

UMBILICUS, the navel.
 URACHUS, a foetal organ.

URETHRA, canal through which urine passes from the bladder.

UTERUS, the womb.

VARICOSE, permanently dilated.

VESICULÆ SEMINALES, organs at base of bladder.

VESICATION, act of blistering.

VIRUS, poison, that which infects.

VICARIOUS, performing another's office.

VILLI, minute elevations.

VIVIPAROUS, producing young alive.

VISCUS, organ.

VITELLINE, pertaining to the yolk.

VULVA, external organ of generation of female.



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ADDENDA.

KITCHEN AND DININGROOM:

HYGIENE AND ETIQUETTE;

OR,

HOW AND WHAT TO EAT;

HOW AND WHAT TO COOK;

HOW TO BEHAVE



CHAPTER I.

HYGIENIC EATING.

NO fact is better established than this: there is a constant, unceasing change transpiring throughout the whole mineral, vegetable and animal world. MAN is no exception. You cannot move a single muscle; you cannot laugh, or even smile, scold or fret; you cannot have a single thought, unless it is the direct result of change. All action, whether physical or psychical, is the result of DEATH. *We live to die*, and it is equally true we *die to live*. The nutritive function supplies the waste. *Hunger* is the sensation we experience when solid aliment is required to supply this waste. Man differs from all other animals in being able to subsist on an exclusive *animal* or *vegetable* diet. Many think it an unpardonable sin to eat any animal food. It is much ado about nothing. There are animal oils and vegetable oils *chemically alike*—animal fats and vegetable fats. The fibrine (or active part of the muscle) and the gluten (sticky part of flour) are chemically the same; the caseine (that which forms the curd in milk) has

the same composition as the legumine found in peas and beans.

FOOD, scientifically considered, must contain the same elements that are found in the human body. Digestion does not create new elements; all it can do is to effect such changes in the food, that it may replace that which has been torn down. Fields, once fertile, capable of producing a hundredfold, become *impoverished* by *continual cropping*, if there be no replacement. So likewise many constitutions have been shattered, many minds enfeebled, and morals perverted, by not understanding and obeying the laws of nutrition.

WHAT shall I eat? and How shall I eat? are two important questions, and your *weal* or *woe* will depend on the answer being correctly or incorrectly given.

WHAT SHALL I EAT?

Food may be classified as follows:

First. The PLASTIC TISSUE FORMING elements containing a large amount of *nitrogen*. This class embraces *albumen*, *fibrine*, *caseine*, *gelatine*, of the animal, and *gluten* and *legumine* of the vegetable.

Second. The CARBONACEOUS HEAT-PRODUCING elements.

The human system is a self-regulating stove.

The temperature is about 98° Fahrenheit, and it varies but a trifle whether you are on an *iceberg* or scorched by the blazing sun of the tropics. This constant generation of heat is the result of a slow combustion; hence fuel must be taken in the form of food. The heating elements include the fats and oils of the animal and the starch and sugar of the vegetable.

Third. BRAIN AND NERVE producing elements. This class embraces those in which *phosphorus* and its compounds predominate. The brain and nerves feed on *phosphorus*, and one prominent cause of *insanity, suicide, neuralgia, enfeebled nerves* and *general debility* is the deficiency in the food of this all important element,—it is phosphorus starvation. Fish, eggs, graham flour, oatmeal, contain a large percentage.

Fourth. MINERAL elements. These include *lime* and *iron*. Rickets result from deficiency of lime, Chlorosis (green sickness), anæmia, and general debility, from a deficiency of iron.

Science and experience teach our diet should vary with *age, business, climate* and *season*. Although many have lived to a green old age who have subsisted exclusively on a *vegetable diet*, yet on the other hand, the Guanchos, a half civilized race of South America, who spend most of their life in the saddle, who are noted for their ac-

tivity, powers of endurance and length of life, subsist almost exclusively on *animal diet*. Prof. Carpenter, of London, says: "And whilst, on the one hand, it may be freely conceded to the advocates of vegetarianism that a well selected *vegetable* diet is capable of producing, in the greater number of individuals, the *highest physical* development of which they are capable, it may, on the other hand, be affirmed, with *equal* certainty, that the substitution of a moderate proportion of *animal flesh* is in no way injurious, whilst, so far as our evidence extends, this seems rather to favor the *highest mental* development."

Prof. Hitchcock, of Amherst College, says: "That diet seems to be most perfectly adapted to the human constitution, in all climates and seasons, which is composed of animal and vegetable food in the proportion of *one to two*, or one-third by weight, of animal food to two-thirds of vegetable food. This proportion is the basis of the diet scales of the United States and British navies."

FOOD ACCORDING TO BUSINESS.

Are you a *brain* worker? Does your calling keep your nerves at *high tide* from morn until night? Live more on eggs, fish, game, oatmeal, graham. Does your vocation require more

muscle than mind; more physical labor and less thought? Live less on fats, oils, starch or sugar, but see that *lean* meat, beans, peas, cheese, are on the bill of fare.

Does business, climate, season, expose you to a low temperature? See that your food is highly carbonaceous, viz: fatty, oily and farinaceous food, fat meats, butter, lard, corn, rice, sugar.

The Esquimaux and Greenlanders will drink whale-oil with the same relish that those in the tropics drink milk. Whale fat, or blubber, in the frigid zone is relished as much as oranges and figs in the torrid. Tallow candles are used as a dessert by the Icelanders.

BEEF VERSUS PORK.

Americans, as a class, live too much on *white* flour bread, sugar and fat pork, which, though highly charged with carbon, and are good to keep them warm, are *too deficient* in muscle and nerve nourishing elements. The English substitute *beef* for *pork*; the Scotch will have their *oat-meal*; the Irishman his potatoes and butter-milk, and they are the best muscled nations on the globe. The chemist tells us those substances containing the largest amount of *nitrogen* are the best to feed muscle, and if you consult the following tables you can easily see why beef, mutton and veal are superior to pork.

	Nitrogen.	Fat.	Saline matter.	Water.
Lean Beef.....	19.3	3.6	5.1	72.=100
Fat Beef.....	14.8	29.8	4.4	51.=100
Fat Mutton.....	12.4	31.1	3.5	53.=100
Veal.....	16.5	15.8	4.7	63.=100
Fat Pork.....	9.9	48.9	2.3	39.9.=100

From this table you see that lean beef is about twice as rich in nitrogen and saline matter as pork, and of course is the most economical of animal food for the laborer, and is much quicker digested; pork requiring about five hours, whilst beef is digested in about one-half of that time.

MILK THE QUEEN.

MILK is the only liquid prepared by nature that contains all of the elements of nutrition, and compounded in the right proportion. In the caseine (curd) we find the *plastic* elements; in the *butter* and *sugar* of milk we find the heating elements. Milk contains the right proportion of phosphorus, lime and iron adapted to the growing animal. Magendie's experiments prove that no single article of food, except milk, can be fed to an animal any length of time without resulting in disease, and finally *death*.

WHEAT THE KING.

WHEAT wears the *crown* as a nutritive agent. In it the whole four classes of aliments are found. It has been said man shall not live by bread

alone. In a *religious* point of view it is correct, but from a *physiological* standpoint he may. The bread he should select should not be the snowy, fleecy loaf; it must be bran-brown. Bran contains a large amount of mineral matter. The chit or germ of wheat is loaded with phosphates, and the white flour that is used by most families has been robbed of its most nutritive quality. If man would eat more of the bran himself, and feed less to his hogs, he would be the *gainer*, even if the hog is the *loser*. Brown or graham bread should be on the table at every meal, and if made right it is far more palatable than the white.

Beans and peas are rich in nitrogen, much more so than rice, which is mostly carbon in the form of starch. Corn is far inferior to oats as a muscle and brain food. What is true for the horse is equally true for man.

Corn-fed horses shine,—they are fat, sleek, but *lazy*, and will bear the whip. Oat-fed horses are full of *life* and *nerve*; in popular parlance they *feel their oats*, and you must hang to the lines. Oatmeal is better summer food, cornmeal better winter. By examining the following tables of analysis you can see why this is the case:

	PHOSPHORUS. For Brain.	NITROGEN. For Muscle.	CARBON. For Heat.	WATER AND MINERAL.
Wheat.	2 per cent.	15 per cent.	67 per cent.	16 per cent.
Oats	3 "	17 "	51 "	29 "
Corn	1 "	12 "	68 "	19 "
Beans	4 "	24 "	40 "	32 "
Rice	$\frac{1}{2}$ "	6 "	77 $\frac{1}{2}$ "	16 "

From this table you will perceive that corn is only one-third as rich as oats in phosphorus; that rice is only one-sixth as rich. Beans win the race as brain and muscle food. Fish are rich in brain and muscle elements, but quite deficient in heating qualities. Turnips contain but little nutriment, being over nine-tenths water, one-hundredth nitrogen, and the balance, some nine-hundredths, is starch, sugar and minerals. The potato is twice as rich in nitrogen and three times as rich in carbon as the turnip or cabbage.

FRUITS AS SUMMER FOOD.

Nature is lavish with fruits at the very time when they are most needed; and although they all, except figs and prunes, contain about 80 per cent of water, yet they all contain, more or less, the four classes of nourishment. Apples and pears, although they contain only one-half as much brain elements, and far less carbon, yet they are far richer in the plastic than the potato or cabbage. Figs and prunes are far richer than any of them in every department. Figs are recommended for constipation, but are too rich

in carbon for weak stomachs. Ripe fruits eaten freely are the best *blood purifiers and alteratives*, especially for those who have been living on a highly concentrated diet. The juicy tartness, the flavored sweetness of the strawberry, the grape, the peach, or the apple, cannot but be pleasing to the palate, bland for the stomach, cooling to the blood. Too concentrated a diet, as we find it in oily compounds, white flour bread, and the endless chain of sweet cakes, pastry and preserves, do not sufficiently distend the stomach to secure a free secretion of gastric juice, hence, soon are manifested all the symptoms of incipient dyspepsia, viz: gastric pain and fullness, heart-burn, water-brash, palpitation of the heart, etc.

DIETING *versus* DOSING.

The dyspeptic, instead of *swilling* stomachic bitters and the various bitter infusions and decoctions, had better examine carefully his diet scale. All salt meats, whether pork, beef or fish, also pickles of all kinds, new bread and cakes, rich pastry and preserves, and peppery soups, should be crossed off the list, and substitute for them, oatmeal and graham mush, fresh beef and fish and *ripe fruits*.

HYGIENE OF QUANTITY.

A normal appetite is a safe counselor in regard to *how much*, but the majority of the appe-

tites in this fast-eating, dissipated age, are on the *morbid* order, for we are becoming fast a race of dyspeptics. The dyspeptic's appetite is quite *capricious*. At one time he eats *too much*, and oftentimes the *most indigestible* food, then *curses* the cook and *grunts* it out. At another time his stomach *revolts* at the most palatable dish. The various condiments should be used sparingly,—more to flavor than stimulate.

ALCOHOLIC stimulants should never be used before a meal, as they put the stomach on a *spree*, and we *gormandize* before we are aware. You give a little man (light weight) a horn of whisky, and he soon feels smart, elevated. He feels as though he could whip a Morrissey or a Heenan, if they were alive and in *fighting trim*. So the stomach, after it has received a full dose of toddy, or a dose of most any of the so-called stomach bitters (a *temperance* title for *spiced whisky*), is elevated, and if it could talk, would say, "Come on pork and potatoes, corn-bread and cucumbers, sour bread and succotash, sweet cake and sausage. COME ON, I am enough for all of you, your *sisters*, your *cousins* and your *aunts*."

FAST EATING AND ITS RESULTS.

Although proper attention may be devoted to the quality and quantity of the food, yet the race is not half run. The laws of healthy digestion

must be obeyed. Not one person in a hundred eats *scientifically*, and fast eating is quite a prominent cause of indigestion. Many throw down their food as if they were shoveling beans into a sack, regarding the mouth more as a *hopper* than as a receptacle in which are effected some of the most important digestive changes. Such should live on *hash* only. The mouth, with its three kinds of teeth for cutting, tearing and grinding, is nicely designed for triturating the food. Proper mastication not only pulverizes the solids so that they will easily dissolve in the stomach, but it also converts all of the starch into sugar, and all the starch in the food must be converted into sugar before it can act as nutriment.

FAST DRINKING is the natural result of this American habit of *bolting* the food. Nature has placed on each side of the mouth three flowing fountains (the salivary glands), that will furnish nearly all the liquid required, if we will take plenty of time at the table. The liquids taken at the table must be absorbed by the stomach before the solids will digest. To illustrate: Suppose at an ordinary meal you eat a piece of beefsteak as big as your hand, two or three potatoes, three slices of bread, the usual quantity of pickles, lettuce and cheese, and then *top it off* with a quarter of a mince pie, and during

the *cramming* process you have flooded down your throats four or five tumblers of water, or a similar quantity of tea or coffee? What do you think the stomach,—if it is not too full for utterance,—would say, if it could talk, and it *can* talk and *does*, in a language that every gourmandizer understands without an interpreter. I will tell you what it would exclaim: I never will digest this *mongrel* of solids until all the liquids are absorbed. The stomach then begins the work of absorption, and by the time it is accomplished what is the condition of the solids? They are *putrescent*.

No wonder there are so many complaining of sour stomachs, belching of wind and heart-burn. No wonder that every other man or woman you meet is a walking hypochondriac. No wonder suicide is on the increase and our insane asylums are overflowing.

Those that will keep up this pernicious habit of cramming and flooding down their food ought to chew their cud like an ox and have four stomachs instead of one. If the physician, instead of *dosing* his dyspeptic patients, would feed them with a spoon, his practice would be crowned with greater success.

THE STOMACH A SLAVE.

Without doubt the majority of stomachs are worse treated than any of the slaves of the

present or the past. It is not a *gizzard*, designed to *grind*, it is simply a *thin membranous sac* merely for *dissolving*. The stomach is composed of three coats, viz: 1. The *serous* layer, which envelops it, and gives it *strength*. 2. The middle or *muscular* coat, which by its contractions, gives it a *limited motion*. 3. The *mucous* membrane that lines it, and in which are more than a thousand depressions, not more than an eighth of an inch deep, termed gastric follicles. These follicles form from the blood the gastric juice, which is an acid secretion that acts *chemically* on the food. The *turkey* swallows its food *whole*, but its gizzard, composed of strong muscle and often containing very small sized pebbles, grinds and pulverizes it. Its structure is nicely adapted to the office it has to perform, but in *man* pulverizing the solids is the *first* change to be effected. That nicely constructed *food-mill*, the mouth, with its three run of stone,—that is, three kinds of teeth,—is all the *gizzard* man possesses, and if the food is not *gizzarded* there it will not be ground at all. Yet how many eat as if the stomach were a gizzard! I will tell you when you eat as if it were. You have been riding on the cars all night; morning has arrived, the welcome cry of the brakeman, "TEN *minutes for breakfast!*" is heard; the cars stop, and there is a general *rush* of the passenger to the dining

hall, like so many *vultures* to their prey. Business ahead, a *dollar's* worth to be eaten in ten minutes! It is a *champion* contest, go as you please. You grab everything within reach to have it ready, then with knife and fork in hand you will throw a quarter of a potato into your mouth, and before you shut it you will toss in a large piece of roast beef, and, not *to lose any time*, you fill the remaining cavity with hot coffee; then you will stretch up your neck, roll your eyes in terror, contort your features, and bolt the whole mass into your stomach, making much worse contortions than a turkey in eating dry meal.

Dr. Beaumont's experiments on Alexis St. Martin have given us positive knowledge in regard to gastric digestion. Alexis, by the accidental discharge of a gun, had an opening made through the abdominal walls into the stomach itself. The wound never closed up, but the lining membrane of the stomach became elongated, and formed a valve, so to speak, to close the orifice. But any time you could insert a speculum and look into the stomach itself. After *fasting*, the lining membrane presented a pale appearance, and the gastric follicles were quiescent; but when food was inserted after a long fast, the mucous membrane that was pale became *flushed*, the gastric follicles were aroused to action, the gastric juice could be seen oozing from the thousand

glands. Dr. Beaumont's experiments on Alexis St. Martin have given us ocular demonstration of the changes wrought in the stomach. The problem of gastric digestion is thoroughly solved. The albuminous portion of the food is chiefly affected in the stomach, and the whole mass is converted into a creamy liquid termed *chyme*.

The stomach should have its full share of blood after each meal, and such is not the case when you hurry from the table to engage in physical or mental labor. There are many cases of dyspepsia produced by deflecting blood to the brain and muscle that really belongs to the stomach.

LATE SUNDAY BREAKFASTS.

Many breakfast some two hours later on Sunday morning, and gormandize more or less of course; they then hurry on their Sunday apparel, and start for church, and before the services are half through they are *sound asleep*; mouths *wide open* and snoring like a porpoise. You question them on their return home how they enjoyed the sermon, and the reply is, "It was *too dry*,—not *practical* enough,—too dogmatical. The sermon was *all right*, but they were all *wrong*. The blood that should have been in their brains, digesting the wise sayings of the minister, was down in their stomachs, digesting

the cold ham and fried doughnuts they had for breakfast. It takes good eloquence and fine singing to convert a piece of pork. Moody and Sankey would certainly fail.

Napoleon, when in Egypt, attempted to capture a mud fortress and failed. If the fortress had been made of *wood* he could have *burned* it with his red hot shot. If it had been made of *stone* he could have *battered* its walls with his eighteen-pounders; but a mud fortress was proof against his heavy artillery. It is very much like taking a mud fortress when the minister wastes his persuasive eloquence on an audience with more blood in their stomachs than in their brains.

REST BEFORE MEALS.

Many treat themselves worse than they do their *horses*. If they have been driving their horses hard, they let them cool before they give them their oats and water. They use practical common sense. On the other hand, the laborer comes from the field or workshop warm and perspiring; the student throws aside his books upon which he has been poring, his brain surcharged with blood. They do not use any precaution, but rush to the table. They would *founder* their horses to treat them as they treat themselves.

By taking a rest before meals the blood seeks

an equilibrium, and is uniformly distributed, and then the stomach is prepared for its burden.

Bishop Hall thoroughly appreciated the fact that *rest*, or light recreations, should be indulged in before and after each meal, as is shown by the following language :

“ Before my meals, and after, I let myself loose from all thoughts, and now would forget that I ever studied. A *full mind* takes away the body's appetite no less than a *full body* makes a dull and unwieldy mind. Company, discourse, recreations, are now seasonable and welcome. These prepare me for a diet, not *gluttonous* but *medicinal*.”

BAD DREAMS — CAUSE AND CURE.

Many are in the habit, before retiring, of taking a lunch, and thereby are troubled with bad dreams. You have heard about the man that wished the doctor to prescribe for his terrible dreams. The doctor asked if he had any bad habits. Oh, no ; he was *temperance* to the last ; he didn't use whisky or tobacco in any form. “ Well,” says the doctor, “ how are your *dietetic* habits ? ” “ Good, I eat regular. ” “ How is it about lunches ? ” “ Well,” says the man, “ I am in the habit of taking a *bite* on retiring. You know it is a *good while* from *bedtime* to *breakfast*. ” “ What did you eat last night ? ” “ Oh,

about half a mince-pie." "What did you dream about?" "Oh, about my father and mother; I have almost forgotten." "Well," says the doctor, "to-night you eat a *whole* mince-pie, and you will dream about your *grandfather* and grandmother, and (if you live) you *never* will forget it."

DREAMING depends very much on a disturbed digestion. If you wish to have sweet, lovely, romantic dreams, eat an early supper and rather a light one. Engage only in light physical and mental work before retiring. See that the sleeping apartment is well ventilated. Throw aside the *downy* couch, and sleep on a husk or hair mattress. Throw aside all business cares. Put your all on the altar of *Morpheus*, and he will prove himself to be "Nature's sweet restorer,"—*balmy sleep*. But if, on the other hand, you wish to be chased by the Sioux or the Winnebagoes, and perhaps scalped, I will prescribe the following, but would advise you to get your life insured first:

In the first place, eat a quarter of a mince-pie,—it is the *deadliest* of all pies,—it is *pleasing* to *most* palates, but *death* to *all* stomachs. With the pie eat two pickles and a slice or two of Limburger cheese. Wash it down with half a pint of sweet milk, and you will think, perhaps, you are being *beheaded* instead of scalped.

"Well," says one, "how does a *disordered stomach* cause such *mental* derangement?"

I will explain. The stomach and brain are very intimately related, and are connected by a telegraph wire,—the pneumogastric nerve. If you are dyspeptic and consult a physician, he will ask you more questions about the brain than he will about the stomach, the seat of the disease. These are some of the questions he will ask you: Are you troubled with a frontal headache? Is your memory becoming poorer? Are you subject to fits of despondency, etc. The trouble is in the stomach, but the telegrams are read in the brain, the other end of the wire.

Another case to show the telegraphic connection between brain and stomach.

If you should receive a blow on the skull, or if you should fall from a building and should receive a concussion of the brain, the *first* symptom you would manifest would be vomiting. The effects on the brain are telegraphed to the stomach.

It is not the stomach that really digests the food, it is the brain. The stomach is the *instrument*, the brain is the *motive* power. The brain is the galvanic battery that drives every tissue and organ of the body. It is a well settled fact that the brain must have rest, but these *bedtime lunchers* are bound it shall have *no rest*; hence, they bolt down an indigestible mongrel lunch, and the brain, fatigued by the labors of the *day*,

has got to toil all night to relieve the burdened stomach.

PALPITATION of the heart, nine times out of ten, is the result of dyspepsia, and I will tell you why. The nerve that connects the brain and the stomach sends a branch to the heart, hence the effects of indigestion, or irregular dietetic habits, are telegraphed to the heart, and the fluttering, irregular action, palpitation, is the result. The heart, of course, sometimes is *organically* diseased; but in the majority of cases, termed palpitation, the heart is *all right*, but the stomach is *all wrong*. Hence the best formula for palpitation is, *attend strictly to the hygiene of digestion*.

CHAPTER II.

HYGIENIC COOKING.

“Some fretful tempers wince at every touch;
You always do too little or too much;
Serve him with venison, he chooses fish
With sole, that’s just the sort he would not wish!
He takes what he at first professed to loathe,
And in due time feeds heartily on both.”—*Cowper.*

COOKERY is both a science and an art, and to be an *expert* in it requires careful study, close observation, quick perception, and patience that *endureth forever*. A hygienic cook is a genius, as much as a musician, a painter or a poet, and is endowed with as high an order of talents, and should rank as high in society. It is no *mean* title, viewed in a scientific sense, to select the right quantity and quality of food, and to render it palatable and healthful. The process of preparing the food is a series of *chemical* experiments, and the kitchen is the *laboratory*, the cook the *chemist*. In this country, cooking is considered a *menial* service, too degrading for lily-white hands, and about the last thing too many mothers instruct their daughters about is

kitchenology, yet it is the very *ology* they will practice the most after the nuptial knot is tied and the fleeting honeymoon is passed. Mothers, teach your daughters how to make a loaf of bread before you bewitch their brains with fine-grain embroidery. Teach them how to skim a pan of milk before they begin to practice piano or organ exercises. Give them good sound instruction in regard to the duties and perplexities of housekeeping *first*, and there will be plenty of time to give them the *lady-like* embellishments afterward. Many a young married lady would give all her *smattering* of French to know how to make a *good fleecy biscuit*. Physical labor does not degrade, it ennobles. Soft hands, small knuckles and pale complexion are by no means lady-like characteristics, if there is *soft putty* brain at the *helm*. Pope says, "the mind is the standard of the man," and woman should be measured by the same rule. Mrs. Everett, in her "Hints upon Kitchen and Dining-room," makes the following very sensible remarks:— "There are few things that so conspicuously determine the quality of the mind and heart of a housekeeper as that *tabooed* quarter of the house denominated *kitchen*. Here the mistress of a house unconsciously betrays whatever of the artistic, conscientious, practical or capable faculties she may possess. The *kitchen* is a far truer in-

dex of the spirit of the house than the *parlor*." Most any one may *shine* in the parlor, the laws of etiquette are *few* and *simple*, but to shine in the kitchen, to *superintend* it, even, requires a much higher order of talents. In this country, kitchen work is considered *drudgery*, and hence it is generally intrusted to stupid servants, who trust more to experience and luck and habit, than science, and it is no wonder *hash* is a slang phrase.

In France it is a fine art. Louis Eustache Ude, a celebrated French cook, says: "What science demands more study than cookery? Every man is not born with qualifications necessary to constitute a good cook. I shall demonstrate the difficulty of the art by offering a few observations on some other arts: Music, dancing, fencing, painting, and mechanics in general, possess professors under twenty years of age, whereas, in the line of cooking, preëminence never occurs under thirty. We see daily at concerts and academies, young men and women who display the greatest abilities, but in *our* line, nothing but the most consummate experience can elevate a man to the rank of chief professor. Cookery is an art appreciated by only very few individuals, and requires, in addition to the most diligent and studious application, no small share of intellect, and the strictest sobriety and punctuality. There

are cooks and cooks, as there are painters, but the difficulty lies in finding a *perfect one*; and I dare assert that the nobleman who has in his service a thorough good one, ought to be as proud of the acquisition as of possessing in his gallery a genuine production of the pencil of Rubens, Raphael or Titian."

The remarks we shall make in this work will be from a scientific, hygienic standpoint; we shall dwell at some length on the philosophy, giving the whys. Cooking has its *whims*, like everything else; these will be ridiculed; and the only pillar of fire by night, and cloud by day, that we shall recognize as our pilot, will be *pure unadulterated science*. The various formulas we shall present will have these facts for a basis, viz, *pleasing* to the palate, *grateful* to the stomach, *rich* in the nutriment required. Our object will not be, in the language of Dr. Trall, "to mix and mingle the greatest possible amount of *seasonings, saltings, spicings* and *greasings* into a single dish, and jumble the greatest possible variety of heterogeneous substances into the stomach at a single meal"; on the other hand, each dish presented will be simple in composition, chemistry and hygiene superintending the whole.

THE KITCHEN — WHAT IT SHOULD BE.

In building a house for *comfort*—to make it a pleasant *home* instead of something for style, for others to gaze at—do not, for the world, have it nearly all parlor, and a *small, squatty, unventilated, uninviting, secluded* part for a kitchen. The parlor is used for *leisure*, and only *occasionally*; the kitchen is the *living* room. The parlor is for the accommodation of your *guests*; the kitchen is really the part you can call home.

The kitchen should be the largest and best ventilated room in the house, the best exposed to sunshine and breeze. Do not paint and paper it with dark colors, as if it were a *cloister* for a monk, or a cell for a convict; its walls should be *light colors*.

The kitchen is the housekeeper's *workshop*, hence there should be every precaution to make the work light. An ill-arranged kitchen, water *off here, fuel off there, stove away one side*, and all the adjuncts, viz, pantry, cellar, etc., by no means convenient, causes very much unnecessary tramping for each meal that is prepared. All the details of arrangement should be planned by the wife; she has to *superintend* even if she does not have to do the work herself. Many times it is impossible to get good servants, and the lady of the house has to serve in every

capacity,—from dish washer to hostess. Mrs. Harriet Beecher Stowe says: “Who is not cognizant of dinner parties invited in which the lady of the house has figured successively as confectioner, cook, dining-room girl, and lastly rushed up stairs to bathe her glowing cheeks, smooth her hair, draw on satin dress and kid gloves, and appear in the drawing-room as if nothing were the matter. Certainly, the undaunted bravery of our American females can never enough be admired. Other women can play gracefully the head of the establishment, but who, like them, could be head, hand and foot all at once?”

A good mechanic has his tools systematically arranged, and his order expedites his labor more than any tact, celerity or nimbleness of action on his part. Order is the kitchen's as well as heaven's first law.

The clothes wringer, sewing machine, and various other implements used more or less by every housekeeper, are *wonderful* inventions, and are truly *labor saving*; but the field for discovery yet untraversed is broad, and that genius who invents a *labor saving kitchen* will confer on woman an inestimable blessing, and will give dignity to that vocation that is now too often despised.

COFFEE, ITS USES AND ABUSES—HOW PREPARED.

Americans are a coffee-drinking people. It is claimed about five pounds per head are consumed in this country for every man, woman and child. The unground coffee for sale is the berry of an evergreen tree from twelve to twenty feet in height. It possibly might never have been used as a stimulating beverage, if it had not been for the shepherds in Arabia, where its qualities were first discovered. The shepherds noticed that when their flocks browsed on the leaves of the coffee tree they suddenly became more *lively* and *frisky*. The monks from this simple fact soon made use of the berry, or coffee bean. The beverage they made was used by them to keep them awake when their arduous duties kept them busy late at night. These three kinds of coffee are generally kept for sale in first class shops: the *Mocha*, which grows in Arabia; the *Java*, so named from the island of that name in the Indian Ocean, where it is obtained, and the *Rio*, which grows in Brazil, South America, and is so named from Rio Janeiro, the largest coffee exporting city in the world. The *Mocha* is the smallest berry of the three, and of a yellow hue, and is the best and highest priced. The *Java* is a larger berry, and a paler hue. The *Rio*, which is the variety principally used in this country, is of a

bluish tint. Never buy the *ground* coffee. It may be apparently cheaper,— that is, a pound of it may give the *coffee color* to more water, hence for that reason it is much used in third-class boarding and *slop* houses. The aromatic flavor is absent, that which is so stimulating and refreshing, that which makes it a *nectar* for the old and young, the rich and poor, or, as Pope says:

“Coffee which makes the politician wise,
And see through all things with half shut eyes.”

Of course there are some ground coffees pure, but the majority are adulterated with chiccory, and if it is, it can easily be detected. Pure ground coffee scarcely imparts any color if mixed with cold water, whereas if it contain chiccory, the mixture is highly colored. The active principle of coffee is *caffeine*, and has the same composition as *theine*, the active principle in tea.

Coffee contains nutriment, and it tends to *retard* the *waste of tissue* that naturally accompanies muscular exercise, hence it tends to abate hunger; and Dr. Kane noticed that when his men drank freely of coffee they could endure more fatigue and suffered less with hunger. Coffee supports the system in *two* senses,— one *positive*, it repairs waste; the other *negative*, it retards waste. It is a better morning beverage to sustain through the labors of the day, and will be more used by people in *warm* climates; whereas

tea seems better adapted as an evening beverage. It is quieting, soothing, and is better relished by those in *cooler* latitudes. In sunny France, coffee is a national beverage; but in England, where the atmosphere is moist and cool, tea takes the preference. It is claimed by some that coffee is better relished, and hence is more largely used, by those of the *bilious* temperament, dark hair and eyes, and swarthy complexion, and that tea seems better suited to those of the *nervous*, or *nervo-sanguine*, light hair blue or gray eyes, and fair complexion.

Strong coffee drunken freely is without doubt injurious, on the principle that all *stimuli* are followed by *depression*; and when you drink any stimulant it is like giving your note at ten per cent interest and secured by a mortgage on your *homestead*. Pay-day comes when you are *least* prepared, and your note is protested and *foreclosure* is the result; *move west on a homestead* is the closing tableau. When you give a *stimulus* note, it is with *compound* interest; Nature is the payee, physical bankruptcy is the result, and when the note matures, *nervousness* in its protean forms is *manifested*; *closing tableau*, insanity, *premature* death.

ROASTING COFFEE requires great care, as it is really a chemical experiment. Before roasting pick over the berries, so that all foreign objects

and poor kernels may be removed; then wash them in cold water so that all the dust may be removed; after this dry them in a pan at a moderate heat. When they are thoroughly dried, you have the *clean coffee berries* to roast. Never roast a large quantity at a time, as roasted coffee is constantly losing its flavor.

Roast it in a covered vessel, until it presents a pale chestnut color and a peculiar *oily* appearance. Be sure and agitate the vessel, and not have the heat too intense, as there will be danger of charring it, which greatly impairs its quality. After it is roasted grind it as fine as possible, the finer the better. The ground coffee that is not immediately used, be sure and keep in a close-covered vessel to prevent the escape of the aroma.

TO MAKE A GOOD CUP OF COFFEE is what every housewife is desirous of doing.

M. Soyer's mode is the following:

Put the dry coffee into the pot and stir it while heating; then pour into the pot one quart of boiling water to an ounce of coffee. Let the pot remain ten minutes where it will keep hot, being careful that it does not boil, then it is ready for use.

Boiled milk, if you have not cream, is recommended for coffee. Most coffee is spoiled by *over-roasting* and *over-boiling*. The point to be secured is to get the strength and not lose the

flavor. Cold coffee warmed up is nothing but *slop*, fit only for *tramps*.

TEAS, HOW PREPARED.

Tea is quite similar to coffee in its effects on the system, for the reason that the active principle in each is the same in composition. It is a *nerve* stimulant, and for that reason its primary action is *soothing* — *refreshing*. There are two kinds of tea, the green and the black, yet both kinds are made from the leaves of the same plant or shrub, and the great difference they present depends on the preparation. The green tea is made from the *young* leaves, and the black tea is from the leaves after they become *larger*, and the manner of preparing the leaves is quite different. Green tea contains more volatile oil, and hence great precaution should be exercised in its use, especially by those of the nervous type. Dr. Youmans says, "Tea of all sorts is liable to the grossest adulteration, green teas being worse in this respect than the black varieties. The Chinese heighten their color, or *face* them, as it is termed, by the addition of Prussian blue, indigo, turmeric, gypsum, and China clay. A bright green color is to be looked upon with suspicion, as the pure article always presents a *dull, faded* green appearance. The leaves of other plants are often mixed with tea. Sometimes, also, exhausted

tea leaves, or grounds, are bought up, and their astringent property restored by the addition of *catechu*, and colored with *black-lead* or *logwood*; they are sold again as genuine tea. Another fraud of great prevalence consists in mixing inferior qualities of tea with better sorts, and cheating the purchaser by selling the compound at the price of the best article. In selecting tea, it should appear not to be too much broken up or mixed with dirt, and the leaves should vary somewhat in size and color. The best teas contain portions of the stalk and flower. Old teas do not possess so rich a flavor as fresh, owing to the loss of a portion of their volatile oil." In preparing tea for table, the great desideratum is to get the strength and have the aromatic flavor retained.

Black teas require boiling from ten to fifteen minutes, because the leaves are older, tougher, containing more or less of woody fibre.

Green tea does not require boiling, as thereby all the stimulating aroma would escape. All that is necessary is first to put the green tea in the pot,—and an *earthen* one is preferable,—pour on it some boiling water, and then let it steep for a few minutes, but be sure that it does not boil; afterward fill the pot with *boiling* water, and it is ready to be dispensed at the table. Both kinds should be prepared in vessels as closely covered as it is practicable.

CHOCOLATE, BOTH FOOD AND DRINK.

This is quite a refreshing beverage, and is much more nutritious than either tea or coffee, as it contains a high percentage of oleaginous or heat-producing elements, and about 20 per cent of albuminous or plastic elements. It is a paste made from the cocoa-bean. The paste is made by crushing the bean with hot rollers, the paste is then mixed with sugar and is sold in the form of small cakes. The active principle is *theobromine*, and is quite similar in its effects to theine and caffeine, the active principles of tea and coffee. The only way to get pure chocolate is to buy the cocoa-beans, roast them as you do coffee, and use the same precautions about charring them; then grind them and mix with sugar; but the paste cakes sold in the shops are often adulterated.

Chocolate is prepared for the table by being boiled in milk, and sweetened and flavored to suit the taste. Chocolate was called by Linnæus the FOOD of the GODS.

BREAD — DIFFERENT KINDS — HOW MADE.

If there is an article of food that might be termed a *staple*, it is *bread*. A table is *never set* if this *staff of life* is wanting. No one is worthy of the high title, *cook*, that cannot make a light, sweet loaf.

There are two kinds of bread in use, viz: *leavened*, or that which is light, porous, spongy, or, in kitchen language, *raised*, and it is so made either with *yeast, milk rising* or by the use of certain acids and alkalies, and the *unleavened*.

The four principal things required in making leavened bread are: 1. Good flour; 2. Good yeast; 3. A good oven, stove or range; 4. The requisite knowledge, tact and strength.

1. Good flour. To have a good article it is necessary that the wheat from which it is made should be thoroughly cleaned, so that all foreign material is excluded, and the more *recently* ground the better. Flour does not, like wine, *improve*, but, on the other hand, *deteriorates*, with age. It is not the pure white flour that is the best for bread-making, for the reason that it superabounds in starch and is deficient in gluten (the sticky part). That flour which is of a *pale cream* color and retains its shape after it has been compressed in the hands is the best, and will make the lightest and most nutritious loaf, even if it is not snowy white.

2. Good yeast. There are two kinds of yeast or ferment in general use, viz: hop and milk,—the latter generally known as *milk rising*. The object of both kinds is the same, viz: to produce, by its presence, a decomposition or fermentation in the dough, so that carbonic acid gas is set

free, which, in its struggle to escape, makes it light and fleecy, or, in kitchen language, makes it *rise*. As the gas mentioned is made out of the constituents of the dough, it is highly necessary that the right quantity of ferment is used, and that the fermentation is not carried too far. Webster says: "Yeast is any preparation used to make dough rise for bread and cakes." Hence cream of tartar and bicarbonate of soda, sour milk and soda, phosphoric acid, salts of ammonia, all might be classified as *yeasts* according to this definition.

3. The place above all others for baking bread is a brick oven, arched over with several layers of brick separated from each other by some good non-conductor of heat.

HOP YEAST.

HOP YEAST is made as follows: Put a handful of hops into two quarts of boiling water. Let boil for ten or fifteen minutes; then strain the liquor and mix with it enough flour to make it of semi-liquid nature. This should be done while the hop liquor is scalding. Let it stand until about milk warm, and then add to it about a pint of *fresh* yeast. Put the whole into a new jug, cork it tightly, and place it where the temperature will not be above 75° Fahr.

HOP YEAST CAKES, which perhaps are more

convenient and are more easily kept, are made by adding enough fresh yeast to Indian meal to make it like dough, which is to be rolled out quite thin, and cut into small cakes some two or three inches square. Dry them by exposing them to the air, but not exposed to the hot sun. Some add a little salt and molasses when the batter becomes light, but it is not necessary. The cake when used should be soaked in warm water.

THE SPONGE. Mrs. Lyman, in her work termed the "Philosophy of Housekeeping," gives the following directions :

"A few hours before you wish to make bread, dissolve one of these cakes [meaning yeast cakes] in a half pint of water. Stir in flour until it becomes a thick batter; put it in a warm place until it rises. Now sift about three quarts of flour into the bread bowl, pour in the yeast, add two tablespoonfuls of salt and sufficient warm milk to make a stiff dough. Set it in a warm place. In about three hours it may be expected to be light enough for working. If no signs of fermentation appear, a longer time must be allowed for it; when well risen, knead thoroughly and put into baking pans, setting them in a warm place. In a half or three quarters of an hour they are ready for the oven."

CHEMISTRY OF BREAD-MAKING.

THE CHEMICAL changes that take place in the sponge or dough before it is fit for the oven are as follows: The yeast, of whatever kind it may be, acts as a *ferment*, and its first effect is to con-

vert the *starch*, of which especially the white flour is largely composed, into sugar. This is termed the *saccharine* fermentation.

The next effect is the conversion of the sugar into *alcohol* and *carbonic acid gas*. The alcohol is soon dissipated by the heat of the oven, and some large bakeries have tried to save the alcohol by condensing the vapor that escapes from the oven; but the alcohol exists in such *small* quantities it did not pay. The carbonic acid gas that is liberated would easily escape, if it were not for the gluten of the dough. It is at this stage, when the struggles of the gas have made the dough light, that everything is ready for the oven, when the fermentation will be stopped by the high heat. But if the cook is *inattentive* and does not put in the loaves at this particular time, the *third stage* takes place, viz: the *acetous fermentation*, by which vinegar is formed, and the bread when baked will be *sour*, and by no means palatable or digestible.

THE CHEMICAL changes effected in the oven are: 1. The loss of about one-tenth the weight of the dough by *evaporation*, and a small part of the starch is changed into a *gummy* substance. The *gluten* is not chemically changed, but it is rendered less tough, and thereby more digestible. The heat of the oven should be sufficient to stop the fermentation, and still not sufficient to form

a hard, thick crust, as that would prevent its being light and spongy.

POTATO BREAD.

Pare and boil half a dozen potatoes. After they are done, that is, soft, mash them in the same water in which they have been boiled, rub them through a colander, and when cool mix it with flour to make the sponge, adding yeast and salt. The rest of the process is not different from that in making ordinary fermented bread.

Potato bread is made by many on account of its keeping *moist* so long.

SWEET BROWN BREAD, according to Dr. Trall, is made thus:

“Take one quart of rye flour and two quarts of coarse Indian meal, one pint of wheat meal (graham flour)—all of which must be very fresh; half a teacupful of molasses or brown sugar, one gill of potato yeast. Mingle the ingredients into as stiff a dough as can be stirred with a spoon, using warm water for wetting.” The rest of the process is no different from that for ordinary white bread.

GRAHAM BREAD is made the same as ordinary white flour bread, observing these precautions: Make the batter much thinner, and be sure to mold the loaves for the oven as soon as it is light, for if you are careless in this respect it will run into the third stage of fermentation, viz: the *acetous*, and hence will be heavy and sour.

Graham bread, if properly made, is fully as sweet and palatable as white flour bread; it is

more nutritious for the *growing* child, the physical laborer, or the student. If more were used, the terms dyspepsia, constipation, hemorrhoids, would become obsolete.

OATMEAL, GRAHAM AND INDIAN MEAL MUSH are made in the same manner, with this exception: Graham and oatmeal should boil about a quarter of an hour, whereas Indian meal should boil for a full hour, until it is thoroughly cooked. They are made as follows:

Mix one half of the meal with cold water, and make a thin batter. Pour this very gradually into boiling water; then sprinkle into it, while boiling, enough of the dry meal to make it, when boiled the requisite time, of the right consistency. Salt to suit taste.

CRACKED WHEAT MUSH is made in the same way, only it should boil some *three* or *four* hours. Stir it occasionally and temper the heat to prevent burning. Salt to suit taste.

It is highly nutritious and digestible if thoroughly cooked.

GRAHAM WAFFLES.—Stir one quart of Graham flour into a sufficient quantity of cold milk to make a thick batter; add to this three or four eggs previously well beaten, also half a teacupful of cream, and as much sugar and salt as is palatable; thoroughly mix. Bake quickly.

OATMEAL CAKE.—Stir into one pint of sour milk enough oatmeal to make it of a doughy

nature, adding at the same time about a teaspoonful of bi-carbonate of soda and sufficient salt to season. The whole should be baked thoroughly on a griddle.

BUCKWHEAT CAKES.

Add to a quart of warm milk about a half teacup of fresh yeast and a little salt; stir in enough of the buckwheat flour to make it a thick batter; prepare it in the evening, and in the morning it is light; if the fermentation has progressed to the *acetous*, so that it is sour, neutralize the acidity with soda or saleratus. Save a little of the batter and it will serve as a ferment or yeast for the next meal.

JOHNNY CAKE.

Put one quart of sifted corn meal into a pan and thoroughly work into it about one-third of a teacup of butter, a cup of molasses and a little ginger; then use sufficient warm water to make it a soft dough. Bake quickly in buttered tin pans.

This is a nice dish on a cold morning.

SWEET CAKES *versus* HEALTH.

I have considered, heretofore, articles compounded from flour and meal that may be ranked with the *necessities*, which even *Hygeia*, the goddess of health, would eat, and advise all her devotees to eat; but the *modern, high-toned* sweet cake is an abomination to the Lord and all hygienists, and I am not far from the truth when I say *sweet cakes, pastry and preserves*, are thinning the ranks of mankind as fast as tobacco or alcohol in its various forms.

There ought to be *anti-sweet cake leagues*, and *anti-pastry crusaders*. If you do not smoke or snuff or tipple, do not think you are *physically sanctified*, until you join and keep sacred your vows to the *anti-pastry union*.

Pastry, pies, puddings, preserves, should become obsolete terms. The component parts of most sweet cakes are fine white flour, lard or butter, eggs, sugar, and flavoring extracts; but compounded as they generally are, so that they will, so to speak, *melt in the mouth*, they are very difficult of digestion, although they tickle the palate. But in these modern days of perverted palates, a tea-table is not properly equipped unless three or four kinds of cakes, from the heavy *pound* or *fruit* cake (good Lord deliver us!) to that most unobjectionable variety, and the only kind that should ever be eaten,—if any is eaten,—the SPONGE cake. The other varieties can be artistically frosted in every hue imaginable, and placed on the table for embellishments; but be sure each one bears this placard: *Food for the eye only*.

But as some of the readers might not agree with me on the *sweet* cake question, I will give a few recipes, telling how to make several varieties, but at the same time advise them to never cut them:

SPONGE CAKE.

Take six eggs, with their weight in sugar; two-thirds as much flour, by weight, as sugar. Beat the whites to a froth, stir the yolks with the sugar, then putting the two together stir the whole for ten or fifteen minutes, adding the flour gradually while stirring. Flavor with vanilla or lemon. Bake it quickly.

This may be eaten, and still you may see *three-score and ten*.

MRS. GRUNDY'S SOCIETY CAKE

is thus described in Appleton's new work :

Take a quart of light sponge, work with it three cups of sugar, one of butter, and three eggs beaten slightly. Add a little saleratus, and half a pound of stoned raisins. Flavor to your taste, stir in flour to give it consistence, and set it to rise in buttered tins. When light, bake in a slow oven.

Eat this daily, and I think you will care little for society or old Mrs. Grundy, and you will be so *dyspeptic* and *cross*, and so afflicted with the *blue-devils*, that society will care very little for you.

BRIDE CAKE.—Lyman, in his "Philosophy of Housekeeping," gives the following recipe, and if much of this heterogeneous compound is eaten, there will be a *funeral* soon after the *wedding*, and *CORPSE cake* would be a more significant title. This cake reminds me of an anecdote :

An old doctor down in Arkansas was in the habit of pouring into an old two-gallon jug any medicines that were left

over, or that were spoiled by age, or wrongly compounded, and it made no difference what the medicines were, whether *pills, liniments, cough balsams, vermifuge, epsom salts, alteratives, or blood purifiers*, into the old jug they went. After awhile the old jug was *full*; now, what do you suppose he did with it? I will tell you. When in his practice he had a patient, and he didn't know *just* what to do, and *just* what to give, he would fill a two-ounce vial out of the old jug, and order a teaspoonful to be given in molasses every six hours, and the old doctor said it *never, or hardly ever*, missed the mark.

And it is a good deal so with this *bride cake*, it hardly ever misses its mark. If you wish to make a *target* of your stomach, try a piece. Now for the cake :

Wash two pounds and a half of fresh butter in plain water first, and then in rose-water; beat the butter to a cream; beat twenty eggs, yolks and whites separately, half an hour each. Have ready two pounds and a half of the finest flour, well dried and kept hot; likewise one pound and a half of sugar, pounded and sifted; one ounce of spice in fine powder; three pounds of currants nicely cleaned and dry; half a pound of almonds, blanched, and three-fourths of a pound of sweet-meats, cut not too thin. Let all be kept by the fire; mix all the ingredients, pour the eggs strained to the butter, but beat the white of the eggs to a strong froth; mix half a pint of sweet wine with the same quantity of brandy, pour it to the butter and eggs, mix well, then have all the dry things put in by degrees; beat them thoroughly, you can hardly do it too much. Have half a pound of stoned jar raisins chopped as fine as possible, mix them carefully so there shall be no lump, and add a teacupful of orange flower water; beat the ingredients together a full hour at least.

Have a hoop well buttered, take a white paper doubled and buttered, and put in the pan round the edge; do not fill more than three parts with batter, as space should be allowed for rising. Bake in a quick oven. It will require full three hours. In making cakes of a larger size, put at the rate of eight eggs to every pound of flour, and other ingredients in the same proportion. The cake must be covered with icing.

There ought not to be *many* weddings in the *same* family in a year, if such a cake has to be made, for it will take, as you see by the directions, *nearly* a year to make it. A cook that can make such a cake and not make a mistake, has brains enough for a *congressman*.

GINGER SNAPS.

One half pint of molasses, one half a teacupful of butter, half a teaspoonful of ginger and saleratus each; boil all together and then let it cool, and stir in as much flour as can be possibly rolled out.

MINUTE COOKIES.

One cup of sugar, half a cup each of water and butter, one teaspoonful of saleratus and one pint of flour. The sugar, butter and flour should be thoroughly rubbed together. The saleratus or soda should now be dissolved in water and added to the mixture. Roll thin and bake quickly.

PIES.

We will now consider the *twin* brother of sweet cake, and, *hygienically*, the *worst* brother of the two, viz: a *short-crust pie*, and their parents are still living, although they should have

been in the tomb long ago. Their names are PERVERTED APPETITES. A pie has the worst side out. It is no *hypocrite*. If it could shed its coat it would not be so objectionable. The crust is generally made *short* with *lard*, and when the pie is baked the lard is partially decomposed, and the crust is almost indigestible.

I will give a few recipes from Dr. Trall, where lard is dispensed with, and pies with such a crust may be safely eaten, even by the dyspeptic, as he recommends sweet cream *vice* lard.

WHEAT MEAL PIE CRUST.

Dilute sweet cream with a little water; work the meal (graham flour) into it until a stiff dough is formed, and roll it out to the desired thickness.

WHEAT AND POTATO CRUST, by the same author:

Mix equal parts of fine wheaten flour and potato flour, or of good mealy potatoes boiled, peeled and mashed, with sweet milk and shorten with olive oil.

In making pies, after you have made the crust there are but few precautions to be given. Some fruits used should be stewed before being put into the crust; others are better in their natural state.

SQUASH PIE, *poetically* considered, is made thus:

Take winter squash, boil soft, and strain it through
A sieve or colander, and add thereto,

For every pint of squash, of milk the same,
Or, what is better still, a pint of cream ;
Beat four eggs well, add cinnamon and spice,
Nutmeg is very good, but not so nice.
Strain through a sieve, and thus remove
Whatever there may be
To offend the eye or palate
Of yourself or company.
A crust then prepare in a deep plate or dish,
Bake well, and when cold 'twill be all you can wish.

RHUBARB PIE, according to Dr. Trall.:

Take the tender stalks of the plant, strip off the skin ;
stew till soft, and sweeten ; press the upper crust closely
around the edge of the plate and prick the crust with a fork,
so that it will not burst and let out the juice while baking.
It should bake about an hour in a slow oven.

APPLE PIE.

Peel and core the apples, and then stew them in a little
water until they are done ; then pour them into a dish, and
while still hot add your butter, any kind of spice for flavor-
ing, and sugar to sweeten to suit. When cold place them in
your baking tins. When the crust is done, the pie is done.
Instead of stewing the apples first, they may be sliced thin
and placed in the paste, adding butter, flavoring and sugar.
The only objection to this method is that often the crust is
baked before the apples are thoroughly cooked.

COCOANUT PIE.

The white part of the cocoanut should be grated and
mixed with milk. Then it should be made to simmer over
the fire for ten or fifteen minutes. A quart of milk should
be allowed for a pound of cocoanut. Beat six eggs thor-
oughly, and mix them with a half teacupful of sugar and the

same quantity of wine. Then stir this into the milk, adding half a tablespoonful of butter, a cracker and nutmeg to flavor. Turn the whole into a deep pie plate lined with paste. Bake at once.

PUDDINGS.

Puddings are closely allied to pastry as far as indigestibility is concerned, if made rich, and especially if stuffed with *raisins*, and eaten with the worst compound of all, the *buttered sugared* wine or brandy sauce. The English are great lovers of pudding, and they want it rich; the *richer* the better. The following old English ode describes one of the olden time :

When good King Arthur ruled this land,
 He was a goodly king;
 He stole three pecks of barley meal
 To make a bread pudding.
 A bag pudding the king did make,
 And stuffed it well with plums,
 And in it put great lumps of fat
 As big as my two thumbs.
 The king and queen did eat thereof
 And noblemen beside,
 And what they could not eat that night,
 The queen next morning fried.

APPLE DUMPLING is thus described in Appleton's work :

Quarter and core one apple for each dumpling; then put the parts together, with sugar in the middle. Surround each apple with pie crust. If you wish to bake them, put them on a pan like biscuits, and set them in the oven. If boiled,

tie each in a separate cloth and boil half an hour. Serve both baked and boiled with liquid sauce.

This is quite a digestible compound if the crust is *creamed* instead of larded, and the sauce should be just sweetened cream or milk.

TAPIOCA PUDDING.

Put into a pint of warm milk one-half pint of tapioca, let it stand until it is dissolved, then add as much more milk and sugar sufficient to sweeten. Should be baked about an hour.

CORN STARCH PUDDING.

One pint of boiling milk; two tablespoonfuls of corn starch, previously wet in cool water; beat into this two or three eggs and sufficient salt to suit taste; add to this half a cup of sugar and then put it into a vessel to cool; wet the mould with cold water, and when it is perfectly cold put on the frosting, made by sugar beaten into the whites of eggs; set into the oven to brown. To be eaten cold.

Deserting the subjects of *desserts*, we will now consider

SCIENTIFIC COOKING OF MEATS.

In order that meats, of whatever kind, may be palatable, digestible and nutrient, a proper selection of *quality* should be made; and as a general rule the *younger* and *fatter* the animal from which it is obtained, the *tenderer*, the more highly flavored, and the more digestible and nutritious is the lean meat or muscle. You cannot make *something* out of *nothing*, neither could

Prof. Blot, the great French cook, prepare a good steak or roast for the table out of much of the beef and mutton for sale in the butcher shops, especially in the small country towns, for as a rule those animals that are *stall-fed* and *fat* are shipped to the larger cities, where they pay according to quality; but the *old ox*, the *poor, lean old cow*, and *lank steer*, are kept for sale at an exorbitant price (quality considered) for *home mastication*, but the mastication is generally a *failure*. The best way it can be served is in the form of that *heterogeneous, omniumgatherum, look-it-over-well mixture*, served *hot and cold*, termed in popular language HASH. It is a comprehensive term and includes most everything that cannot be eaten in any other way, and the *big brother* of hash is *mince pie*, which is a good deal like a *kaleidoscope*, it looks, smells and tastes different every time you roll it over.

Mr. Lyman says: "The first thing to be observed in buying beef is its *color* and *general appearance*. The muscular parts should be of a *fine carnation red*, and the suet or fat of a *clear white*. If the muscle is of a heavy red, without any graining or streaking of fat, you cannot expect fine flavor. Remember that what you want is a savory juice in tender muscle."

The quality of the beef in the same animal

varies with the part of the animal from which it was obtained.

The best is the *tenderloin*, or commonly termed *porter-house* steak, which is taken from that part where the sirloin joins the rump, that is, just back of the sirloin. It is the sweetest, tenderest and highest-priced steak. The sirloin is next in quality, and the round steak next. Prof. Youmans says :

“For example, in cooking meats it is desirable to retain their flavor, preserve their juices and soften their texture, and with the requisite care all this may be accomplished, yet how often does *careless* or improper management give us a hard, dry, tasteless mass, as indigestible as it is unpalatable.”

BOILING meats requires care, especially if you wish to have it juicy and well flavored when cooked. Do not put the meat into the pot until the water is boiling, viz: 212° Fahr., and in a short time it may be lowered to 160°. For this reason the water should be boiling in the start to coagulate the albumen on the surface, which, when coagulated, so encases or hermetically seals it that none of the juices can escape, and when this is secured the temperature, when lowered, effectually cooks the interior in its *own broth*, so to speak. Be sure and leave it in until thoroughly cooked, and when served it will be tender and juicy.

ROASTING should be conducted on the same

principle. The heat at first should be very intense, to encase it so that its juices may be retained, and then the temperature should be somewhat lower.

STEWING is the best way to serve tough meats, and it is a good plan to cut the meat into small pieces and put them first into *cool* water and raise it gradually to the boiling point, and the result will be what flavored juices it had have been extracted by the water, so that the stew will be tender, at least *masticatable*, but *juiceless*, but you will have a good *rich broth* to make up for it.

FRYING meats is the worst form of all, for this reason: the intense heat required often *decomposes* the fatty material in which it is fried, and the meat itself is often so charred that a lump of anthracite would be just as palatable and about as easily digested.

BROILING STEAKS is the best way, but that it may be done *hygienically* requires good judgment and long practice. In broiling, the steak must be exposed first to a high heat to prevent the loss of the savory juices, and then the broiler or gridiron should be removed a little farther from the heat.

At first put the broiler in *direct contact* with the coals, whether you are using *anthracite* or coals from hard wood. Broil it on each side about two minutes, and it will be tender, juicy,

sufficiently *rare* and sufficiently *done* to suit most tastes, but for the world's sake, do not broil it to death. Too many of our steaks, as you find them, have tasted the second death.

In Appleton's work, *broiling* steak is poetically considered thus :

Pound well your steak until the fibres break,
 Be sure that next you have, to broil the steak,
 Good coals in plenty; nor it a moment leave,
 But turn it over *this way* and then *that*.
 The lean should be quite rare, not so the fat.
 The platter now and then the juice receive,
 Put on your butter, place on it your meat;
Salt, pepper, turn it over, serve and eat.

Be sure, in cold weather, to have the platter on which the steak is to be placed sufficiently *warm*, yea *hot*. It does not cost anything, and is very little trouble, yet it is too often disregarded. To have a *nice, hot, juicy broil* put first on an *ice cold* platter, and then transferred in sections to an *ice cold* plate, when the temperature of the dining-room is but a *little above zero*, is *inexcusable*, yet it is a common occurrence in small, and semi-occasionally in larger, towns.

Lyman makes a telling and a truthful hit when he says :

“There is no dish in the world that so rigidly requires to be eaten *hot* as steak. A cold cup of coffee, cold batter-cakes, ‘*the cold shoulder*’ and a ‘*cool reception*,’ are all tolerable,—we can use philosophy and forget them,—but a cold

steak is *abominable*—it is *barbarous*. A good steak, duly and artistically cooked, requires *no sauce* at all; like peaches, it should be eaten in its own juice. If your butter is truly first-class, fragrant and delicate, use a little of it, nor is there any objection to two or three drops of lemon juice; but *Worcestershire, tomato, walnut, mushroom*, I would as soon think of pouring them over a Bartlett pear, as over a first-class, fragrant, juicy, savory, smoking beef-steak."

Broiling, or otherwise cooking mutton, veal, pork and fish, the same general principles must be regarded that we have already considered. *Special* precaution in regard to details, varying with each particular kind, we have not time nor space at present to consider.

ANIMAL SOUPS.

In making most kinds of animal soup, the point to be secured is to extract the savory juices, and this is best effected by putting the meat, of whatever kind it may be, into *cold water*,—and *soft* water is preferable to hard. Apply quite a gentle heat at first, and at no time should the boiling point be reached. If the water should boil, much of the albuminous matter would be coagulated, and would be retained instead of being extracted by the water. The stew would be rich, but the soup thin. After the meat is well stewed, and the juices extracted, then the soup should be brought to the boiling point, and rice, barley, or any vegetables you please, may

be added. It should boil until the vegetables are thoroughly cooked. Flavor to suit taste.

BEEF SOUP.

Cut a shank in two or three pieces, and the more and finer the pieces, the *quicker* the juices are extracted, and let it stew in water about 150° Fahrenheit for two or three hours, then take it off the fire and let it cool, and then skim from the surface the fat. After it is skimmed put it again on the fire and bring it to the *boiling* point, and add your rice, or whatever vegetables you wish, and about fifteen minutes before the vegetables are cooked, add dumplings made of flour, eggs and milk, beaten and kneaded into a stiff dough. When done, serve hot.

A soup that is not *hot* is not worthy of the name of soup. A more befitting term would be, SLUSH.

OYSTER SOUP.

Take out the oysters from the can, and then strain the oyster liquor. Put the oysters and their liquor into an equal amount of sweet milk. This should at first be exposed to a gentle heat, and raised gradually to the boiling point. They are ready to be served hot. Add pepper and salt to suit. If the soup, so to speak, is too *THIN*, a little fresh butter should be added.

ANIMAL SOUPS are stimulating and nutrient, if properly made, and are easily appropriated by the stomach, requiring but little gastric digestion.

VEGETABLE SOUPS AND GRUELS.

OATMEAL GRUEL.

Mix about a tablespoonful of oatmeal in a little cold water, stirring it until all the lumps are removed; then put it into a quart of hot water, but not boiling; then let it settle. After it is settled, pour it carefully into a pan, leaving the coarser part at the bottom of the vessel. Boil it about three or four minutes, season to taste, and it is ready to be served.

TAPIOCA GRUEL.

Put a tablespoonful of tapioca into about a pint of water, and let it soak for a quarter of an hour, then boil until cooked. Sweeten and flavor.

ARROW-ROOT GRUEL.

Mix about an ounce of arrow-root with enough cold water to make a thorough mixture, then put it into a pint of boiling water, and boil it about five minutes. Season with sugar and lemon to make it palatable.

VEGETABLE AND RICE SOUP, according to Trall, is made thus:

Take one pound of turnips, half a pound of carrots, quarter of a pound of parsnips, half a pound of potatoes, and three tablespoonfuls of rice. Slice the vegetables, put the turnips, carrots and parsnips into a pan with a quart of boiling water; add the rice (previously picked and washed); boil one hour, add the potatoes with two quarts of water and boil until all are done. If too thin, a little rice flour mixed with milk, may be stirred in, boiling afterward fifteen minutes.

POTATOES — HOW COOKED.

Potatoes, of all roots, bear the *palm*. We

might as well try to live without *air*, *sleep* and *sunlight*, as to live without potatoes. A breakfast or dinner without a plentiful supply of nice, boiled, *mealy* potatoes, bears the wrong cognomen. Although a potato is about three quarters water, yet the solid one fourth contains a good combination of the four classes of nutrient elements. They are rather too deficient in the nitrogenous or muscle-forming elements; hence alone would not be sufficiently rich for the laborer, and for that reason should be eaten with lean meat of some kind, although the Irish, with plenty of potatoes to eat and plenty of buttermilk to drink, are able to perform the most *continued* and *laborious* service. The buttermilk, rich in caseine, which is rich in nitrogen, supplies the deficient elements of the potato.

Letheby gives the following analysis of the potato:

Nitrogenous material (muscle elements).....	2.1
Starch (heating elements)	18.8
Sugar "	3.2
Fat "	0.2
Saline matter (brain and nerve elements)	0.7
Water	75.0
	<hr/>
	100.0

Potatoes are often spoiled by peeling. The *richest* part of a kernel of wheat is that which lies next to the bran, and *goes to the hogs*, so the

richest part of the potato lies just under the skin, and that goes to the hogs likewise; so it is no wonder that *swine* are *progressing* and the *human family retrograding*. Potatoes, for this reason, should be boiled with their skins *on*, and there will be only about one fourth the waste that there is if pared before boiling. I do not, of course, advise them to be eaten *skins and all*, but after boiling they should be pared as *thin* as possible. Never put potatoes into the kettle until the water is *boiling*, and keep it boiling *continuously*, and be sure, as soon as they are done, *soft*, that they are taken out of the water. If these precautions are observed, instead of being *soggy, water-logged*, they will be dry and mealy.

ONIONS.

ONIONS are fully three-fourths water, yet their analysis shows them to represent the four classes of nutritive elements. The principal objection to them is the *offensive* breath which results from eating them, yet if they are properly cooked this objection is easily removed. The peculiar odor can be removed thus: assort the onions so that they are of a size, and then boil them in water for at least half an hour; then pour off the liquid, which has extracted most of the odoriferous qualities. After this boil them in cream until done. Salt and pepper to suit.

CABBAGE should be thoroughly boiled before eaten.

TOMATOES are fairly nutrient, yet their physiological effect on the system is decidedly beneficial. They are a fine stomachic, and in all bilious affections act as a fine alterative. Green tomatoes *never* should be eaten, and those that are ripe should first be cooked.

STEWED TOMATOES.

First peel and slice them; then put them into the saucepan, adding a little water, vinegar, sugar, butter, salt and pepper to suit. Stew until done, and then thicken it with pulverized cracker or crumbs of bread.

TOMATO TOAST is prepared by pouring some of the aforesaid sauce on slices of dry toast well buttered on both sides.

Downing says tomatoes may be kept over for winter use as follows :

Every housekeeper fond of tomato sauce can have it through the winter by drying tomatoes during the season, on every baking day, after the following rule: Choose tomatoes of small or moderate size; gather them when quite ripe, but before they get watery; scald them in boiling water, peel, then squeeze them a little; spread them on plates, and dry them in a brick oven from which bread has been taken. Leave the dishes in all night. Put them away in bags in a dry place. When you wish to cook any of this tomato soak it a few hours in warm water; then stew as you would the fresh tomato.

If tomatoes prepared in this way should sup-

plant the *cloved*, pickled tomato so much in vogue, it would be much better for thousands of stomachs.

LETTUCE contains but little nutriment, yet is highly relished early in the spring, after having dieted during the long winter months on a highly concentrated *carbonaceous* diet. The stomach seems to crave something *green*, something *fresh* from nature's *laboratory*. Lettuce possesses certain soporific qualities. Everett says: "As a nutrient it is comparatively worthless, being somewhat like the *sawdust* which the farmer mixed with meal to feed his growing pigs,—'it doesn't *fat*, but *fills up*.'"

PICKLES of all kinds should be used with caution, although *not* so injurious as the writings of many hygienists would indicate. They are more *appetizing* than nutrient, and when eaten with concentrated food often favor digestion. In buying pickles, especially the cucumber, beware of selecting those of a *lively green*, for, as a rule, the green is nothing but *verdigris* (acetate of copper), and is produced by soaking the pickles in copper or brass vessels. They should never be put into any vessel containing copper. *Moral*: Beware of the bright green pickle as you would any poison. If you wish to *die* young, eat pickles *died green*.

CANNING FRUIT.

Many vegetables manifest such a tendency to decomposition, that great care must be used to obviate it. The potato, cabbage, onion and the apple, which might be termed *staples*, are quite easily kept over, but most of the fruits, such as the pear, strawberry, raspberry, peach, quince, pineapple, etc., can be kept only in one of three ways, viz, by *drying*, by *preserving* them *with sugar, pound for pound*, or by *canning*. The last process (*canning*) is *far superior*, for two reasons: 1st, the fruit is more *digestible*; 2d, the *flavor* is better retained. Glass, or earthen jars well glazed outside and inside, are preferable to tin or any metallic vessel. There is a great variety of self-sealing cans, but these two qualities should be considered in selecting from them: 1st, that they can be *hermetically* sealed, for the *complete exclusion* of air, is the base line of their preservation; 2d, that they can be easily *unsealed* when you wish to use their contents.

Lyman gives the following rule for canning peaches:

Select ripe and sound fruit; peel, and if you wish, cut in halves and take out the stones. To make your syrup, take in the proportion of half a pound of sugar to one pint of water. When all the scum has been removed, place the fruit in the syrup gently, and boil five minutes, or until it is well scalded through; then, with a skimmer with holes in it,

remove the fruit to cans set in hot water. Put more fruit in, and continue in this way until your cans are filled; then pour the scalding syrup over the fruit till the cans are full, bring the water to the boiling point and seal the cans. A very good sealing-wax for this purpose is made by melting *two* parts of resin and *one* of beeswax together.

Dr. Trall gives quite a novel process of canning peaches. The method about to be described, the doctor says, he extracted from a Mississippi paper:

In the first place be absolutely sure that the cans are made air-tight. Peel your peaches, cut them in halves, take out the seeds, and fill the cans within an inch of the top, shaking the peaches down as closely as possible; then take loaf sugar in the proportion of two pounds to a pint of water, boil and strain; pour this syrup over the peaches in the cans, and then have the square piece of tin put on, leaving a small vent in the center. Place the cans in kettle with water enough to come within an inch of the top of the cans. Boil the cans from fifteen to thirty minutes, or longer if necessary, keeping the vent open with a knitting-needle until the air or syrup ceases to flow. Remove the kettle from the fire, and while the cans remain in hot water close the vent with solder. This is decidedly the best plan, as I well know by experience. It takes no more sugar to make the syrup than it will take to sweeten them after you open the cans for use.

JELLIES, JAMS AND MARMALADES.

The principles involved in these three quite common modes of preserving fruits are the same. The fruit, whatever it may be, is mixed with an equal weight of sugar and then thoroughly

boiled, and afterward strained and put into cans, jars or molds, to be kept for future use.

CURRANT JELLY.

Mash ripe currants and then strain them through flannel. To a pint of the juice add a pound of white sugar. Boil it about half an hour.

QUINCE MARMALADE.

Mash the quinces and then add syrup so that it will be pound for pound. Boil thoroughly and strain through a coarse sieve, and put into jars to cool.

RASPBERRY JAM.

Put a pound of sugar to a pound of berries. Boil them in a kettle together about an hour. Put it into earthen jars, and if no syrup rises to the surface it is *all right*; but if syrup does appear at the surface, it should be put back into the kettle again and boiled some twenty minutes longer, and then put away in jars as at first.

GOOD BUTTER, HOW MADE.

Butter, bread and potatoes are all really *staples* for rich and poor. The bread may be sweet, light and fleecy, the potatoes dry and mealy, but if the butter is *too salt*, or *not salt enough* and perhaps *rancid*, everything is wrong; instead of *harmony* existing in this *trio of staples*, there is complete *discord*.

If milk is analyzed, it is found every one hundred pounds contain from 80 to 90 pounds of *water*, from 3 to 5 pounds of *caseine* [the curd],

from 4 to 5 pounds of *sugar of milk*, and from 3 to 5 pounds of *butter* [the oily part], and from $\frac{1}{2}$ to $\frac{3}{4}$ pound of *ash*, containing soda, magnesia, potash and lime. If milk is examined with a *microscope*, it is found the butter in milk exists in the form of globules, and each globule is encased in a thin film of caseine [curd]. The globules are a trifle lighter than milk, and of course will rise slowly to the surface.

PROPER CARE OF MILK.

The milk should be strained into *shallow* pans, and its depth should not be more than one inch and a half. The object of this is, that all the butter globules may rise to the surface before the milk curdles.

SKIMMING MILK.

To make good sweet butter it is highly necessary to have sweet cream, and if the cream is not removed from the pan until the whey rises from the curd, it will be more or less affected. Milk should be skimmed in the winter time in *24 hours* after milking, and in the summer *much oftener*, and the cream should be kept in a *cool place* and in *earthen vessels*.

CHURNING—WHEN AND HOW.

The philosophy of churning is this: the *agitation* of the cream breaks the *films of caseine*

that enclose the globules of butter, and the minute butter particles finally become *massed together*, or in common language, the *butter comes*. Prof. Norton, of Yale College, says: "The time occupied in churning is also a matter of much consequence. Several churns have been exhibited lately which will make butter in from 3 to 10 minutes, and these are spoken of as important improvements. The most carefully conducted trials on this point have shown that as the time of churning was *shortened* the butter grew *poorer* in quality; and this is consistent with reason. Such violent agitation as is effected in these churns separates the butter, it is true, but the globules are not thoroughly deprived of the caseine that covers them in the milk; there is consequently much cheesy matter mingled with the butter, which is ordinarily soft and pale, and does not keep well. Until the advocates of very short time in churning can show that the butter made by their churns is equal in quality to that produced in the ordinary time, farmers had better beware how they change their method, lest the *quality* of their butter, and consequently the *reputation* of their dairy, be injured."

WHIMS ABOUT CHURNING.

Some two hundred years ago it was believed by many in England that butter could be so

charmed that it would come quite easily. The charming was produced by saying over two or three times, while churning, the following verse :

Come butter, come ;
Come butter, come ;
Peter stands at the gate
Waiting for a buttered cake ;
Come butter, come.

Charms, without doubt, may *sometimes* cure disease, through the *faith* of the patient in the charm. But when it comes to churning, it requires more *works* than *faith* ; *one motion* of the churn-dasher is worth more than a *cart load* of *charms* and *faith*, mixed *pound for pound*.

THE SECRETS OF BUTTER-MAKING.

If the milk has been skimmed at the *right time*, and the cream been *properly cared for*, as heretofore explained, it is highly necessary that, 1st, *the cream be kept at the right temperature* during churning. Our best writers, and our most successful dairymen tell us it should be about 50° to 55° Fah., which, if properly observed, will result in the butter coming *more rapidly*, and the *quality* will be the *best*. 2d. Great care should be used in working the butter, that all the *butter-milk* is extracted, because if the buttermilk is left in the butter, the caseine of the buttermilk readily decomposes, and then acts as a *ferment*,

changing the constituents of the butter and making it *rancid*. 3d. Be sure that the salt that is used is of the *very best* quality, as much of the salt in the market is impregnated more or less with *magnesia* and *lime*. Prof. Johnston, the celebrated chemist, says, "the best way to free salt of its impurities, is to add to some thirty pounds of salt about two quarts of boiling water; allow it to stand an hour or more, occasionally stirring it; afterward put the mixture into a bag, which should be hung up and allowed to drain. The impurities, being more soluble than the pure salt, are thus easily removed."

CONCENTRATED MILK.

The *Mechanics' Magazine* thus describes the process:

Mr. Moore, an extensive farmer in Staffordshire, has, under a license from the patentee of the new process of concentrating milk, fitted up an apparatus by which he manufactures annually the produce of about thirty cows. The milk, as it is brought from the dairy, is placed on a long, shallow copper pan, heated beneath by steam to a temperature of about 110°; a proportion of sugar is mixed with the milk, which is kept in constant motion by persons who, walking slowly around the pan, stir its contents with a flat piece of wood. This is continued for about four hours, during which the milk is reduced to a *fourth* of its original bulk, the other *three-fourths* having been carried off by evaporation. In this state of consistency it is put into small tin cases, the covers of which are then soldered on, and the

cases and contents are placed on a frame, which is lowered into boiling water. In this they remain a certain time, and after being taken out and duly labeled, the process is *complete*. The milk thus prepared keeps for a lengthened period. It supplies fresh milk every morning on board ship, and may be sent all over the world in this portable form.

PHILOSOPHY OF CHEESE-MAKING.

Whereas butter is made from the oily part of milk, cheese is made from the *caseine* [curd].

Milk contains more or less of *free soda*, which tends to keep the caseine in a *liquid* form; but when any acid, such as acetic or hydrochloric, is added to milk, it unites with the soda and the caseine loses its *liquidity* and is *precipitated* to the bottom.

When rennet [the lining membrane of the stomach of a calf] is added to milk it acts as a *ferment*, which transforms the sugar of milk into *lactic acid*, which, when formed, unites with the free soda and forms what the chemists term *lactate of soda*, and the caseine is precipitated.

Three important points must be attended to in cheese-making, whether made on a large or small scale: 1st. The temperature of the milk when the rennet is added should be about 90° Fahrenheit. 2d. The quality of the cheese will depend upon the quality of the milk, and upon the degree to which the whey has been expelled. The richer the milk and the more perfectly the

wey is expelled, the better the cheese and the longer will it keep. 3d. The quality of the salt used and the impurities may be separated, as described under the article of butter-making.

Cheese contains about 40 per cent of *water*, and the *richness* of the cheese depends mostly on the *butter* it contains. Cheese made from *skimmed* milk will be *dry* and *hard*; skimming the milk has removed a large percentage of the butter globules.

The following analysis shows the difference between a *skimmed milk* cheese and a *rich* one :

SKIMMED MILK CHEESE.

Water, 43.82 ; caseine, 45.04 ; butter, 5.98 ; ash, 5.18.

RICH AYRSHIRE CHEESE.

Water, 38.46 ; caseine, 25.87 ; butter, 31.86 ; ash, 3.81.

The skimmed milk cheese, from this analysis, contains nearly twice as much caseine, but only about one-sixth as much butter as the rich cheese. A skimmed milk cheese contains a good proportion of the different elements of nutrition, and if more easily digested might of itself supply all the demands of nutrition.

It is supposed by many that cheese, although it is almost indigestible, yet at the same time it

favors the digestion of other articles eaten with it, or as the poet has described it,—

“Cheese is a mighty elf,
Digesting all things but itself.”

Old rank cheese is quite difficult of digestion, but new green cheese is not, and if *more* cheese and less *pork, pastry, pies, puddings* and *preserves* should be eaten, it would be highly beneficial to the health and happiness of mankind.

CHAPTER III.

TABLE ETIQUETTE.

WE have so far considered *hygienic* eating and cooking; we will now devote a little space to *refinement* in eating, which, to a certain extent, is a true index of civilization.

DINNER PARTIES.

Be judicious in the selection of your guests to a dinner party, that there may be *harmony* in thought and feeling. *Discord* and *too much discussion* are not good appetizers.

Consult the tastes of the guests as far as is consistent with true dignity.

Ease and *calmness* on the part of the host and hostess should be cultivated. Do not *excuse too much*. Imitate John Hancock's *coolness*, who, when one of his servants at a dinner party let fall a dish and broke it in pieces, without the least ruffle of temper, said: "Break just as many dishes as you please, John; but don't make such a *confounded noise* about it.

Do not make too *grand* a display in giving dinner parties if your means are *limited*, and especially if your guests are aware of it.

Punctuality should be observed by the guests, as your tardiness is keeping the whole assembled company waiting.

Washington always gave his public dinners at four o'clock in the afternoon, and at *five minutes*

past four [allowing five minutes for variation in timepieces] the dinner was served, whether the guests had arrived or not; and when the tardy guests arrived, his only apology was this: "Gentlemen, we are *too punctual* for you. I have a cook who never asks whether the *company has come*, but whether the *hour has come*." It is said he generally dined on one dish, and that of a *simple* kind; and if anything were offered him which was very rich, his usual reply was: "That is *too good* for me."

DETAILS OF TABLE ETIQUETTE.

Soup should never be refused, and should be eaten from the *side* and not the *point* of the spoon.

If you do not desire a dish, simply refuse it without any comment, and the host or hostess should never press the guest to take a dish when once refused.

As soon as served, commence eating; do not wait for others to be served.

When a dish is passed to you, help yourself before passing it to the next.

A knife should never be put into the mouth.

A knife should be used only when the cutting cannot be done with a fork.

Bread should be broken, and not bitten.

Cheese, pastry and pudding should be eaten with a fork.

Fruit should never be bitten, but after being peeled should be either broken or cut with a knife.

Mrs. Duffey, in her admirable work on etiquette, gives the following :

GENERAL RULES FOR BEHAVIOR AT TABLE.

Tea and coffee should never be poured into a saucer to cool.

If a person wishes to be served with more tea or coffee, he should place his spoon *in the saucer*. If he has had sufficient, let it remain *in the cup*.

If by chance anything unpleasant is found in the food, such as a hair in the bread or fly in the coffee, remove it without remark ; even though *your own* appetite is spoiled, it is well not to prejudice *others*.

Always make use of the *butter-knife*, *sugar-tongs* and *salt-spoon*, instead of using your knife, spoon or fingers.

Never, if possible, cough or sneeze at the table. If you feel the paroxysm coming on, leave the room. It may be worth while to know that a sneeze may be stifled by placing the finger firmly on the upper lip.

At *home*, *fold* your napkin when you are done with it, and place it in your ring. If you are *visiting*, leave your napkin *unfolded* beside your plate.

Never hold your knife and fork upright on each side of your plate while you are talking.

Do not cross your knife and fork upon your plate when you have finished.

When you send your plate to be refilled, place your knife and fork upon one side of it, or put them upon your piece of bread.

Eat neither too fast nor too slow.

Never lean back in your chair, nor sit too near nor too far from the table.

Keep your elbows at your side, so that you may not inconvenience your neighbors.

Do not find fault with the food.

The old-fashioned habit of abstaining from taking the last piece upon the plate is no longer observed. It is supposed the vacancy can be supplied, if necessary.

If a plate is handed you at table, *keep it yourself* instead of passing it to a *neighbor*.

If a dish is passed to you, *serve yourself first* and then pass it on.

GENERAL RULES OF BEHAVIOR.

In going *up* a flight of stairs, the *gentleman* should *precede* a lady, but in going *down*, the *lady* should *precede*.

A gentleman should open the door, but allow the lady to enter first.

A gentleman in walking with a lady should

take that side of the pavement that is the most dangerous; and if there is no danger, one side is just as appropriate as the other.

The fashionable hours to make calls is from 12 M. to 3 P.M.; never later than 5 P.M.

Residents in a place should make the first call on new-comers, and the call should be returned within *a week*.

SOME OF GEORGE WASHINGTON'S MAXIMS.

1. Every action in company ought to be with some sign of respect for those present.

2. In the presence of others sing not to yourself with a humming voice, nor drum with your fingers or feet.

3. Speak not when others speak; sit not when others stand; and walk not when others stop.

4. Turn not your back to others, especially in speaking; jog not the table or desk on which another reads or writes; lean not on any one.

5. Be no flatterer; neither play with any one that delights not to be played with.

6. Read no letters, books or papers in company; but when there is a necessity for doing it, you must not leave. Come not near the books or writings of any one so as to read them unasked; also look not nigh when another is writing a letter.

7. Let your countenance be pleasant, but in serious matters somewhat grave.

8. Show not yourself glad at the misfortune of another, though he were your enemy.

9. Let your discourse with men of business be short and comprehensive.

10. In visiting the sick do not *presently play the physician*, if you be not knowing therein.

11. Undertake not to teach your equal in the art he himself professes; it savors of *arrogancy*.

12. When a man does all he can, though it succeed not well, blame not him that did it.

13. Mock not nor jest at anything of importance; break no jests that are sharp or biting, and if you deliver anything witty or pleasant, *abstain from laughing thereat yourself*.

14. Be not hasty to believe flying reports to the disparagement of any one.

15. Play not the peacock, looking everywhere about you to see if you are well decked; if your shoes fit well; if your stockings set neatly and clothes handsomely.

16. When another speaks, be attentive yourself and disturb not the audience. If any hesitate in his words, help him not nor prompt him without being desired; interrupt him not, nor answer him until his speech be ended.

17. Be not angry at the table whatever happens, and if you have reason to be so, show it

not ; put on a cheerful countenance, especially if there be strangers, for *good humor* makes *one dish a feast*.

18. Speak no evil of the absent, for it is unjust.

19. When you speak of God or his attributes, let it be seriously, in reverence and honor, and obey your natural parents.

20. Labor to keep alive in your breast that little spark of *celestial* fire called *conscience*.

21. Be not curious to know the affairs of others, neither approach to those that speak in private.

22. Detract not from others, but neither be excessive in commending.

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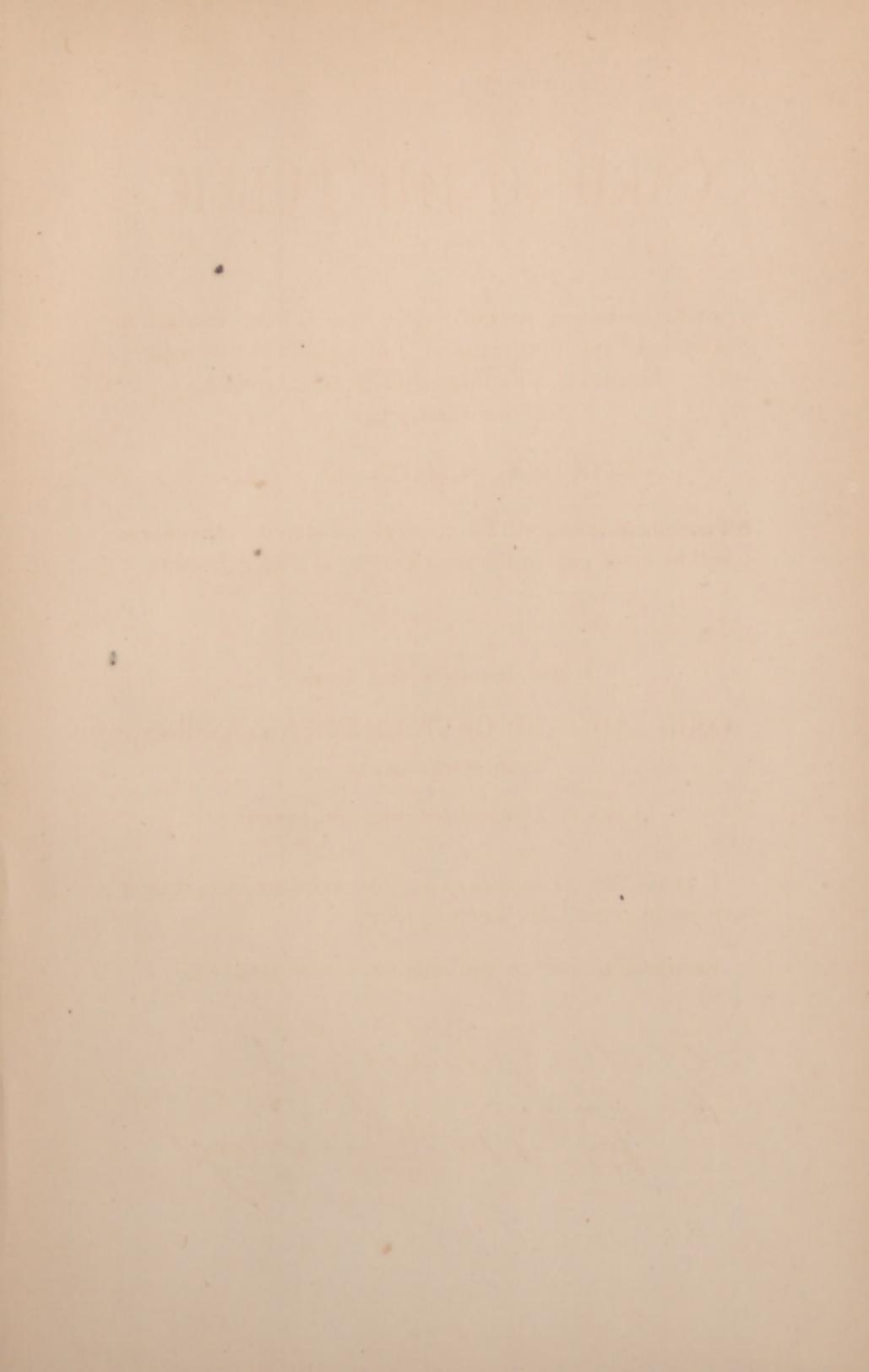
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