

Functions and Diseases
of Woman.

By

L. C. Warner, M. D.

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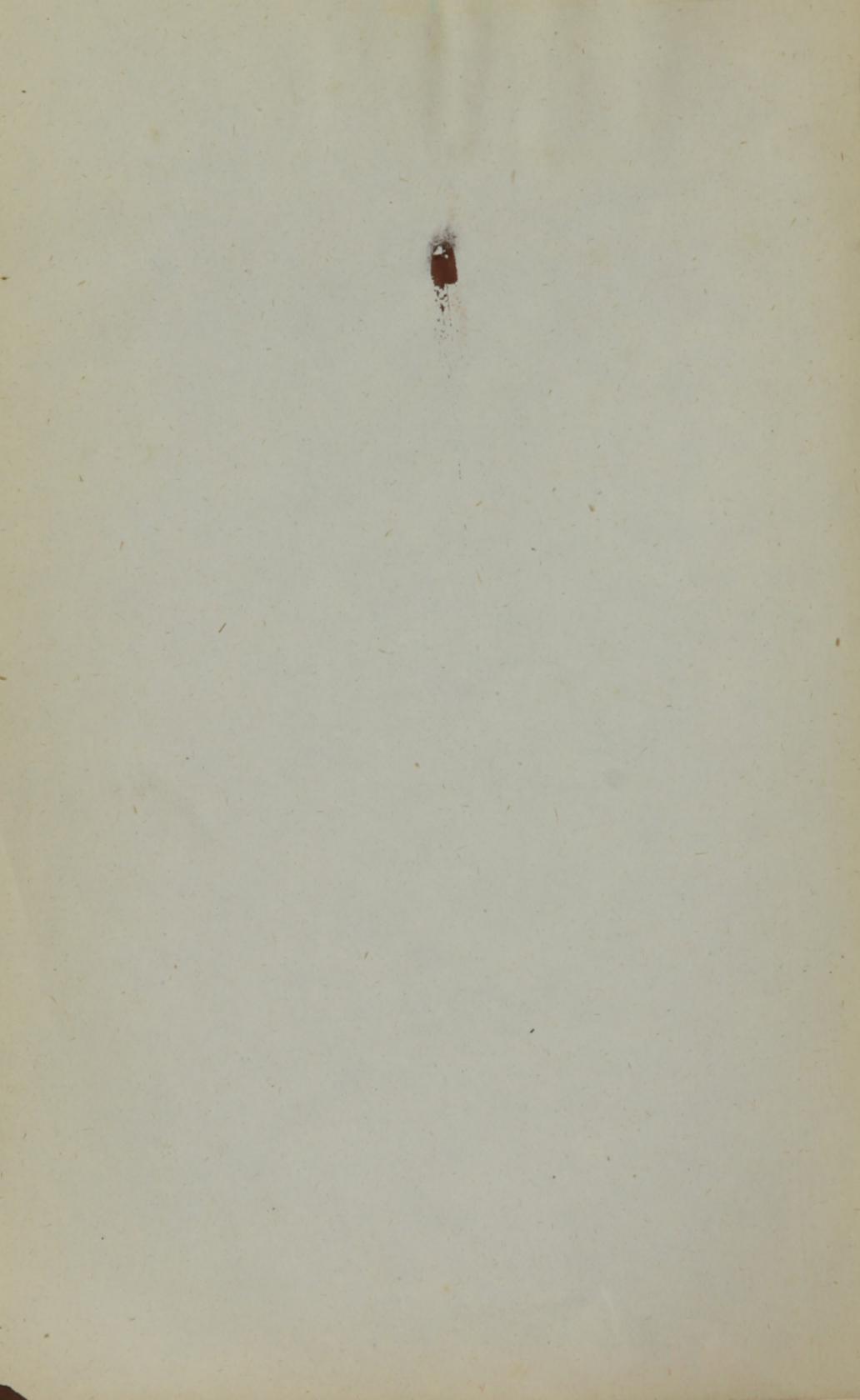
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A
POPULAR TREATISE
ON THE
FUNCTIONS
AND
DISEASES OF WOMAN,

BY
LUCIEN C. WARNER, A. M., M. D.,

WITH NUMEROUS ILLUSTRATIONS.

“KNOWLEDGE IS THE HANDMAID OF VIRTUE,
WHILE IGNORANCE IS THE MOTHER OF VICE AND IMMORALITY.”

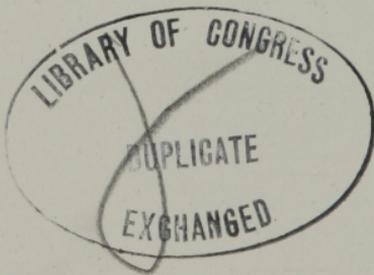
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CORTLAND, N. Y.
1873.



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PREFACE.

IN all the multitude of books which yearly flood our market, it is a notable fact that there are so few popular works, by reputable authors, treating upon the subject of health. While Astronomy, Zoology, and even Comparative Anatomy, have been written upon and popularized by the most eminent men of the age, no corresponding works have appeared upon medical science. The reason of this is not that the subject is less interesting, or more difficult to understand than other sciences ; but our best medical writers have unfortunately not been inclined to cultivate this important field. Many good works have been written, but they have been prepared

for the medical profession, and are expressed in such technical language, that they are almost as unintelligible to the average reader as though written in a foreign tongue.

The education of the people upon the important subjects of health and disease has accordingly been left, almost entirely, to medical charlatans, whose works have been alike devoid of scientific accuracy and literary merit. In addition to this, many of them have been corrupt in their morality, so that they are calculated to scatter the seeds of moral as well as physical error. There have been, it is true, a few honorable exceptions to this rule ; but I could easily count upon the fingers of one hand every popular work of merit upon medical subjects, which has appeared during the last twenty-five years. Several valuable works upon Physiology have been prepared as text-books for our Academies and Colleges ; but the great want of reliable works which shall treat upon the subjects of health and disease, in a scientific and yet popular form, still remains, to a great extent, unsupplied.

I am aware of the difficulties in the way of the

work I have undertaken, and yet I trust I am not entirely unprepared for the task. An experience of many years as a lecturer upon Physiology, as well as a practicing physician, has given me advantages in studying the wants of the public, which few physicians possess. How well I have improved these opportunities my readers must decide.

[The propriety of information upon the functions peculiar to the sexes, is now so generally conceded that the subject-matter of this book needs no apology or defence. I have endeavored to present only such facts as are of practical value to the public. I have been compelled to discuss some delicate topics, which are not matters of usual conversation, yet I trust I have done this in such a manner that it need not raise a blush to the face of any reader.]

In the preparation of this book I have freely consulted the most eminent English, French and German authorities. Among American authors I am most indebted to the works of Drs. Thomas and Bedford, of New York, and Dr. Byford, of Chicago.

I would also acknowledge my indebtedness for the valuable personal suggestions and assistance of Dr. I. D. Warner of this place, and Rev. Dr. Hapgood of Belleville University, Province of Ontario.

L. C. W.

CORTLAND, N. Y., November, 1872.

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THE

Functions and Diseases of Woman.

CHAPTER I.

DISTINCTION OF SEX.

IN the creation of the human family they were made male and female. The distinction between the sexes is manifest in their entire mental and physical nature. Man is endowed with greater courage, self-reliance and aggressiveness of spirit, while woman excels in keenness of perception, and in the tender feelings of kindness, sympathy and love.

In comparing the physical appearance of the sexes, the first distinction we notice is their relative size and strength. The average height of man is five feet and eight inches and the average weight one hundred and fifty pounds, while the average height of woman is five feet and three inches, and the average weight one hundred and twenty-five pounds. We find also that the bones of a man are much larger and firmer than those of a woman, and the muscles stronger and more

fully developed ; so that, even were there no difference in size, man would be stronger than woman.

This difference is especially manifest in the chest and shoulders. In two persons of the same height and weight the man will be fully two inches broader across the shoulders than the woman, and the capacity of his lungs nearly one-fourth greater. This breadth of the shoulders gives room for large and strong muscles which pass from the chest to the arms ; thus giving to man superior strength in all kinds of labor with the arms and hands. As an offset to this advantage, the bones and muscles of woman are finer in texture, the skin fairer, and the general outline of the body smoother and more graceful, thus more than making up in beauty what is lost in strength.

This difference in the physical conformation of the sexes, induces also a diversity in their employments. Upon man naturally devolves the heavy labors of life. He fells the forest, tills the ground, erects houses and carries on commerce, while woman performs the lighter duties of the household. In the field of mental labor, as teachers, writers and members of professional callings, man and woman may, to some extent come in competition, but in the field of physical labor they usually cannot. The tastes and qualifications of the sexes are radically different, and this diversity is too deeply implanted by nature to allow of its being lightly thrown aside.

Another contrast in the sexes is the difference in the breadth of the pelvis and hips. The pelvis is a

dish-shaped bone which forms the framework of the lower portion of the body, serving both as a support to the internal organs and a point of attachment for the lower limbs. In woman this bone is wider, and the cavity much larger than in man, so that a woman is about two inches broader across the hips than a man of the same height and weight. This brings the lower limbs farther from the center of gravity in walking, thus making a very perceptible difference in the gait of the sexes.

[The object of this greater breadth of pelvis is to allow room for the organs of generation, and to enable the mother to give birth to her offspring. But this broad and open pelvis affords less support for the superincumbent internal organs than does the more narrow and compact pelvis of man: This renders woman naturally more frail than man, and affords additional evidence that she was never designed for the sterner and rougher duties of life.]

Another physical peculiarity of woman is the greater deposit of adipose tissue or fat, which serves to round out the angles of the body. This, added to the finer texture of her body, gives to woman more beauty and grace than is possessed by her stronger and coarser companion.

It is, however, the generative organs which constitute the special distinction of sex. The other peculiarities to which we have alluded are, to a great extent, accessory distinctions, dependent upon the proper development and activity of the more important organs

of reproduction. It is these organs chiefly, which we shall have to consider in treating upon the functions and diseases peculiar to woman. We shall, therefore, proceed without further digression to this part of our subject.

CHAPTER II.

EXTERNAL ORGANS OF GENERATION.

THE organs of generation are divided into external and internal. The external organs are included under the general name of vulva. They consist, in front, of the mons Veneris, a fatty cushion covered in the adult female with hairs, and extending back from this on each side, two lips or folds of the skin;—the outer ones which are partially covered with hairs, called the labia majora or large lips; and the inner ones which are covered by a pink-colored mucous membrane, called the labia minora, or small lips.

Near where the labia minora meet together in front is a little fold of membrane called the clitoris. This is usually about one-fourth of an inch long, but it sometimes becomes greatly enlarged so as to be an inch or more in length. The clitoris is the seat of special sensation, and becomes somewhat enlarged and hardened when the passions are excited. About one inch back from the clitoris is the opening of the urethra or outlet of the bladder. Immediately back of this is the opening of the vagina which is the entrance to the internal generative organs.

THE HYMEN.

The opening of the vagina is partially closed in childhood by a thin membrane called the hymen. This membrane often remains over the vagina until it is destroyed in the consummation of marriage ; hence there is a prevailing belief that the presence of the hymen is necessary as a test of virginity. This belief is not only without foundation in fact, but it is often the cause of much evil and domestic misery ; for, while as a rule, the outlet of the vagina is partially closed by the hymen,—in some women it never exists, and in many others it is destroyed by the accidents of childhood, by diseases requiring medical or surgical treatment, and sometimes even by the jar of a fall upon the ground. There are a score of ways in which a membrane so tender may be destroyed without reflecting upon the character of the person ; so that, in point of fact, not more than one-half the *virtuous* girls who arrive at a marriageable age, have a perfect hymen.

Not only is the absence of the hymen no sign of unchastity, but its presence is no certain sign of virtue ; for several cases are on record where the hymen has been found perfect at the commencement of labor at the birth of the first child. The true test of virginity must be sought, not in the physical appearance of the body, but in modest deportment, chaste conversation, and pure thoughts.

PRURITUS, OR ITCHING OF THE VULVA.

The only disease of the external generative organs

which we shall notice is known as pruritus of the vulva. It consists in an irritation of the nerves of the vulva, which causes an intolerable itching, with an almost irresistible desire to seek relief by scratching.

SYMPTOMS.—In some cases the itching will be most troublesome by day and in others by night. It is generally aggravated by warmth, so that the sufferer is unable to sit near a fire or to be warmly covered at night. The constant desire to resort to scratching so annoys her by day as to cause her to avoid the society even of her own family, while at night it deprives her of rest and sleep. Under these circumstances she is kept in a constant state of vexation and torment which rapidly undermine her health, destroy her spirits, and reduce her almost to the verge of despair.

CAUSES.—The most frequent cause of pruritus is probably leucorrhœa or whites. Fortunately leucorrhœa does not often produce this symptom, but occasionally, even when the amount of the discharge is very small, it seems to possess some irritating property, which, coming in contact with the vulva, gives rise to the most aggravating pruritus. We frequently find the pruritus accompanied by more or less irruption upon the vulva and surrounding parts. In many cases this is the result of the friction applied to relieve the itching, but in some cases the irruption exists first and causes the pruritus. Occasionally pruritus is caused by disease of the urinary organs, or by hemorrhoids or piles, while very frequently it is dependent upon pregnancy.

TREATMENT.—In treating this difficulty, our first care should be to ascertain if possible the cause. If dependent upon leucorrhœa, we should seek to cure this by the means which will be detailed in a future chapter. Should any irruption exist upon the vulva, it may be treated with common citron ointment, or by a wash composed of five grains of corrosive sublimate to two ounces of glycerine. Either of these remedies may be used twice each day, or one may be used at night and the other in the morning. Should there be any derangement of the bowels, urinary organs, or of the general health, it should receive prompt attention; for frequently the pruritus is dependent upon diseases of remote parts of the body.

Often we cannot ascertain or remove the cause of the disease, and must content ourselves with palliating the symptoms. To this end we will find that great cleanliness is of first importance. The parts should be thoroughly bathed in warm or tepid water several times each day; and if there is any discharge from the vagina, this should be kept thoroughly cleansed by means of injections. Much relief may often be obtained by the use of one of the following washes:—

FORMULA I.

Acetate of Lead,	-	1	drachm.
Solution Carbolic Acid,	1-2	“	
Tincture of Opium,	-	2	ounces.
Water,	-	-	2 pints.
Mix.			

FORMULA 2.

Borax,	-	-	-	3 drachms.
Morphine,	-	-		10 grains.
Glycerine,	-	-		1-2 ounce.
Rose Water,	-	-		8 ounces.

Mix.

Either of the above may be used several times each day as a wash or injection, the parts being first cleansed with water, or honey soap and water.

Occasionally a case will prove rebellious to all the means of treatment which we have suggested, and will remain for months a source of constant distress. In such instances some honest and capable physician should be consulted, who, by a thorough examination of the case, may discover some cause for the trouble which has eluded the notice of the patient.

CHAPTER III.

INTERNAL ORGANS OF GENERATION.

THE internal organs of generation consist of the vagina, uterus or womb, Fallopian tubes, and ovaries. These are all situated in what is known as the cavity of the pelvis.*

THE VAGINA.

The vagina is a flexible canal from three to five inches in length, extending from the vulva to the uterus. It passes upward and backward in a somewhat curved direction, following the general course of the lower portion of the backbone. It occupies a central position in the pelvic cavity, being situated between the rectum which lies behind and the urethra and bladder which lie in front. Owing to the curved direction of the vagina, it is about one inch longer upon the back side than upon the front. Its outlet is partially

*The body is divided by anatomists into three cavities. That part situated within the ribs called the chest, and containing the heart and lungs; that part situated between the ribs and hips called the abdomen, and containing the stomach, liver and intestines; and that part situated within the hollow of the dish-shaped bone which forms the lower portion of the body, called the pelvis, and containing the rectum, bladder and organs of reproduction.

closed by means of a constrictor muscle, and its walls are in contact during the greater part of its course.

In consequence of the thin and flexible nature of the walls separating the vagina from the rectum and bladder, its size and position in the pelvis are easily changed by pressure from surrounding organs, so that when the rectum is filled with fœcal matter, or the bladder distended with urine, the vagina will be compressed, and crowded much farther forward or backward in the pelvic cavity than its natural position.

THE WOMB.

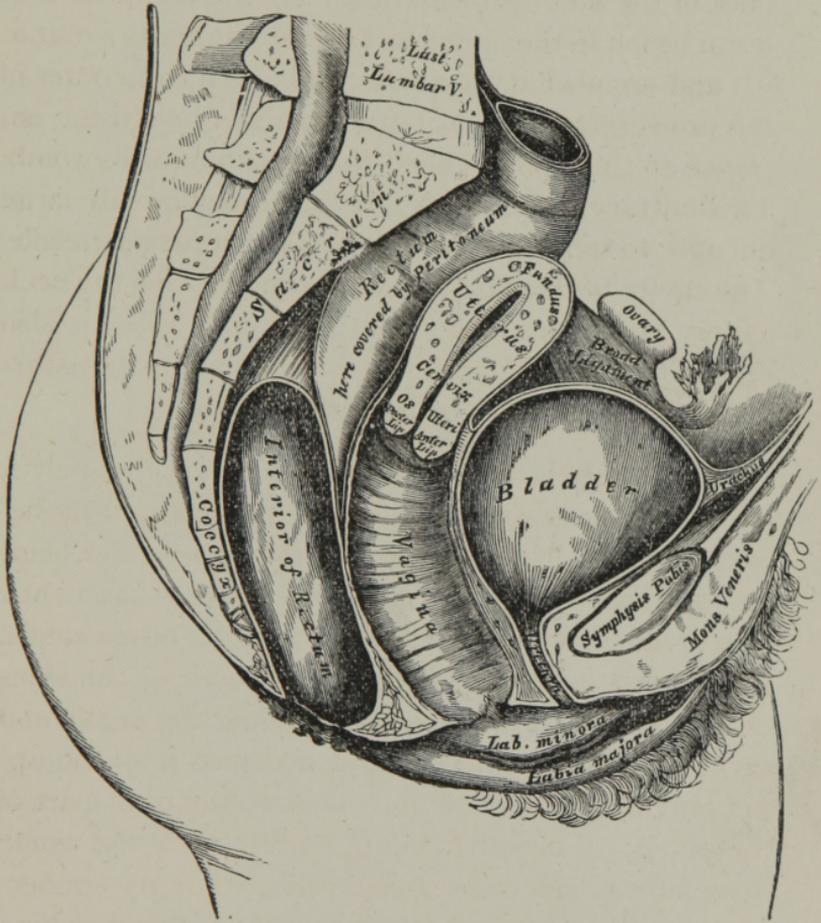
Extending upward from the vagina is the uterus or womb. This is the central and most important of the organs of generation, and is in shape very much like a pear with the stem or pointed end downward. It is about three inches in length, two inches in breadth, and one inch in thickness, weighing in its natural state not far from two ounces. We wish especially to impress upon the mind the small size of the normal uterus, for the general opinion is that it is an organ of much larger dimensions.

The position of the uterus in the body is not, as will be perceived from the accompanying plate, in a line with the vagina, but while the vagina passes upward and backward, the uterus passes upward and forward. This change in direction conforms to the curvature of the lower part of the spinal column, and to the position of the surrounding organs, thus giving to each organ of the pelvis the greatest amount of room.

The uterus is composed of two parts, the neck and body. The neck comprises the lower third and the body the remaining two-thirds. About one-half of the neck of the womb projects down into the vagina, so that it can be felt in the upper part of the vagina as a roundish and somewhat hard substance. In the center of the projecting portion of the neck is situated the entrance to the womb, called the mouth of the womb. This entrance is exceedingly small, being only large enough to admit a common sized knitting-needle. The cavity of the womb extends upward from the neck almost the entire length of the womb. This is also exceedingly small, capable of containing, in its natural condition only five or ten drops of fluid.

The womb is held in its position in the pelvis, partly by the vagina which forms a support from below, partly by its attachment to the rectum and bladder, and partly by the broad and round ligaments. The broad ligaments consist of two thin, broad bands, which pass from the sides of the womb to the sides of the pelvis. The round ligaments are small and firm like a piece of small cord, and pass from the upper part of the sides of the womb to the front part of the pelvis. These ligaments tend to keep the womb from falling sidewise or backward, while its connection with the rectum and bladder keep it from falling forward, and further protect it from falling backward. Nearly all the weight of the womb is sustained by the vagina, which is by far its most important means of support. Notwithstanding all these attachments

Fig. 1.



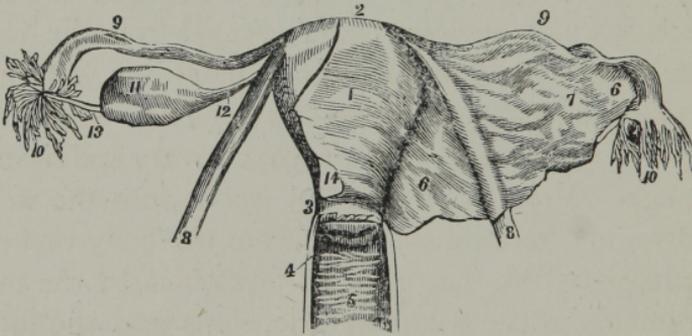
SECTIONAL VIEW OF FEMALE PELVIS.

the womb is still very loosely suspended in the pelvic cavity, so that it requires but a slight amount of pressure in any direction to crowd it from its natural position.

FALLOPIAN TUBES AND OVARIES.

Embodied in the folds of the broad ligaments which we have described, we find the Fallopian tubes and ovaries. The Fallopian tubes are two minute tubes extending outward from the upper part of the cavity of the womb, and terminating near the ovaries in a fimbriated or hand-like extremity.

Fig. 2.



THE WOMB AND ITS ATTACHMENTS.

1, 2, Body of Womb. 3, Neck of Womb. 4, Mouth of Womb.
 5, Vagina—front part cut away. 6, 7, Broad Ligaments. 8 8, Round Ligaments. 9 9, Fallopian Tubes. 10 10, Hand-like extremity of tubes.
 11, Ovary. 12, Cord attaching Ovary to the Womb.

The ovaries are two little bodies about the size and shape of an almond. They are situated high up in the pelvis, at the sides and just in front of the upper part of the womb, and are firmly attached to the womb by means of two strong ligaments. When the ovaries

are examined under the microscope, we find them composed of minute ova or eggs, each one enclosed in a separate sack or case. These eggs are in different stages of development, the largest being nearly the size of a mustard seed, while others are not more than one-thousandth of an inch in diameter. When the eggs are examined under a powerful microscope, they are found to be composed of essentially the same parts and materials as the larger eggs of fowls and birds.

The ovaries are the source of the reproductive functions in the human female. In every healthy woman who has arrived at the age of puberty, one or more of these eggs ripens every twenty-eight days, when it bursts the sack which encloses it, and escapes from the ovary. But before the sack bursts, the hand-like extremity of the Fallopian tube, guided by some unexplainable impulse, reaches over and grasps the ovary and receives the egg. From here it either passes into the womb and vagina, and is discharged from the body, or, being impregnated by the principal furnished by the male, it remains in the womb and develops into the future human being.

URINARY ORGANS.

In front of the generative organs, as we have already seen, are situated the urethra and bladder. The urethra is a small passage, about an inch and a half in length, which forms the outlet of the bladder. It is situated immediately in front of the vagina and opens into the vulva just forward of the vaginal outlet. The bladder is the receptacle of the urine. The

source of the urinary organs are the kidneys which are situated high up in the cavity of the abdomen behind the stomach and liver. The kidneys strain the blood, removing from it the urine, which is its waste material. As fast as the urine is removed by the kidneys, it passes by two little tubes called ureters into the bladder where it collects.

The size of the bladder depends entirely upon the amount which it contains. When empty its sides collapse and it occupies very little space in the body ; but as fast as the urine passes into it, it enlarges until it can be made to hold two or three pints. It cannot, however, be thus over-distended without injury ; for, like a piece of India-rubber that has been too much stretched, it may lose its contractility so as to but imperfectly perform its duties. Over-distention of the bladder is also a frequent cause of inflammation of the bladder and urethra, accompanied by severe soreness and a constant desire to void the urine. Such cases will often continue a source of suffering and annoyance for months and years before they can be removed.

We have known many women who have been made sufferers for years by neglecting to excuse themselves from society during a protracted social gathering or evening party. We see, therefore, the importance of attending promptly to the calls of nature. No woman should allow a feeling of delicacy or false modesty to interfere with the discharge of her physical duties.

CHAPTER IV.

THE DEVELOPMENT OF PUBERTY.

IN infancy and childhood the organs of generation are undeveloped. The ovaries, womb and vagina exist, but they are small in size, and having no functions to perform, lie dormant in the body. Not only are these organs dormant, but the feelings which grow out of the relations of the two sexes, are also as yet undeveloped. Girls and boys of eight and ten years old meet and play together with a feeling of unconstrained friendship and equality, which, when older, they no longer possess. The boy may now and then show himself "father to the man" by his greater love for rough, out-of-doors sports, and the girl may give evidence of the incipient development of maternal instincts by the hours of pleasure she derives from her doll; but these are as yet only tiny rivulets, albeit they indicate the course along which in after life the mighty current of their lives will flow. Free, joyous and innocent childhood, well may poets sing to thy praise, and the devotees of wealth and honor turn aside from their life of trouble and vanity, and long for the happy days of a past never to be recalled!

PHYSICAL CHANGES.

Puberty is the period of transition from girlhood to womanhood. Up to this time the principal functions have been the physical growth of the body and the mental and moral growth of the mind, but now a new element is introduced by the development of the organs and functions of reproduction.

There is a freer deposit of adipose tissue in the body so that the face becomes fuller, the hands and arms smoother, and the general contour of the body rounder and more graceful in outline. The voice loses its childish, piping tones, and becomes deeper and more melodious. The eyes,—those windows of the soul,—assume a brighter lustre, indicating a corresponding brilliancy in the thoughts and emotions which they reveal. The complexion becomes clearer and fairer, and the face assumes that delicacy of expression which seems to half hide and half reveal the mystic charm of maidenhood.

Still more marked are the changes directly connected with the functions of maternity. The breasts become large and prominent so as to change the contour of the chest; the hips become broader, and the organs of generation aroused from their rudimentary and dormant state, acquire their full development and activity. As the culmination of all these changes, the monthly flow appears, indicating that the functions of the reproductive system are fully established.

MENTAL CHANGES.

These physical changes are scarcely more marked

than are the mental changes which accompany the same period. The doll, with its cradle and carriage, is laid aside, and former plays and pastimes cease to amuse her. She loses her girlish laugh, and her free and artless manners, and becomes silent, bashful and coy. New sensations, strange thoughts and desires arise within her which she knows not how to account for. She may even for a time become disinclined to society, and prefer in solitude to indulge her awakened imagination, contemplating the new life which has opened before her.

Her taste in reading changes and she now revels in the exciting novel and romance. When she again returns to society, it seems like a different scene from that which she left but a few months before. The faces she meets, the attention she attracts, the compliments she receives, even the sound of her own voice as she timidly joins in the general conversation and spirit of the company, awaken in her feelings and emotions to which she has heretofore been a stranger.

These new sensations of the soul make her tender-hearted, sensitive and compassionate. Especially does she develop a love for household pets, and attaches herself to them with unwonted fondness. She experiences feelings of restlessness and agitation before unknown,—vague emotions of an instinct which seeks some object, it knows not what.

These emotions are not the growth of a morbid fancy, but the development of a new power,—the unfolding of her two-fold nature. Heretofore she has

lived for herself alone ; but now in the development of her reproductive system, there is a feeling of loneliness, of want, of incompleteness, which can only be satisfied when she is united with one of the opposite sex in the holy ordinance of matrimony.

CHAPTER V.

MENSTRUATION.

MENSTRUATION, (from the Latin mensis, month,) is the term applied to the monthly discharge of blood which takes place from the generative organs of every healthy woman when not pregnant or nursing, from the development of puberty until the change of life. There has been much controversy as to the cause of menstruation ; but it is now generally conceded by physiologists, that it is due to the ripening and discharge of an egg from one of the ovaries. When an egg is nearly ready to be cast off, the ovaries become unusually sensitive and congested with blood. Owing to the close sympathy between the ovaries and womb, the womb also participates in this congestion. This causes the rupture of some of its blood vessels, and discharge of blood, which, mixed with the mucous secretion of the womb and vagina, constitutes the fluid of menstruation.

AGE AT WHICH MENSTRUATION BEGINS.

The age at which girls begin to menstruate, varies greatly in different individuals. The average age in

this country is found to be fourteen years and six months, but many menstruate as early as eleven and twelve, and many others not until sixteen or seventeen. Even these ages do not express the limit of the time at which this function may be established, as is proved by many well authenticated examples. A remarkable case of this kind is related by Dr. D. Rowlett, of Kentucky:—"The lady, Sally Deweese, was born in Butler county, Kentucky, 1st of April, 1823; at twelve months of age she menstruated, and continued to do so regularly until 1833, when she became pregnant. On the 20th of April, 1834, she was delivered of a healthy female child, weighing seven and three-fourths pounds." Cases like this are, of course, extremely exceptional, but instances where girls have menstruated regularly from the ages of seven or eight, are met with not unfrequently.

Tardy menstruation is more frequent than precocious. We have several times met cases where menstruation did not occur until the ages of eighteen or twenty, and the women afterwards enjoyed good health, and became mothers.

CAUSES WHICH HASTEN AND RETARD MENSTRUATION.

Among the causes which exert an influence upon the first approach of menstruation, we may mention climate, race, hereditary descent, education and mode of life. Of these different influences, climate is the most powerful. Travelers in the tropical climates tell us that it is very common to meet girls there who menstruate regularly from the time they are eight or

ten years old, while the average age is but twelve years. With early menstruation, comes also early maturity and early marriage, so that it is by no means uncommon in the hot climates to find wives and mothers at the age of twelve and fourteen. If we go to the northern climates of Lapland and Greenland, we find on the other hand, that girls do not menstruate on an average before the age of sixteen or seventeen, making a difference of about four years between the torrid and polar climates.

We find also that there is a difference in race, irrespective of climate, in regard to the age at which girls begin to menstruate. Girls of the Jewish race menstruate from one to two years earlier than our American girls, although they may have lived in the same country for successive generations. So, too, the negro girl menstruates earlier than the white girl, along side of whom she is raised. It may be thought that the warmer climate in which the Jewish and negro races formerly dwelt developed this precocity, but if so, it shows that these peculiarities of constitution are not easily removed by subsequent change of residence. We find also that the same principle holds true with those who migrate from a colder to a warmer climate. Many European families have, within the last hundred years, removed to Calcutta, but their descendants, even in the third and fourth generation, do not acquire the precocity of menstruation so universal among the natives.

Closely allied to the influence of race is that of

hereditary descent. The girls of some families menstruate much earlier than of others ; and as a general rule, the daughters will approximate their mothers and grandmothers in this particular.

Education and mode of life also have much to do in hastening or retarding the development of puberty. [If a girl is fed upon plain and unstimulating food, her body developed by pure air and an abundance of exercise, and her mind kept free from passion and excitement, the different changes of her body will unfold themselves gradually, and menstruation will appear at just that time when the development of the system demands it. But if the nourishment and development of the physical system is sacrificed to the premature development of the mind, imagination and passions, then the body is brought to maturity before its time, and menstruation appears at an age when the system is wholly unfit to sustain so important a function. City girls usually menstruate earlier than those in the country. They are reared with a less robust physical system, their lives are more artificial, the concert, the theatre, the evening party, and the dance, afford a constant round of exciting amusements, which tend to the early development of adolescence and menstruation.]

Sometimes there are accidental causes which hasten the appearance of menstruation. Heavy lifting and over-work in girls unaccustomed to it, a severe fall or an injury have often been known to bring on the menstrual flow several months before its time.

We were acquainted with a case where a girl eleven years old, who was unaccustomed to work, went into the field to help her father load grain. She worked very hard until she became much heated and fatigued ; the unusual exertion produced extreme congestion of the womb, and the same night she was taken unwell. When menstruation is thus brought on prematurely, it is very likely to give rise to uterine disease, and especially to suffering at the time of each menstrual period.

It is desirable that menstruation should be established at about the normal time, which, in this climate, as we have seen, is between the ages of fourteen and sixteen. Those who first menstruate at this age are more likely to enjoy good health than those who menstruate earlier or later.

FREQUENCY OF MENSTRUATION.

After the first menstruation, an interval of two or three months will often elapse before the next period, and sometimes for the first one or two years there will be considerable irregularity ; but after this time menstruation generally occurs every twenty-eight days. In the majority of cases it occurs with so great regularity, that women are able to compute the day for months in advance, and to modify their arrangements accordingly. We find, however, frequent variations from this rule. Some who are usually unwell every twenty-eight days will occasionally go a few days over or under their time, and this, too, without its appearing to have any effect upon their gen-

eral health. We also find some women in the enjoyment of good health who habitually menstruate a few days earlier or later than the prescribed period. We have in two instances known women who had always menstruated with regularity every twenty-one days. Such deviations are, however, rare in healthy women.

Climate also seems to exercise some influence over the frequency of menstruation ; for we are told that the women of Greenland and Lapland, do not, as a rule, menstruate oftener than once in six or eight weeks. The fact, however, still remains, that twenty-eight days is the normal period between each menstrual epoch. It is not uncommon to find women who will say that they menstruate every two weeks, and some who say they menstruate constantly, but such women are the subjects of disease. The discharge which they call menstruation is not dependent upon the ripening of an egg, but upon some disease of the uterine organs.

DURATION OF MENSTRUATION.

The duration of each menstrual epoch will vary from two to seven days, according to the individual peculiarities of different women. Every woman seems to be, in this respect, a "law unto herself," so that while there is great variation in different women, the same woman will menstruate about an equal number of days at each period. When the menstrual discharge continues longer than seven days, it is almost always an indication of some disease of the generative organs, and with the removal of this disease the period of menstruation will be shortened.

QUANTITY OF THE MENSTRUAL DISCHARGE.

This also varies greatly in different women, within the limits of health. The average amount may be set down at about five ounces, but some will not lose more than one or two ounces, while others will lose half a pint or even a pint. Aside from the peculiarities of different women, much depends upon the condition of the general health. Women of robust health and ruddy complexion, whose system is rich in blood, will generally menstruate very profusely, while those who are frail, thin-blooded and feeble, usually, by a wise provision of nature, have but scanty menstrual discharges. There are, however, exceptions to this rule, and many times those who have the least blood to spare, lose the largest amount. In such cases there is always strong reason to suspect some uterine disease which is the cause of the profuse menstrual discharge.

CHAPTER VI.

HYGIENE OF PUBERTY.

THE arrival of puberty and menstruation, is as we have already seen, an important epoch in the life of every woman. It is the opening of a new era in her existence, the unfolding of her hidden nature, the awakening of thoughts, feelings and aspirations, to which she has heretofore been an entire stranger.

DUTY OF PARENTS AND GUARDIANS.

With this development of new functions and responsibilities comes also a necessity for increased watchfulness on the part of parents, teachers and guardians. It is especially important as the age of puberty approaches, that girls should be instructed in regard to the new relation which they are about to assume. Now the tender sympathies and wise counsels of a judicious mother are most needed. "In such language as a mother alone can use, with a purpose as pure and holy as she alone can feel in the discharge of that duty, let her communicate as far as she may judge expedient, the end and object of nature in this novel and extraordinary change. Much useful coun-

sel and caution that may save both many a heart-felt grief, may be communicated by a mother to an intelligent child, without raising a blush on the cheek of either; and very dear in after life will be the reflection to both, if this duty be faithfully performed.”*

When there is no mother to perform this sacred trust, then some female friend should take the responsibility of filling the mother's place.

This duty should not be deferred until after the appearance of the menses, for this event will often come when unexpected, and serious consequences may result from ignorant mismanagement. We have known cases where the first appearance of blood at the generative organs was thought by the girl to indicate some disgrace to her, and so was carefully concealed from her mother and friends. In many cases young girls have, through ignorance, endeavored to stop the discharge by the use of cold water, ice, &c., and have thus brought upon themselves serious sickness and sometimes death. Cases like these show how important it is that every girl should be fully instructed beforehand in regard to the care of her health during her menstrual periods.

DIET.

The changes which take place at the time of puberty, make large demands upon the resources of the system; it is, therefore, desirable that the physical health should be kept in its highest development. The diet, at this time, should receive

*Dr. Dixon.

more than usual care. Not unfrequently there will be a decided change in the appetite ; many articles which the girl has formerly disliked, she now desires, while other dishes which were once her favorites are now distasteful to her. This change in the appetite should usually be gratified ; for it is an indication on the part of nature of the new material needed to carry on the physical changes which are taking place in the system.

Occasionally there will be a morbid appetite for chalk, slate-stones, tea grounds, cloves, cinnamon, and various other equally indigestible trash. Such articles can be productive only of injury and they should be wholly discarded. Spices and condiments of all kinds, salt meats, coffee and alcoholic stimulants should also be avoided. Weak tea may be allowed if the girl has already become accustomed to it, but cold water, milk, and chocolate are the best drinks for all persons under eighteen or twenty years of age.

The diet should be generous in quantity and should consist principally of the substantial articles of food, like wheat, corn and Graham bread, fresh beef, mutton, fowls, fish, milk, eggs, plain pies and puddings, potatoes, vegetables and fruits. If there is any tendency to precocity in menstruation, or if the system is very robust and plethoric, the supply of meat should be quite limited. If, on the other hand, the girl is of a sluggish temperament and the menses are tardy in their appearance, the supply of meat should be especially generous, and shell fish,

tea, and such condiments as pepper and mustard, if not found to disagree with digestion, may be used with advantage.

CLOTHING.

The clothing of girls at this period is a matter of much importance. We shall only briefly allude to it here, as we desire to take up the subject more at length in another part of the book. The main objects to be secured are to dress the body warmly, evenly and loosely. To this end girls should wear flannel stockings, drawers and wrappers, except it be during the warmest weather of summer; the feet should be well protected while out of doors with thick shoes or rubbers, the clothing should be loose around the waist and bowels, and the weight of the skirts should be sustained by the shoulders and not by the hips.

These last directions are especially important; for during this period great changes are taking place in the shape of the hips and waist. If their growth is restricted by tight clothing it prevents their normal development, and brings on spinal disease and displacements and diseases of the uterine organs which may burden the rest of their lives.

Nearly all the cases of "naturally small waists," which render so many of our American women semi-invalids, are the results of tight clothing worn during the development of puberty. If girls but realized how much their future health and happiness depended upon the care they take of themselves during

this critical period, many of them might be saved from years of untold suffering and misery.

EXERCISE.

It often happens that a girl at this period of life thinks she must drop all her former sports and amusements, sit down quietly in the parlor and play the lady. This is a great mistake. The days of frolicsome childhood can hardly last too long, and they should be yielded up with reluctance. The body at this time needs an abundance of out-door exercise, that it may be kept up to the full standard of health. If the girl has been brought up to labor—as all girls should be—she can perform light household duties, or what is better, engage in gardening and the culture of flowers.

If the exercise must be in the form of amusement, let her spend two or three hours each day in playing croquet, battledore and other similar amusements. Walking is also an excellent exercise, but to be highly beneficial the movements of the body must not be entrained by a tightly fitting dress. Do not engage in sewing, crocheting, or making wax flowers, and call that exercise. The number of muscles brought into use is too limited to be of any profit to the general health.

While we have spoken so decidedly in favor of exercise, we must give a word of caution against violent exercise and heavy lifting. We have known many cases where the health of young girls has been ruined by putting upon them burdens heavier than

they could bear. Those girls who go out to do house work where they have to lift heavy kettles and pails of water, very often bring upon themselves disease which unfits them for future service, and perhaps renders them invalids for life. Parents and guardians should understand this matter, and should not put the burdens of a strong woman upon a girl of fourteen or fifteen years old, simply because she may have the stature of a woman.

SUNLIGHT AND PURE AIR.

More than half the benefit of exercise is lost when taken within doors. Sunlight and fresh air are the most powerful life-giving agents which nature has bestowed upon us. These are scattered broadcast in every land, and we have only to escape from our ill-ventilated and curtained houses, and they are ours to possess. The importance of sunlight is but little inferior to that of pure air. You attempt to raise a plant in a partially darkened room, and it will be puny and colorless, and its blossoms, which are its reproductive organs, will never mature. So girls who are reared in half-darkened rooms, become pale, puny and sickly, and the development of their reproductive organs is tardy and imperfect.

SLEEP.

During the critical time of puberty, as well as during the whole period of childhood, girls should be allowed an abundance of sleep. It is the great restorer of the brain and nervous system. When we are awake, ideas and thoughts are constantly passing

through the mind, but during sleep the mind as well as body rest. A person will die sooner if deprived of sleep than if deprived of food and drink, and no death is more terrible than one caused by sleeplessness. It is a great mistake to suppose that children will be made smart by being roused from deep slumber early in the morning, and made to exercise an hour or more before breakfast. "Early to bed and early to rise" is a good maxim, but the last half should not be enforced without the first.

Some people require more sleep than others, so that one person cannot make his own custom a law for others, but nature must be the guide in each individual case. Children and youth require more sleep than older people, and suffer more if they are deprived of their proper amount. Then do not begrudge your children the hours spent in sleep, but remember they are laying in store the materials for a vigorous constitution, upon which they may draw in after years when pressed down by the duties and cares of mature life.

MENTAL AND MORAL TRAINING.

Not only does the development of puberty to a great extent determine the future physical health, but it also has a powerful influence upon the mind and heart. At no time in her life does a girl so much need the tender sympathy and watch-care of a pious, intelligent and refined mother. If she has heretofore been sent to the boarding school, she should now be called home ; for aside from the influence upon her

mind, her physical system will not usually be adequate to the mental effort expected of her. Most of her time should be spent in light exercise, but she may devote a reasonable portion of each day to profitable reading, such as the news of the day, history, biography, travels, and even novels, by good and reputable authors; but all novels and romances which deal in exciting incidents and appeal strongly to the sympathies and passions,—especially those of the French school,—should be carefully excluded. Some of the most pernicious of this class of reading is found in the story papers published at the metropolis of our nation. There is no necessity of patronizing such literature, for besides the many excellent books published every year, there are several magazines which are stored with reading matter that is both interesting and instructive.

The same reasons which should prevent young girls from reading exciting literature, also applies to their receiving gentlemen's company, attending theatres, dances, or social parties of any kind where late hours are kept and the imagination excited. The English custom of not "bringing out" their girls in society until they have attained sufficient maturity to render it proper that they should receive company, might with great benefit be more generally adopted with us.

PARENTAL GOVERNMENT.

The mode of parental government, should, as children arrive at puberty, be quite essentially modified.

Remember, father and mother, that your daughter who is just beginning to menstruate, is in many respects a different person from your girl of a year ago. Then you had to deal with a child, now with a woman. Then it might be sufficient to make known your commands, and they would be obeyed without inquiry into your reasons; but such a course pursued now would speedily alienate the affections of your child, and cause her to rebel against your authority. If you have not heretofore taken your children into your confidence, do so now as you hope to retain your authority, to save them from evil and sin and to guide them into the paths of virtue and usefulness.

EXCESSIVE AND DEFICIENT DEVELOPMENT OF THE PASSIONS.

Sometimes it happens that in spite of parental care and judicious management, with the development of puberty the imagination becomes so excited and the passions so strong that they hold almost uncontrollable sway over the reason and moral faculties. In this unequal contest with nature we need to employ every resource at our command to develop the other functions of the body above those of the reproductive system, that we may bring the sexual passions under the control of the will. Nothing conduces more to this end than bodily exercise either in the form of work or amusement, when it is not carried to marked fatigue. The ancient fable which made the chaste goddess, Diana, the patron of the chase, is an

ingenious allegory ; as it shows that even among the Greeks it was understood that physical exercise has power to assuage the stings of love. In addition to this the diet should be plain and restricted in quantity, using but little animal food and no stimulants, and the mind should be occupied in the contemplation of religious subjects, in missions of charity, and in the study of history, geography and science. These means faithfully persisted in for a few months will nearly always be crowned with success.

On the other hand there are some girls whose imaginations are sluggish and whose sexual feelings seem almost dormant. They do not often menstruate until past the usual age, and even then the amount is scanty and the periods irregular. In such cases we should pursue the opposite course from that last mentioned. The diet should be generous and stimulating ; the society of the opposite sex should be cultivated ; the reading should be more of an imaginative kind, and even the exciting romance and the evening party may, with proper restriction, be made available for good.

CHAPTER VII.

SELF-ABUSE.

THERE is one subject in this connection which we would gladly omit, were it not that the experience of almost every week admonishes us that, in so doing, we should leave a sacred duty unperformed. We need hardly say that we allude to that pernicious habit of self-indulgence of the passions, termed masturbation, or self-abuse. Many have supposed that this practice was almost wholly confined to boys and men ; but this, we are pained to say, is far from the truth. It is, no doubt, more common among men than among women ; yet it is sufficiently frequent in each sex to demand our earnest consideration.

MORAL EFFECTS.

The greatest evil to girls from the practice of self-abuse, is, we believe, its effects upon their moral natures. Women, as compared with men, have naturally but low sexual feelings ; hence, when these feelings are cultivated and forced beyond their normal development by early and unnatural indulgences,

there is imminent risk that it may lead to social and moral ruin. We do not mean to say that every girl who practices self-abuse will be likely to become a prostitute, but we do say that when the passions have been thus stimulated, she will be much more likely to yield to temptation, should she fall into the hands of the seducer.

But even if she escapes this depth of iniquity, her moral nature will become perverted and debased. That natural modesty, which covers as with a veil the face of the pure-minded maiden, is torn away, and in its place we have either brazen-faced boldness, or a shame-faced counterfeit of modesty. Though the words and external acts preserve the semblance of virtue, the thoughts are corrupted, and the imagination revels in scenes of lust. [That purity of mind so essential in developing the noble sentiments of love, and in fitting woman for the sacred duties of wife and mother, has been supplanted by the baser desires of passion and selfish gratification.]

PHYSICAL EFFECTS.

Besides these moral effects of masturbation, its physical evils are sufficient to awaken our serious apprehensions. Among these we may mention partial loss of memory, lassitude, debility, loss of appetite, and sometimes spinal disease, consumption, insanity, or idiocy. Fortunately the habit is not often carried so far as to produce the worst of these evils, yet there are few physicians of extensive prac-

tice who have not met with cases which have thus sadly terminated.

HOW THE HABIT IS ACQUIRED.

The great obstacle in the way of reaching this evil is the unwillingness of parents to believe that their children can have any knowledge of so vile a practice. They are willing to admit, in a general way, that this habit is very common among the youth of our land, but they believe that the careful training and virtuous associations of their own children, have made them an exception.

We wish we could say that all children who have been carefully reared by their parents have escaped this vice, but unfortunately experience teaches us that this is not the case. Sometimes the habit has been taught in infancy by nurses who quiet the children under their care by irritating their private parts. Sometimes it is acquired at boarding schools, and very frequently it is learned of an intimate companion. Those *very dear* friendships between young ladies, where they have to be in a room by themselves a great deal, to talk over their precious secrets, are sometimes productive of much else besides harmless intimacies.

Occasionally the habit is acquired without an instructor, but such cases are not as frequent as is generally supposed. So many are the ways in which this practice may be learned, and so little may it be suspected, that no parents, however careful they may have been in the selection of associates for their chil-

dren, can feel sure that they have escaped this terrible vice.

A FREQUENT METHOD OF PREVENTING MASTURBATION.

In regard to the means to be employed in arresting this evil, there is a difference of opinion, even among those best informed. Many think that to warn children against this habit would be only to suggest the practice to those who would otherwise remain in innocent ignorance. Their remedy is therefore to guard their children against vicious associations, teach them modesty, and instruct them not to handle their private parts. With these principles thoroughly inculcated, they believe their children will not acquire a habit which will be contrary to their sense of modesty and propriety.

If such a course would keep a child in ignorance in even a majority of cases, we might look upon it with favor, but we speak advisedly when we say that in four cases out of five it will fail. An amount of information, true or false, exists on this subject among children, even of tender age, of which parents have but little idea. There are filthy words and expressions rarely written, and almost never spoken by men or women, which are perpetuated from generation to generation through the mouths of children. Most parents know that these things are true of their own past lives, but they are fain to believe that their own experience was exceptional. It is probable that boys

are more corrupt in this particular than girls, but the evil is more evenly divided than most parents are willing to admit.

THE TRUE COURSE TO PURSUE.

In view of these facts, the course of parents and educators is plain. Let young children be taught modesty, and their minds kept as pure as possible. If at any time you have occasion, either from the decline of health, or other cause, to suspect the habit, do not let a day pass, but investigate the matter at once, even though it be several years before the age of puberty.

Usually it is not necessary to speak to children upon this subject until they have arrived at nearly the age of puberty. Then let some judicious person, better the mother if she is qualified for it, talk with them kindly and plainly. A few judicious questions will draw them out upon the subject, and if you find them ignorant, there is no need to be specific in your remarks, but in a general way tell them of the great moral and physical evils which result from any handling or interference with the generative organs. If you find them already addicted to the habit do not scold or threaten, but talk to them kindly and seriously, portraying in the strongest light the sin and evil of their conduct. Without appraising them of the fact, see that they are carefully watched. Let some suitable person be with them constantly day and night, for some months until the habit is thoroughly broken up. In the mean time, their moral training should

be carefully attended to, and they should be rigidly guarded from any reading or conversation which will excite the passions.

In many cases the general health will have become more or less seriously affected before the habit is discovered. If after it is abandoned, the health does not improve under a nutritious diet and well-regulated habits of life, then the parents should lose no time in consulting some competent physician, who, by a judicious course of treatment, will, in nearly all cases, restore the health to its accustomed vigor.

CHAPTER VIII.

CHLOROSIS OR GREEN SICKNESS.

THE most common disease to which girls are liable at the time of the development of puberty, is chlorosis, called also green sickness on account of the peculiar greenish tinge which it often gives to the complexion. It most frequently affects girls either before or soon after the commencement of menstruation, but it sometimes occurs at a later period of life in both married and unmarried women, while very rarely it has been known to occur in men.

Much difference of opinion exists in regard to the real nature of chlorosis, some supposing it to depend upon derangement of the menstrual functions; some upon impoverished blood, and some upon diseases of the nervous system. Inasmuch as it nearly always occurs near the time of puberty, many have thought that it must depend upon some fault in the establishment of the menstrual functions, but recent investigation renders it more probable that the real seat of the disease is in the nervous system, although it manifests itself chiefly in impoverishment of the

blood. It occurs most frequently at the time of puberty, because the system is then in such a state of transition, that it requires slighter disturbing causes for its development.

CHANGES IN THE BLOOD.

The change in the blood, in chlorosis, is the most marked and peculiar feature of the disease. If we were to analyze the blood in health, we should find that in 1000 parts it contained about 860 parts of a watery fluid, 125 parts of red globules, and 15 parts of other solid materials. But if we were to examine the blood of a person with chlorosis, we should find not more than fifty or seventy-five parts of red globules in 1000. It is principally the red globules which gives color and vitality to the blood; hence we find that in chlorotic patients, the blood is of a light color, the skin pale, and the general vitality of the system low.

SYMPTOMS.—The first symptoms of chlorosis are usually not very marked. The disease comes on so gradually and insidiously that it is hardly possible to tell the week or the month when it began. The parents first notice that their daughter appears unusually dull and listless. She often has fits of sadness and weeping, without being able to give any particular reason for it. The eyes are dull and languishing, the eyelids swollen, while a dark circle surrounds the eyes, which strongly contrasts with the pearly eye-balls and pale lips. The complexion is paler than usual, but the peculiar greenish tinge does

not appear until a later stage in the disease. The appetite is poor and fitful, the digestion imperfect, and sometimes painful, and the bowels generally costive, with light, clay-colored stools. The circulation of the blood is very imperfect, giving rise to cold hands and feet, and often to palpitation of the heart.

If the disease goes on unchecked, the symptoms become more and more aggravated. The skin changes from a slight paleness to a waxy appearance, accompanied by the greenish tinge from which the disease derives its name. There is loss of appetite, with loathing of food, and often a desire which almost amounts to a passion, for such indigestible and repulsive articles as charcoal, slate-stones, chalk, plaster, flies, bugs, and other similar substances. Whatever food is taken is very likely to give rise to nausea and vomiting, with irructions of wind and pain in the stomach. There is constant irregularity of the bowels, manifesting itself sometimes as severe constipation, and sometimes as diarrhœa, with watery discharges. The functions of the uterus are nearly always deranged. Usually the menses are completely suppressed, but occasionally they are present, when they are nearly always irregular, both in quantity and in the time of their recurrence. In addition to this there is generally leucorrhœa, with more or less bearing down feeling, and pain low down in the back.

The mental symptoms are also, at this stage of the disease, very marked. Her temper is capricious and irascible ; she is at times gloomy and desponding ;

her days are spent without thought or hope of happiness, and her nights bring her only broken slumbers and frightful dreams. In this condition, she often becomes hysterical, and frequently thinks of suicide, though she rarely carries her threat into execution.

Under this weight of physical and mental suffering the system rapidly gives way, until she becomes thin and emaciated, and so weak that she can scarcely stand or walk. Sometimes the disease continues until it terminates in death, but much more frequently the extreme debility of the system causes consumption, or some other equally dreaded disease, which speedily terminates the fatal work.

CAUSES.—Among the causes of chlorosis the most prominent are a feeble, scrofulous constitution, precocious puberty, derangement of menstruation, anxiety, grief, home-sickness, and disappointment in love. Besides these we may mention all of those general causes which tend to impair the vigor of the body: such as want of sunlight, living in damp, ill-ventilated rooms, improper or insufficient food, constipation of the bowels, secret bad habits, want of exercise, too close application to study, and a sedentary, luxurious and indolent mode of life. No class of society is exempt from this disease, but it is most common in manufacturing towns, in badly-regulated boarding schools, among servants, especially cooks, and among the lower classes of our large cities.

TREATMENT.—While this affection is one which,

under unfavorable circumstances, may become so serious, yet with proper management it yields more readily to treatment than most diseases. The first consideration is proper attention to hygiene. The directions we have given for the hygiene of puberty are all applicable to chlorosis, and we will only refer to them without repeating them again in this place.

USE OF IRON AND OTHER TONICS.

In very mild cases, attention to hygiene may be all the treatment needed, but in severe cases the recovery will be greatly facilitated and hastened by recourse to proper medicines. Different cases will, of course, require different remedies to meet their individual peculiarities, but there is one remedy which will always be found appropriate—and that is iron. The reason of this is, that iron is a constituent part of the red corpuscles of the blood, and in most cases it is a deficiency of iron, which causes a deficiency of red blood.

It makes but little difference which of the various preparations of iron is used, provided it is one which will be readily dissolved and taken into the blood. Tincture of iron in doses of ten drops in a table-spoonful of water, after each meal; or citrate of iron in pills of five grains each, will either be found beneficial. When scrofula exists in connection with the chlorosis, the syrup of the iodide of iron may be used, in doses of from ten to fifteen drops, three times each day. When constipation of the bowels exists, this

should receive special attention. The following prescription will in such cases be found beneficial :

FORMULA 3.

Extract of Aloes,	-	-	1 drachm.
Extract of Nux Vomica,	-	-	8 grains.
Sulphate of Iron,	-	-	24 grains.

Make into 40 pills and take one each night and morning.

In connection with the use of iron the vegetable tonics may nearly always be taken with advantage. They can either be combined with the iron as in formula 4, or the tonic can be prepared separately, as in formula 5, and taken before eating, and one of the preparations of iron be taken after eating.

FORMULA 4.

Citrate of Iron and Quinine,			5 drachms.
Fluid Extract of Gentian,	-	-	1 ounce.
Compound Spirits of Lavender,			4 drachms.
Alcohol,	-	-	1 ounce.
Simple Syrup,	-	-	6 ounces.

Take one teaspoonful three times a day.

FORMULA 5.

Compound Tincture of Cinchona,			5 ounces.
Dilute Phosphoric Acid,	-	-	4 drachms.
Syrup of Bitter Orange,	-	-	3 ounces.

Take one teaspoonful before eating, three times each day.

The suppression of menstruation which nearly always attends chlorosis, requires no special treat-

ment. While the disease continues it is better that menstruation should not occur, as the loss of menstrual blood would increase the existing debility ; and as soon as the general health is restored, the menstrual functions will return of their own accord.

ATTENTION TO HYGIENE.

In addition to the remedies employed great benefit will nearly always be derived from a change of air, with new scenes and new society. Exercise in the open air, especially on horse-back, should be encouraged, the energies should be roused, the spirits enlivened, and everything done to induce a cheerful and hopeful state of mind.

SHOULD MARRIAGE BE RECOMMENDED ?

Marriage has sometimes been recommended as a cure for chlorosis, but it is rarely advisable to employ such questionable means. It should in no case be resorted to except upon the recommendation of some responsible physician, and even then it had better be deferred until the health is at least partially restored.

If the disease is severe, or if it does not readily improve under home management, a competent physician should be consulted without delay, and the case placed wholly in his hands. There are many points connected with this, and with every disease, which the skillful physician will recognize at a glance, but which it is impossible to explain to the unprofessional reader.

CHAPTER IX.

HYSTERIA.

WE have next to consider one of the most mysterious, confusing, and changeable of all the diseases peculiar to women. Hysteria, or, as it is commonly called, hysterics, derives its name from a Greek word signifying uterus or womb, being so called by the ancients because they supposed this disease always had its origin in the womb.

[The real seat of hysterics, is, however, not in the womb, but in the nervous system ; especially in that part of the nervous system connected with the reproductive organs. It consists in the subjugation of the powers of the will to the control of the emotions. Persons, whether male or female, are said to be hysterical when they weep or laugh without any adequate cause, and without the power to control their emotions.]

Hysteria occurs most frequently in women between the time of puberty and the age of twenty, but it may occur any time during the child-bearing period. It also occurs in girls before the age of puberty, and

in women who have passed the change of life. Still more rarely it has been known to occur in men, owing usually to some peculiarity or derangement of the reproductive organs.

SYMPTOMS.—The simplest and usually the first manifestation of hysteria, consists in an inability to control the feelings. The woman is exceedingly nervous. The least excitement so “unstrings her nerves” that she is almost incapable of any voluntary act. She is very susceptible to every influence, and the slightest cause will produce prolonged fits of laughter or weeping, which she seems wholly unable to control; and often, without any apparent reason, she will change from hearty laughter to violent sobbing, or the reverse. She is also exceedingly irritable, and at the slightest provocation is seized with violent fits of anger. These symptoms may occur either when the general health is good, or they may accompany any form of bodily disease.

HYSTERICAL FITS.

The most distinguishing feature of the disease is the hysterical fit. It would be impossible to describe all of the Protean forms which it assumes, for there is no disease which exists, or which can be imagined, that it does not simulate. We shall only try to give a few of the leading symptoms, hoping to enable the intelligent reader to distinguish hysteria from other forms of disease.

“The attack is sometimes preceded by dejection of

spirits, anxiety of mind, effusion of tears, difficulty of breathing, sickness at the stomach, and palpitation of the heart ; but it more usually happens that a pain is felt in the left side with a sense of detention advancing upwards till it gets into the stomach, and removing from thence into the throat, it occasions by its pressure a sensation, as if a ball was lodged there. The disease having arrived at its height, the patient appears to be threatened with suffocation, becomes faint and is affected with stupor and insensibility ; while at the same time the trunk of the body is turned to and fro, the limbs are variously agitated, wild and irregular actions, take place in alternate fits of laughter, crying and screaming, incoherent expressions are uttered, and a temporary delerium prevails. The spasms at length abating, a quantity of wind is eructated, with frequent crying and sobbing, and the woman recovers the exercise of sense and motion, feeling a severe pain in her head and a soreness over her whole body."

Often the attack will end with convulsive outbursts of crying or laughing, and sometimes with severe hiccoughs. Occasionally the woman sinks to the floor exhausted and insensible, remains so for a long time and then recovers, moaning and crying. The fit is often followed by the expulsion of a quantity of limpid urine while occasionally this secretion is passed involuntarily during the tumult.

During a violent paroxysm the woman appears unconscious, though usually she has more or less

knowledge of everything that transpires. Sometimes the power of the senses is greatly intensified so that she hears the softest whisper, especially if it relates to herself. This fact should be understood by the attendants and no word should be spoken even in a whisper which it is not designed she should hear. In most cases the respiration is much disturbed, sometimes being very rapid and sometimes unusually slow. The pulse, on the other hand, is usually but little affected, and it is often remarkable to see how little the action of the heart is influenced by the most violent contortions of the body. Another peculiarity is that frothy saliva rarely runs from the mouth, and the tongue is seldom bitten.

The duration of the fits is rarely less than half an hour, while in many cases they last several hours. Often the convulsions will cease for a little time, and then begin again, and so continue on for many hours. With bad management and excited attendants this is particularly liable to be the case.

REMARKABLE PHENOMENA.

Many of the manifestations which attend hysteria are very remarkable. Sometimes the sensibility of the body is greatly increased, so that you cannot place the finger upon any part of the skin without eliciting cries of pain. In other cases there is an absence of feeling, which allows her to pierce and cut the body with apparent indifference. A case of this kind came under our observation some years ago, where two girls created a great sensation

by forcing needles into their arms and limbs, which they pretended must have grown there. The imposition was carried on for a long time, until finally it was discovered that they thrust the needles into their flesh for the purpose of acquiring notoriety.

This spirit of deception is very common in hysteria, and it often requires the eye of a skillful and experienced physician to distinguish to what extent the patient is herself deceived, and to what extent she purposely deceives those about her. In some cases girls have pretended to live for weeks and months, without eating or drinking. An instance of this kind occurred in Ohio but a short time ago, and when the matter was put to test, by the girl being rigidly watched, she starved herself to death, rather than acknowledge the deception. In a case that came under our own care, a girl claimed that she voided no urine for several weeks, although she drank freely of water and other drinks all the time, and continued in perfect health.

There is a hysterical cough quite common in these cases, which if not understood, may lead the friends to suppose that it is associated with disease of the lungs. The cough generally consists of a single, sharp, hoarse bark, which may be repeated several times each minute. It is usually accompanied by no expectoration; but when very frequent, there may be a slight expectoration of mucus and saliva. The frequency of the cough, together with its peculiar quality, renders it very annoying to those who are

compelled to hear it. It may be distinguished by its peculiar sound, by the absence of any organic disease, by its occurring in hysterical subjects, and by its usually ceasing while the mind is strongly diverted to some other subject.

BED-RIDDEN CASES.

Many of the bed-ridden cases are the result of hysteria, and many times women have been cupped, leached and drugged for years for spinal disease, when they only needed to gain control of their will, and they would be well at once. Sometimes a woman who has been bed-ridden for years, is suddenly cured by some strong mental impression. These are the cases upon whom a certain class of "pounding doctors" often perform such miraculous cures. By getting their confidence, they make their patients believe they are cured, and immediately they find themselves well.

Often cases of this kind are cured by strong religious impressions. Dr. Watson relates a case of a young lady with hysteria who supposed she had paralysis of the lower limbs. An enthusiastic preacher becoming acquainted with the lady, acquired a strong influence over her, and told her that if upon a certain day she would pray with faith for her recovery, she would at once be well. She believed his statement, followed his direction, and was cured. The case was looked upon by the ignorant people, and even heralded in the papers, as a wonderful miracle, in direct answer

to prayer ; but when we know that a fit of anger, or a fright from a burglar, would in all probability have produced the same results, it seems derogatory to the character of Deity, to attribute this natural cure to a miraculous interposition of Divine power.

CATALEPSY, ECSTASY AND SOMNAMBULISM.

Hysteria is often complicated with those remarkable mental states known as catalepsy, ecstasy and somnambulism. These cases are much more rare than pure hysteria, and when they do occur, they are often attributed by the ignorant, either to imposture or to some supernatural power. They nearly always occur in exceedingly nervous or hysterical persons, and are so like some of the common forms of hysteria, that we have every reason to believe them to be different manifestations of the same disease.

We cannot better describe catalepsy than by inserting a case recorded by Dr. Gooch. The woman had been for some time suffering from the usual forms of hysteria, when Dr. Gooch was called to see her. Describing the case he says: "A few days after our first visit, we were summoned to observe a remarkable change in her symptoms ; the attendants said she was dying, or in a *trance*. She was lying in bed, motionless, and apparently senseless. Her eyes were open, but no rising of the chest, no movements of the nostrils, no appearance of respiration could be seen ; the only signs of life were her warmth and pulse ; the latter was, as we had hitherto observed it, weak, and 120 to the minute.

“The trunk of the body was now lifted so as to form rather an obtuse angle with the limbs, (a most uncomfortable position,) and then left with nothing to support it. There she continued sitting, while we were asking questions and conversing, so that many minutes must have passed. One arm was now raised, then the other; and where they were left there they remained. It was now a curious sight to see her, sitting up in bed, her eyes open, staring lifelessly, her arms outstretched, yet without any visible signs of animation. She was very thin and pallid, and looked like a corpse that had been propped up, and had stiffened in this attitude. We now took her out of bed, placed her upright, and endeavored to rouse her by calling loudly in her ears—but in vain. She stood up, but as inanimate as a statue. The slightest push put her off her balance. No exertion was made to regain it. She would have fallen if I had not caught her.” The attack lasted fourteen hours, after which she had two others,—one of twelve, and one of nine hours, with intervals of one and two days between them. After this no more attacks occurred and she eventually recovered her health.

The condition called ecstasy differs from catalepsy, in that in the former the mind is active, and the events that transpire are afterwards recalled, whereas in the latter, consciousness is suspended, and the period seems a blank. In ecstasy the person is insensible to all external influences, and is absorbed in the contemplation of some imaginary object. The

eyes are immovably fixed, and impassioned sentences, fervent prayers, psalms and hymns are uttered or sung with great expression.

It seems hardly necessary to add in this connection, that the queer antics which often occur among ignorant people in religious meetings, especially among the colored people of the south, are closely allied to the nervous diseases which we have been describing. Many of the phenomena connected with animal magnetism and clairvoyance can also be explained upon the same principle.

Somnambulism is still another form of the same nervous condition. This always occurs in sleep and embraces the many wonderful mental and physical performances which are observed in sleep-walkers.

IS HYSTERIA FEIGNED ?

In view of the remarkable phenomena which we have observed as connected with hysteria, the question arises, are these symptoms real, or are they wholly or partially feigned ? We believe that for the most part they are real, although there are no doubt frequent exceptions to this rule. We have already noticed the love of deception which some of these cases manifest, and doubtless symptoms are often aggravated, and in some cases simulated for the purpose of acquiring notoriety or securing sympathy. But in the great majority of cases there exists a diseased condition of the nervous system, causing a derangement of the will and mental faculties, which

at times renders hysterical persons unable to control their mental and physical actions.

With all the severe and distressing symptoms connected with hysteria, the disease is almost never fatal; this fact should be constantly borne in mind by the friends, and enforced upon the patient, for it may be of much service to her in regaining her health. We should not, however, for this reason esteem hysteria a trifling or imaginary disease, for there are forms of suffering worse than death, and this is sometimes the case with hysteria. If there is any class of persons who are truly sick, if there is any class who more than another demand our sympathy and assistance, it is the nervous invalid whose mind as well as body has been weakened by disease.

CAUSES.—The causes of hysteria are as obscure and diversified as are its symptoms. Some constitutions are prone to hysteria, while others are incapable of having it. This predisposition to hysteria usually exists in members of the same family and descends from parent to child. It is increased by everything which cultivates the emotional nature and develops the nervous system at the expense of the physical.

Among the influences of this kind we may mention the use of highly seasoned and unwholesome food, luxurious and idle habits, too close application to the culture of music and the fine arts, the reading of exciting literature, masturbation and excessive venereal indulgence, keeping late hours, disappoint-

ment in love, grief for the loss of friends, jealousy, violent anger, and many other kinds of strong mental excitement.]

In some persons certain kinds of perfumery excite hysterical symptoms. This is especially true of bergamotte, ambergris, fresh hay, rose and lilac. Some climates seem to predispose to hysteria. Dr. Chambers states that this is particularly the case in Rome. "A person in Rome ought as soon to think of going to an evening party with a drawn sword as with a strong-scented nosegay, in hope of its acceptance."

Another prolific cause of hysteria is the great frequency of uterine diseases. It is seldom that a woman suffers for a long time with any marked derangement of the uterine organs without more or less symptoms of hysteria. On account of the relation between the reproductive organs and hysteria, we find that hysterical women are usually worse about the time of the monthly sickness, especially if there exists any derangement of menstruation.

HYSTERIA CATCHING.

A strange peculiarity of hysteria is that it is often catching. Let one girl in the ward of a hospital be seized with hysteria, and if she is not removed half the girls in the ward will very likely manifest similar symptoms. Hysteria in this way sometimes gets into boarding schools, and is the cause of much annoyance before it can be arrested. For this reason

those predisposed to hysteria should not be allowed to associate together.

TREATMENT.—The treatment of hysteria should be directed, first to control the convulsions, and afterwards to remove the hysterical condition, that we may, if possible, prevent their return.

In treating the convulsions the patient should be sufficiently restrained to prevent her from injuring herself, and this should be done quietly and without parade. The knowledge that there is no danger attending the fit should be sufficient to quiet the minds of the attendants, and under no circumstances should they give way to any demonstrations of excitement, grief or anxiety. The dress should be loosened so as not to constrict any part of the body, the windows raised, hartshorn or camphor applied to the nose, and if she can swallow, half an ounce of the tincture of valerian, or the mixture of assafœtida, should be administered.

THE COLD DOUCHE.

A very certain, but rather severe mode of terminating the attack, is by the use of the cold douche. The head should be held over a tub and cold water poured upon it continuously, until the patient admits she is relieved, and desires the remedy to be discontinued. Recollecting that the patient is usually conscious of everything that transpires, the physician or attendant should take particular pains to state repeatedly, that the douche is to be continued until the

patient is able to *express* relief, and that it will be repeated if the fit should return. He should also state positively that the person is not in danger, but will certainly recover.]

After the convulsions cease the patient should be kept perfectly quiet, and the use of valerian, assafoetida, or bromide of potassium, continued for a few days. The assafoetida may be prepared in pills of five grains each, two pills to be taken three times each day. A convenient prescription for the bromide of potassium, is to dissolve one ounce in eight ounces of water, and to take from one to three teaspoonsful three times each day.

GENERAL TREATMENT.

The general treatment of hysterical patients should depend very much upon the cause of the affection and of the peculiarities of each individual case. If the hysteria depends upon disease of the uterine system, as it frequently does, this must be cured before we can hope for improvement in the hysteria. In all cases we should strive, by the use of hygienic means and when required by the use of tonic medicines, to improve the general condition of the health. They should have plain and wholesome food, abundant exercise in the open air and abundant sleep. The mind should be employed in some useful occupation, avoiding everything calculated to produce an undue development of the sentiments and passions, or to excite the imagination.

The success of the treatment will depend in no small degree upon the efforts which the patient makes for her own recovery. She should be encouraged to increase the powers of her will and to resist every temptation to give way to her emotions. It may sometimes be advantageous to speak of the discreditable character usually attributed to this complaint, assuring her at the same time of our own personal interest and sympathy.

QUALITIES NEEDED IN A PHYSICIAN.

Much will depend upon the personal tact of the physician having charge of the case ; for no class of patients so tax the ingenuity and resources of the physician, as some of the cases of hysteria. The physician who treats hysteria successfully, must be remarkable, no less for his personal influence over his patients than for his skill in medicine. It will not always do to yield to the wishes of the patient in selecting a physician ; for their desire to deceive will often make them dislike any physician who understands their case and cannot be imposed upon. Some of these cases seem to prefer not to get well, and when they can succeed in deceiving their physician and friends, they are very liable to linger on for years without recovery.

CAUSES OF THE INCREASE OF HYSTERIA.

There can be no doubt that hysteria is more common than it was in the earlier history of our civiliza-

tion. [The reason of this seems to be that our present method of rearing girls, tends to dwarf their bodies, and exalt their passions and emotions. Instead of being brought up to wash, iron, sweep and bake, their mothers or servants do this work, while they spend their energies upon music, painting, crocheting and embroidery. These and kindred occupations make them delicate in health and cultivate a susceptibility of the nervous system which renders them easy victims to hysteria.]

CHAPTER X.

HYGIENE OF MENSTRUATION.

THE occurrence of the menstrual epoch is always attended with more or less disturbance of the general system. Probably if women dressed and lived in accordance with the highest ideal of physical health, this period would be attended with no pain or physical indisposition ; but as it is there are very few women who feel as well at this time as during the rest of the month. In some cases the indisposition is so slight as not to interfere with their usual duties, but in some cases the suffering is very intense, lasting from a few hours to several days. In all persons the disturbance of the system is sufficient to require special care of the health at this time.

NECESSITY FOR UNUSUAL CARE.

The womb during the menstrual period is congested with blood, increased in size and in a state of unusual activity, so as to render it especially liable to disease. For this reason any exposure to wet or cold is very likely to produce inflammation of the womb, causing severe pain, and stopping the men-

strual flow. Women should, therefore, at such times avoid bathing in cold water, sitting in draughts of cold air, getting the body chilled or the feet cold or damp. If a woman is accustomed to cold bathing, she may continue the practice with care during the menstrual period, but otherwise she should at such times use warm water, and bathe in a warm room, taking care not to prolong the bath until the surface of the body becomes chilled.

In cool weather the lower part of the body should be dressed in flannel drawers, and the napkins employed should be dried and warmed before being used. Sitting upon cold benches, or upon cold grass or stones in the field, is to be carefully avoided. Married women should also refrain from marital connection during this period, as the excitement of the genital organs is liable to produce profuse flooding.

Ordinarily no change need be made either in diet or exercise during the menstrual flow, except to avoid excess. Especially should women abstain during this time from such work as washing, mopping, house-cleaning, heavy lifting, long walks, and from such fatiguing amusements as dancing, and the like.

Should the flow seem to be scanty, benefit may be derived from soaking the feet in warm water, applying hot cloths between the limbs and over the hips, injecting warm water into the vagina, and drinking freely of warm drinks.*

* For directions in cases of painful and profuse menstruation, see chapters on dysmenorrhœa and menorrhagia.

WOMEN SHOULD RECEIVE INDULGENCE AND
SYMPATHY.

The period of menstruation is a time of unusual mental as well as physical susceptibility. The emotions of joy, grief, sympathy and love are more easily excited than at other times. Women are also liable to be very irritable and exacting. For this reason they should be treated with more than usual indulgence and sympathy. Husbands especially, should at such times be tender and charitable toward their wives. Upon woman, the weaker vessel, has been placed the chief burden of reproduction with all its care, pain and sorrow. It therefore little becomes us who are relieved from this load to be cold and exacting toward those who in the discharge of their duty to their race, endure with loving patience a multitude of ills which we know not of.

CHAPTER XI.

THE CHANGE OF LIFE.

THE menstrual life of woman usually extends over a period of thirty or thirty-five years, commencing with the development of puberty, and terminating with the menopause, or change of life. The cessation of the menstrual functions is an important event to every woman. It is sometimes called the critical period, because like the development of puberty, it marks a crisis in the life of woman.

WHY IT OCCURS.

The reason for the cessation of the menses is that the reproductive life of the woman is completed. The periodical discharge of blood during menstruation, as well as the ordeals of pregnancy and lactation, are exhausting to the system and can only be borne, without injury, while the recuperative powers of the body are in their highest state of activity. Nature has, therefore, wisely provided that at the time of life when the vigor of youth begins to depart, and the first indications of age to approach, this source of exhaustion should be arrested, and the whole resources

of the system employed to give it strength and vigor. Were it not for this wise provision, as age advances the health would rapidly decline and very few women would attain their allotted time of three-score years and ten.

THE AGE AT WHICH MENSTRUATION CEASES.

The ordinary time for the functions of menstruation to cease, is about the age of forty-five, but like the development of puberty, it is liable to great variation. It frequently occurs as early as the fortieth year, and cases are on record where it has occurred at the ages of thirty-five and even thirty. On the other hand it is not unusual to meet women who menstruate until after the age of fifty, while occasionally cases occur where the menstrual functions continue until the age of sixty. As a general rule those who commence to menstruate early will cease to menstruate early, and vice versa; but this rule is liable to many exceptions.

SYMPTOMS.—In some persons the cessation of the menses, comes on so quietly and gradually that they are scarcely aware of the change. They will first notice that their monthly discharges are smaller in quantity and lighter colored; or perhaps the first intimation will be that their periods occur less frequently than usual. These symptoms continue for a few months when the flow quietly ceases to return no more.

IRREGULAR AND PROFUSE MENSTRUATION.

In the majority of cases, however, the change of life is attended with very marked and sometimes violent symptoms. As the critical period approaches the menstruation becomes irregular, sometimes coming on once in two or three weeks, and again passing over an interval of several months. Sometimes the amount of the discharge will be scanty, but more frequently it will be very abundant, especially when several months have elapsed since the last period. The reason of this seems to be that the system is not yet prepared to appropriate the blood commonly lost by menstruation, so that when after a long interval the blood finds an outlet, it escapes in large quantities.

VICARIOUS MENSTRUATION.

Women, at this period, frequently have what is termed vicarious menstruation; that is, the blood which ordinarily escapes through the womb, seeks an outlet from some other part of the body, generally from the nose, stomach, lungs or rectum. When, therefore, a woman during the change of life, has a discharge of blood from either of these organs, she should not seek to arrest it immediately; for it is the waste-gate which nature has provided to relieve the body of its excess of blood.

MANY SYMPTOMS SIMILAR TO THOSE OF PUBERTY.

In many respects there is a correspondence between the symptoms of the change of life and those of puberty. Both are seasons of physical change and

the same disturbing influences produce the same or similar effects. There is a tendency to hot flashes in the face, vertigo, headache, confusion of mind, palpitation of the heart, a feeling of peevishness, a disinclination to society, a love of solitude, and a brooding over the future, not unlike the sensations which we have described as attending the development of puberty.

PHYSICAL CHANGES.

With the cessation of the menses we notice several physical changes occurring in the body. The breasts, whose prominence has heretofore given shape to the female bust, now shrink away ; the womb and ovaries, having outlived the period of their activity and usefulness, waste away and become as before the age of puberty, dormant ; the downy hairs upon the face increase in length and size, so that not unfrequently women after the change of life, are annoyed by a small beard and mustache ; the voice loses its peculiar feminine quality and becomes coarser and more masculine in tone, the face and limbs lose that smoothness and gracefulness of outline which formerly characterized them, and assume more nearly the appearance of the other sex. On the other hand there is sometimes a general tendency of the body to stoutness and not unfrequently women who have been thin and scrawny, will, by this increase of flesh, become greatly improved in appearance.

Sometimes this enlargement of the body together with the stoppage of the menses, will cause a woman

to suppose that she is pregnant, while the fulness of the abdomen, which often occurs at the same time, will tend to increase the deception. But presently the appearance of a profuse menstrual discharge reveals her true condition, and with it the hopelessness of her ever again becoming a mother.

There is one deposit of fat so peculiar to the change of life that it is often of service in determining whether this event is about to occur. It is at the lower portion of the back of the neck, on each side of the prominent bone—the seventh cervical vertebra. Any woman approaching the age of forty-five, who suffers from derangement of menstruation, by examining for these bunches in the neck, can tell whether she is experiencing the change of life, or whether her trouble is due to some other cause.

MENTAL CHANGES.

The mental changes which accompany and follow the cessation of the menses, are no less important than the physical. And here let us notice how beautifully each period of life is adapted to the duties and responsibilities it has to meet. Childhood is the age of physical and mental growth, so the mind is left free from every care or hindrance that could interfere with the accomplishment of this object. Middle life is the time for activity and labor, but to this general duty is added the special duty of perpetuating the species. For this purpose woman is endowed with the sentiment of love of the opposite

sex, and love of offspring. From the commencement of the child-bearing period until its close, this love is the greatest motive force of her life. It is this which impels her to leave father and mother and cling unto her husband, to endure the pains of child-birth, and to watch and nurse her children during the helplessness of infancy and childhood. This same love gives her an influence no less mighty than that of intellect and learning. It renders her attractive in the home circle and in society. It makes her presence a power, whether watching beside the sick bed, or mingling in the gay circle of the ball room.

With the change of life, woman enters upon a new sphere of duty. There is a motto which says, "Old men for counsel," but it is a statement of a general truth, and means also old women for counsel. A woman at the age of forty-five has discharged her duty in the reproduction of her species, and now with mature years and ripe experience, she becomes the natural adviser of the family. Love as founded on the passions now ceases with her, and with it she loses that fascination of manner which makes her the queen of society; but in the place of this power founded on emotional love, she has an influence no less potent, founded on intelligence, virtue, and purity of heart. These are qualities which, if rightly cultivated, will give her the *entree* of the best society, and make her companionship no less valued, and her influence no less powerful, than in her younger, and so called palmier days.

In spite of the loss of her physical advantage, if she is endowed with sense and wit, she may by numerous admirable qualities become more worthy than ever of the warmest friendship and confidence of the husband to whom she is a sincere and consolatory friend. "At this period the qualities of her soul are greatly perfected; the passions that long agitated her bosom have purified her heart, which becomes steady, so that her friendship is immovable and capable of the greatest sacrifices. She regains a new dominion over all that surround her, and her empire which was previously circumscribed by the narrow circle of a few men, now comprehends within its circumference even the women which have ceased utterly to become her rivals.*

FALSE APPREHENSIONS OF DANGER.

Most women look forward to the change of life with serious apprehensions; for the general opinion prevails that it is a time of great risk to life and health. The recent investigations of Boiniston have proved this opinion to be unfounded. If this period was attended with great danger to woman, of course the tables of mortality would show an unusual proportion of deaths between the ages of forty and fifty. On the other hand we find that the mortality of women between these ages is less than of men during the same period, and is also less than the mortality of women during any other decade after the age of puberty. We still further find that those women who pass safely through

*Colombat.

this critical period enjoy a better chance than men of passing a healthful and prolonged old age.

These facts, while they should allay all unnecessary fears, should not blind woman to the real dangers of this period, and so render them careless of their health. There are many derangements that may occur at this time, which though they may not result in death, may lay the foundation of much future ill-health and suffering.

HEMORRHAGE.

Perhaps the most frequent difficulty attending the change of life is severe hemorrhage. It is found that about one woman in four suffers from this cause. It is usual for the hemorrhage to occur only at long intervals, but occasionally it occurs in small quantities nearly all the time. For arresting hemorrhage the first and most important treatment is perfect quiet in bed. This, with the use of cooling, acid drinks, will usually be all that is necessary. Should further treatment be required, any of the means described under the chapter on menorrhagia may be employed.

It is customary to consider every derangement of menstruation which occurs between the ages of forty and fifty, to be due to the change of life; but this is often a great mistake. We have known many cases where women have for years suffered from an almost constant discharge of blood from the vagina, which they supposed to be due to the change of life, but which an examination proved to be occasioned by

some disease or tumor of the womb. In one instance a woman fifty-two years old had been suffering from a bloody discharge from the vagina for eight years, until she was reduced almost to a living skeleton. She had always been told it was owing to her age, and that in a short time she would be well. An examination revealed a polypus about the size of a hen's egg, hanging from the mouth of the womb. This was removed, and in a few days the discharge ceased, and the woman entirely recovered her health.

FREQUENCY OF TUMORS.

Tumors of most kinds are more likely to develop themselves during the change of life than at any other period. The important changes taking place at this time seem to favor the development of any latent disease, which may be lurking in the system. The affections most to be apprehended are cancer of the breast and womb. It is not supposed that cancer is developed in the system at this time, but being already in the system, it is now brought to the surface. The danger from this source is, however, much less than is generally supposed. There are probably twenty women who consult a physician, supposing they have cancer of the breast, where there is one in whom it is really found to exist. Pain in the breast, and perhaps a little feeling of hardness, is by no means uncommon during the change of life, and need give no uneasiness. So, too, there are five hundred chances that the pain and discharge a woman

may have from the womb, are due to some other cause than cancer. The proper course to pursue, if a woman supposes she has a cancer, is to present her case to some competent physician, and he will probably set her mind at rest, and send her home with a great burden removed.

ATTENTION TO HYGIENE.

The change of life, as we have already remarked, is one of the critical periods of life, and upon the manner in which it is passed, will depend to a great extent the health and enjoyment of old age. It therefore becomes every woman to take more than usual care of her health at this time. Even when the disturbance of the health is so slight as to give little or no inconvenience, it is always much safer to avoid all exposure and excess, while with the majority of women it is a matter of necessity that they should spare themselves at this time.

We have already alluded to the similarity of symptoms attending the change of life and puberty, and now we may add that the same hygienic rules are applicable to each of these periods. Nearly all the suggestions made under the head of the "Hygiene of Puberty," may, with profit, be read in this connection. The exercise should be abundant, without being carried to severe fatigue, and should be so far as possible in the open air; all heavy lifting, long walks, and exposure to cold and dampness, should be carefully avoided. If the health is robust, with a ruddy

skin and a full, bounding pulse, then the diet should be restricted in quantity, and composed mostly of vegetable food ; but if the health is delicate, and the face and lips pale, the diet should be generous in quantity, with a free supply of such animal food as fresh mutton, beef, veal and chicken.

LIABILITY TO DESPONDENCY.

A woman will occasionally at this time be low spirited and gloomy, and cling with regret to the powers which are departing from her, while she looks with misgivings, and sometimes aversion upon the future which is before her. Her thoughts are apt to centre almost exclusively in herself ; every pain is exalted into some serious malady, and she broods over her morbid feelings and imaginary ills, until she renders her life a burden to herself and friends. A case as bad as this is fortunately not very common, but when it does occur, it requires careful management. Every effort should be made to draw her mind away from herself, and to get her interested in other matters. For this purpose the friends may try the effects of travel, society, cheerful conversation, schemes of benevolence, or any other means which promises to engage her attention, and draw her thoughts away from her own condition.

THE SEXUAL FEELINGS.

With the approach of the change of life, it is usual for the sexual passions to cease. The reproductive organs have finished their work, and it is but natural

that the feelings dependent upon them should also cease to exist. Sometimes, however, the opposite is the case, and the passions increase in intensity and become more violent than at any previous period of their lives. This condition of things should always be looked upon with serious apprehensions, for it is against nature and may be an indication of some grave disease. Gratification of the passions at this time of life should in all cases be very temperate, and if they are morbidly developed, it should be entirely interdicted.

MEDICINES NOT USUALLY NEEDED.

It is a common error to suppose that some medicine is needed to carry a woman safely through this important transition. The numerous patent nostrums advertised under various names as needful for women during this change, should never be used, for most of them are not only useless, but highly injurious. Should any disease exist, it may be treated upon the same principles as at other times. The condition of the bowels frequently requires attention, and if constipated they should be relieved by the means to be detailed in the chapter upon that subject. So, also, when there is marked debility, from loss of blood or otherwise, benefit may be derived from the use of a tonic of iron and quinine. (See formula 4, page 73.)

HEALTH OFTEN IMPROVED.

We wish to again impress upon the reader that this change is not necessarily a dangerous one. Those

who have suffered most have usually brought it upon themselves, either by former excesses, or by indiscretions during this period. Women who have heretofore enjoyed good health, will with proper care, almost surely pass this epoch with but slight discomfiture. Even those who have heretofore suffered from uterine disease, may by carefully attending to the suggestions we have laid down, expect to avoid most of the evils incident to this period ; while in many cases the change will bring with it such good health and freedom from suffering as they have not known for years.

CHAPTER XII.

GENERAL REMARKS UPON DISEASES OF THE WOMB.

BEFORE entering upon the study of the special diseases and displacements to which the uterus is liable, we shall devote a chapter to the general consideration of uterine diseases. There is so much in common between the different forms of uterine affections that we shall hope by this means to make the subject clearer, as well as to avoid much needless repetition.

The ancients were accustomed to ascribe much more important functions to the womb than those now attributed to it. They believed that it was a living being existing within the human female, and that it governed her moral character, created and modified all her diseases, and controlled the physical movements of all parts of her body; hence the declaration of Von Helmont, "On account of the uterus woman is what she is;" and the still stronger declaration of Hypocrates, "On account of the uterus woman is all disease."

The investigations of modern science show us that these views are wholly erroneous, and that the womb is a simple organ of the body, like the stomach, heart or lungs. It is, however, a very important organ, and from its central location and large supply of nerves, the general system is affected more by a disease or derangement of the womb, than by that of most other organs.

MODERN IMPROVEMENTS.

In no department of medical science has so great improvement been made during the past thirty years as in that pertaining to the diseases of women. It is but a few years since it was the common practice to classify nearly every derangement of the female generative organs, under the general name of female weakness, or female disease. To-day the physician is not satisfied with simply knowing that the generative organs are diseased, but he seeks to know what part of the organs is diseased, and what is the exact nature of the affection. These changes have mostly been brought about by the introduction of the speculum, by Dr. Recamier, of France, and of the uterine sound, by Prof. Simpson, of Edinburg. With the aid of these instruments it is possible for the physician to fully explore the generative organs, without exposing the body, or giving offense to the most delicate and refined lady.

GREAT FREQUENCY OF UTERINE DISEASES.

Few persons, unless their attention has been par-

ticularly drawn to the subject, are aware of the frequency of the class of diseases peculiar to women. A distinguished lecturer in one of the leading medical colleges of New York, expressed the opinion that one woman in every three is afflicted with some form of uterine disease, and is a proper subject for medical treatment. While these figures may hold true of the women of our large cities, we are hardly willing to accept them as applying to the women of our whole country. It is nevertheless a fact well known to every physician of extensive practice, that diseases of the generative organs are fearfully common among the women of our land. More than two-thirds of the practice of every physician is among women, and by far the larger part of this grows directly out of diseases peculiar to the generative organs.

Woman is no doubt by nature somewhat more susceptible to disease than man. Her organization is finer and more delicate, and the peculiar and complicated functions of her reproductive organs, render them rather more liable to disease than those of the opposite sex; but that there is by nature any such proportion of difference as actually exists, no well-informed person can believe.

WHAT CLASSES ARE AFFLICTED MOST.

In seeking for the causes of this liability to disease, it would be of interest to compare the women of America with those of other civilized countries; but in the absence of actual statistics any such compari-

son must be largely founded on conjecture. It is, however, the general opinion of physicians and well-informed travelers, that the women of this country are more liable to uterine disease than those of most of the countries of Europe.

A more striking comparison, however, is seen between the women of civilized countries, and those of savage nations. The squaw of North America and the women of all races who live in a wild and barbarous state are almost entirely exempt from that class of diseases which are the special bane of their civilized and enlightened sisters. Among many savage tribes woman is scarcely regarded as the weaker sex, but endures marches, bears burdens and sustains hardships equally with the men of her tribe. If we extend the comparison a little further to the women in the different walks of civilized society, we shall find that those of the so-called higher classes are much more liable to uterine disease than the laboring population. The African negress, who toils beside her husband in the fields of the south, and Bridget, who washes, and scrubs and toils in our homes at the north, enjoy for the most part good health, with comparative immunity from uterine disease. It is not then hard work and privation which make the women of our country invalids, but circumstances and habits intimately connected with the so-called blessings of wealth and refinement.

IMPROPRIETIES OF DRESS.

The first and most important cause of uterine

disease is found in the prevailing habits of dress. We are aware that we are harping upon an old and threadbare subject, when we offer to criticise the dress of women; but if the ladies will bear with us, we hope to present some ideas upon the subject which will be new to them.

UNEQUAL DISTRIBUTION OF CLOTHING.

The leading object of clothing is to preserve an even and agreeable temperature of the body. As ladies usually dress, the lower part of the body and limbs do not receive one-third the clothing that is placed upon the chest and waist. The broad and flowing skirts, while they may serve to set off the beauty (or rather conceal the defects) of the human form, are nearly worthless as a protection to the body. The effect of this unequal distribution of clothing is to render the body very susceptible to diseases from changes of temperature and exposure of all kinds.

RELATION OF THE ACT OF BREATHING TO THE SUPPORT OF THE WOMB IN THE PELVIS.

In the act of breathing we take into the lungs from half a pint to two quarts of air. In order to admit this air the lungs and chest must expand in exact proportion to the amount of air received. The expansion of the chest is in two directions, outward and downward. The outward expansion is accomplished by certain muscles acting upon the ribs, so as to increase the circumference of the chest, while the downward expansion is effected by the action of

a thin muscle called the diaphragm, or midriff, which is attached to the side of the body near the lower border of the ribs, and forms a complete partition between the lungs and heart above, and the stomach, liver, and intestines below. This muscle is convex upward, like the half of a hollow globe. In the act of filling the lungs, it descends from half an inch to an inch carrying with it the organs of the abdomen which lie beneath. This produces what is known as abdominal breathing—the motion of the abdomen which can always be observed in respiration. This movement of the diaphragm is communicated not only to the organs of the abdomen, but also to the organs of the pelvis, so that with each breath, the womb descends about one-eighth of an inch.

The effects of this oscillating motion are two-fold : first, it facilitates the passage of the food along the intestines, and thus materially assists in the process of digestion. This fact we shall refer to again in speaking of constipation. Secondly, the exercise tends to develop and strengthen the muscles and ligaments of the abdomen and pelvis.

This last fact is so important that it demands more than a passing notice. In our description of the uterus, we have already explained how this organ is loosely poised or suspended in the center of the pelvic cavity. The natural supports of the womb are all that are needed when they are of normal strength, and when the womb is not pressed upon by the bowels from above. The weight of the bowels

is naturally sustained by the muscles which form the walls of the abdomen ; but if these muscles are weak and flabby, then a considerable portion of the weight will fall upon the uterus, crowding this organ out of its place in the pelvic cavity.

Now it is a well-kown principle of physiology, that muscles are developed and strengthened by exercise. The most important and most constant exercise received either by the muscles of the abdomen or pelvis, is that imparted to them by the act of respiration, and if this is not interfered with, these muscles will generally be sufficient to sustain the bowels and womb in their proper position in the body. Thus it will be seen that the natural act of respiration plays a very important part in the efficient support of the organs of the pelvic cavity.

EFFECTS OF TIGHT-LACING AND SUPPORTING THE CLOTHING AROUND THE HIPS.

The first effect of tight clothing is to prevent the proper development of the waist. We are not speaking of tight-lacing,—of those cases where the corsets are drawn down upon the body by calling in a stout assistant to pull upon the corset-strings. Such extreme cases are fortunately less common than they have been in the past. We are speaking of those who wear the ordinary tight-fitting dress, worn by almost every woman in civilized society, and yet we are compelled to say that there is not one woman in twenty of this class who has a natural-sized waist.

The reason of this is that between the ages of fourteen and twenty, while the rest of the body is thickening up and developing, the waist is not allowed to grow. The body is like a young tree around which you have tied a string; the point where the string is applied will be girdled by it, and will never increase in size. In like manner the waist is girdled from fourteen to sixteen hours each day by the tight-fitting dress, and is thus prevented from attaining its normal size. What fashionable mother ever instructs her dress-maker to cut the waist of her daughter's dress a little larger with each new dress, in order to allow for the natural growth of the body during the past three or six months?

To understand the effect of a small waist we have only to remember that the diaphragm is attached to the body very near this point, therefore if the waist is two or three inches smaller than it should be, this breathing-muscle is also diminished in size and capacity to the same extent. This tends to lessen the abdominal breathing, and therefore to weaken the supports of the bowels and pelvic organs.

Again, the bowels require a given amount of space in the body. If we diminish the upper part of the space they occupy, they will be crowded downward into the lower part of the abdominal cavity and upon the organs of the pelvis. Add to this the weight of the under-clothing which is fastened around the bowels, (falsely said to be supported by the hips,) and you have a constant pressure of several pounds bear-

ing down upon the organs of the pelvis. At the same time the pressure of the clothing tends still further to interfere with the oscillating movements of the bowels accompanying respiration, until finally the muscles become so loose and flabby from want of use that abdominal respiration is almost entirely suspended.

The result of these combined evils is inevitable ; it weakens the natural support of the uterus, crowds it from its position in the body, and causes it to become congested and inflamed. All of these evils may not be accomplished in a month, or in a year, for nature fights long and hard to sustain herself, even against such abuse, but sooner or later she must yield in the unequal contest. Very rarely is a constitution so rugged as to hold out five years against such treatment, without becoming the victim of uterine disease.

WANT OF EXERCISE.

Another prolific cause of diseases of the uterus is the want of proper exercise. We have already had occasion to speak of the importance of air and exercise in maintaining the general health. There is no royal road to health, but it must come through the means furnished and approved by nature. "In the sweat of thy face shalt thou eat bread," was the command to our first parents ; but science reveals to us that he who would secure good health, as well as he who would eat bread, must still obey the declaration of six thousand years ago.

We have already shown how the muscles of the abdomen are strengthened by the motion communicated to them in breathing. This result is still further effected by various kinds of exercise, especially by the movements of bending and twisting the body; hence we find that in persons whose employment causes them frequently to bend and twist the body, the muscles become hard and tense, affording abundant support to the internal organs. Women whose muscular system is well developed, rarely suffer from uterine diseases. The immunity which the savage woman and the African negress enjoy from these diseases, is chiefly owing to two circumstances:—the looseness of their apparel, and their strong and well developed bodies. These women constantly commit indiscretions and endure hardships and exposure, with impunity which would speedily kill any woman reared under the influences of modern refinement and culture.

How few of the women of our country engage in either work or recreation, which affords any adequate exercise of the body! The majority are put under a course of training for invalids, even from childhood. A girl scarcely reaches the age of ten before she is told that it is not pretty for her to romp in the fields, play hide and seek, jump the rope, and roll the hoop. If she should steal away into the garden for a while, and engage with her brothers in such sports as will make her eyes sparkle, and her cheeks glow with health, her mother is seized with alarm lest she

should grow up a great, rude, healthy, tom-boy. So she calls to her, "Why, my daughter, ar'n't you ashamed to be seen playing with the boys? How coarse you do act! Just come into the house, and sit down by your mother on this nice little stool, and take your nice little sewing;" and she might with propriety add, "Grow up such a nice, lean, sickly, hysterical lady."

You remonstrate with such a mother and tell her that her daughter is suffering from want of exercise, and she would be offended. "What, my daughter not have exercise enough! She practices an hour on the piano every morning, and then towards night, unless it storms, she walks half a mile down to the post office and back." Or perhaps she attends a ball once or twice a week and dances all night; that is exercise enough, surely! A fashionably dressed lady, we regret to say, rarely gets much benefit from either an afternoon promenade or from dancing. If she could romp in the fields, in a loose-dress for an hour or two each day, or if, with similar apparel, she could dance with her brothers and sisters, by her own fireside, she would derive new life and vigor from the exercise; but with her body cramped into a tight-fitting dress, and her movements constrained by the requirements of grace and etiquette, the case is far otherwise.

The practice so common in boarding-schools of marching a squad of girls around a few street corners, under the eye of a teacher, is but the mere sham

of exercise. Says Dr. Thomas, "A set of romping school-girls could as profitably laugh by rule as really enjoy and improve by exercise under the eye of an instructress or professor of calisthenics. It is not the mere bodily exertion which is of benefit, but the total mental relaxation, the exhilaration and the abandon which accompany it. The prisoner, walking for eight hours on the tread-mill, does not profit by it as the free and happy equestrian or oarsman does, by one-eighth the time of exercise."

EXCESSIVE DEVELOPMENT OF THE NERVOUS SYSTEM.

The importance of a proper proportion between the development of the mind and body, has always been recognized. In accordance with this principle, the Romans, in expressing the highest state of health, used the aphorism: "*Mens sana in corpore sano*,"—a sound mind in a sound body. Unfortunately the tendency of our modern civilization is to force the development of the mind far in advance of that of the body. The girl has crowded into her mind as rapidly as possible a knowledge of mathematics, science, literature, music, painting, and belles-lettres, while her physical system is, for the most part, neglected. The result is a precocious development of the mind, exquisite sensibilities, and all the so-called refinements of taste and culture, but with these, an excitable and easily prostrated nervous system, a weak, undeveloped body, and a debility of the generative organs which renders them liable to disease from the least exposure or hardship.

IMPRUDENCE DURING MENSTRUATION.

The unusual activity of the generative organs during menstruation, renders them especially susceptible to injurious influences of every kind. We have, however, already discussed this subject under the head of Hygiene of Menstruation, and so will not enlarge upon it in this place.

IMPRUDENCE AFTER CHILD-BIRTH AND THE
INDUCTION OF ABORTION,

Are also very prolific sources of disease of the generative organs, but as we shall discuss these subjects in a later part of the book, we will only allude to them in this connection.

We have not attempted to enumerate all of the causes of uterine disease, but only a few of those which are most common, and those especially which it is possible to remedy and prevent. There is no subject connected with the health of woman so important as that of the causes of uterine disease. Lest it may be thought that we have attached too much importance to some causes which shall seem to be trivial, we will close this chapter with an extract from the eminent author whom we have before quoted, Dr. Thomas, of New York.*

“No one will doubt the conclusion that if in cold weather, the feet, legs, and abdomens of civilized women were clad in some woollen material—if they

*Thomas on the Diseases of Women. Page 60.

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 produced 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 likely bring forth results in one generation, but it would probably require many generations of reformers to restore woman to her proper physical sphere.

Before any improvement is attained in this or any other matter, its importance must be estimated by, and a desire for it cultivated in those whom it most nearly concerns. Neither appreciation of, nor desire for, physical excellence, sufficiently exists among the refined women of our day. Our young women are too willing to be delicate, fragile and incapable of endurance. They dread above all things, the glow and hue of health, the rotundity and beauty of muscularity, the comely shape which the great masters gave to Venus de Medicis and Venus de Milo. All these attributes are viewed as coarse and unlady-like, and she is regarded as most to be envied whose complexion wears the livery of disease, whose muscular development is beyond the suspicion of *embonpoint*, and whose waist can almost be spanned by her own

hands. As a result, how often do we see our matrons dreading the process of child-bearing, as if it were an entirely abnormal and destructive one; fatigued and exhausted by a short walk, or their ordinary household cares; choosing houses with special reference to freedom from one extra flight of stairs, and commonly debarred the great maternal privilege of nourishing their own offspring. These are they who furnish employment for the physician and who fill our homes with invalids and sufferers."

CHAPTER XIII.

ACUTE INFLAMMATION OF THE WOMB.

ACUTE inflammation of the womb is not a very common form of disease, although it occurs much more frequently than some writers have supposed. It usually runs a somewhat rapid course, lasting from a few days to three or four weeks. In some of the milder cases the nature of the affection may not be suspected, especially if it is associated with some other form of disease. It rarely produces death, but terminates either in chronic inflammation or in complete recovery.

SYMPTOMS.—The nature and severity of the symptoms will depend very much upon the part of the womb which is affected. If the inflammation is confined wholly to the lining membrane, the symptoms will be comparatively mild. There will be pain in the back, groins and thighs, and a feeling of fulness and heat in the pelvis, often accompanied by dragging or bearing-down pains. Frequently there will also be a constant desire to urinate, and to evacuate the

bowels. The urine will be highly colored, and will contain, when cold, a white sediment. After four or five days there is usually a discharge from the vagina, which at first is watery, but gradually changes to a creamy consistence, and finally to a yellowish matter. By introducing the finger into the vagina, and pressing it against the neck of the womb, the womb and perhaps also the vagina, will be found exceedingly sensitive, so that the pressure will cause severe pain.

When the tissues of the womb are involved in the inflammation, the symptoms we have already mentioned will be greatly aggravated, and other new ones may be present. The pain and bearing-down feeling in the pelvis will be intense,—often even as severe as the pains of child-birth. The inflamed condition of the womb is communicated to the surrounding organs, so that any pressure in the region of the pelvis causes intense pain, and the passage of urine or of the fœces, is attended with much suffering. Distant organs are also very likely to sympathize, giving rise to swelling and soreness in the breasts, nausea and vomiting, diarrhœa, followed by severe constipation, rapid pulse, and general febrile symptoms.

If the inflammation comes on during the monthly period, the flow will be suddenly arrested, while if it comes on just before, the flow will usually not occur. Occasionally, however, the reverse is true, and the flow will come on with very great profusion.

CAUSES.—The most frequent cause of inflammation of the womb, is some imprudence or excitement during menstruation, which suddenly stops the menstrual flow. The escape of blood from the womb being suddenly arrested, it becomes congested and inflamed.

Among the occasional causes we may mention masturbation, excessive sexual indulgence, violent exercise on horse-back or in a wagon without springs, excessive dancing, and the direct injuries resulting from the misuse of pessaries, the careless use of instruments in examining or treating the womb, and the use of instruments in producing abortion. Inflammation of the lining membrane also frequently occurs in connection with scarlet fever, small-pox and measles.

TREATMENT.—In the treatment of this disease, it is necessary to secure complete rest of mind and body. To this end, the woman should remain quietly in bed, and should abstain from everything which would tend to fatigue the body, or excite the mind. The diet should be light and easy of digestion; tea and coffee should be avoided, but in their place use cold or warm water, or, if preferred, lemonade or some other slightly acidulated drink. Sexual intercourse should be strictly interdicted, not only during the severity of the disease, but until the health is fully recovered.

If the bowels are costive, they should be relieved

by Rochelle or Epsom salts, or Seidlitz powders. Should there be pain in the lower part of the bowels, warm poultices of flax-seed or corn meal, or towels wrung out of hot water and covered with oil-silk, may be applied over the seat of the pain, and between the limbs directly upon the vulva.

If the symptoms are not too severe, warm hip-baths may be taken ; but usually more benefit will be derived by throwing several quarts of warm water with a syringe into the vagina directly against the neck of the womb. When the symptoms are severe, this should be done four or five times a day over a bed-pan, the patient not leaving the bed.

In case of severe pain, it should be relieved by the use of some anodyne, either given internally, or better still, used as an injection in the rectum or vagina, as directed for dysmenorrhœa. Many cases may also be benefitted by the application of leeches to the mouth of the womb, but means of this kind, as well as the general use of powerful anodynes, should only be employed under the direction of a physician.

This treatment should be followed up until the symptoms entirely disappear, or until four or five weeks have elapsed, when if some of the symptoms still continue, we may conclude that the disease has passed from the active to the chronic form.

CHAPTER XIV.

CHRONIC INFLAMMATION OF THE WOMB.

WE have now to consider the most frequent and important disease which affects the uterine organs. It may occur at any time of life, but is most common between the ages of puberty and the cessation of menstruation. It may exist alone, or it may and often does unite with and complicate other derangements of the uterine organs. Three-fourths of all the so-called female complaints consist either wholly or in part of chronic inflammation of the womb. It afflicts all nations, and all conditions of life, but is most frequently met with in the extremes of society—in those whose physical systems have been weakened, on the one hand, by luxury and indolence, or on the other by poverty and want.

VARIETIES OF THE DISEASE.

Chronic inflammation of the womb, is named according to the parts of the womb affected, as follows :

Inflammation of the membrane lining and covering the neck of the womb ;

Inflammation of the tissues of the neck of the womb ;

Ulceration of the neck of the womb ;

Inflammation of the lining membrane of the body of the womb ;

Inflammation of the tissues of the body of the womb.

If we consider the anatomical structure of the womb, we may regard the body and neck as two distinct organs ; for we find that the muscular fibers which compose them run in different directions, and that they receive their blood-vessels and nerves from different sources. For this reason it is found that chronic diseases rarely pass from the neck to the body of the womb, or *vice versa*.

Of the different forms of inflammation, that of the membrane covering and lining the neck of the womb is the mildest, most frequent, and most easily cured. Next in frequency, perhaps, comes ulceration of the neck. This differs from inflammation in this particular ; in ulceration the substance of the membrane is more or less destroyed making a sore, whereas in inflammation the membrane is only red and swollen. Inflammation of the tissues of the neck is much more rare than other forms of disease of the neck, and is usually the result of abortion, child-birth, or the careless use of pessaries, or powerful caustics. Of the two forms of disease of the body, inflammation of the lining membrane is milder and more easily cured than

inflammation of the muscular tissues. Inflammation of the tissues of either the neck or body is very likely to include also the adjacent lining membrane, but aside from this, the different forms of inflammation rarely pass into each other.

In our descriptions we shall not attempt to discriminate accurately between all the different diseases of the womb, as such a discrimination would require a personal examination by a skillful and experienced physician. Fortunately no such accuracy is essential to the general reader. There is so strong a similarity between the causes, symptoms and treatment of the usual diseases of the womb, that nearly the same general remarks will apply to all, so far as pertains to their prevention and home-treatment. We shall therefore, to some extent, discard scientific classification, and strive to present only such facts as will be of practical use to our readers.

SYMPTOMS.—The symptoms of inflammation of the womb, will of course, vary greatly, according to the situation and extent of the disease. Inflammation of the membrane of the neck of the womb may sometimes exist for months, without giving rise to any symptoms sufficiently marked to lead to the suspicion of disease, especially when it occurs in girls before marriage. There will be more or less whites, and occasionally a dull, heavy feeling in the back or limbs, which will be aggravated by long walks or standing long upon the feet, but the discomfort is not enough to occasion any serious inconvenience.

In the majority of cases, however, the symptoms are so marked that the woman has no need to be told that she is an invalid. She may carry in her face the appearance of health, engage in her usual avocations, and even answer inquiries about her health with a half-hearted assertion that she is well ; but her former ambition has departed, her step is slow, her eye has lost its lustre, she drags through her daily tasks with a weary and aching body, and often spends the night in a vain effort to obtain refreshing sleep.

LEUCORRHŒA.

The most frequent and constant symptom of inflammation of the womb, is leucorrhœa or whites. This symptom is, however, of little value taken alone, for leucorrhœa is an exceedingly common affection of the generative organs, and in the majority of cases, it proceeds from the vagina instead of the womb. Cases of inflammation also frequently occur in which no leucorrhœa is observed.

PAIN IN THE BACK.

Another almost constant symptom is a feeling of weight, often expressed as a dragging or bearing-down sensation about the pelvis, with more or less pain in the loins, hips and low down in the back. The pain in the back is very likely to mislead women as to the true source of the disease, and in many cases we have known them to doctor for years with plasters, seatons and blisters, for spinal complaint, when there was no disease of the spine except what resulted from a dis-

eased uterus. Sometimes the pain will be confined wholly to the region of the back and pelvis, but frequently it extends down the limbs, or up into the side, producing severe side-ache. The woman will frequently feel entirely well when she rises in the morning, but as soon as she begins to be upon her feet the pain returns, and the more tired she becomes the more severe the pain. She also finds that it is much harder for her to stand still or stand at a table and work, than it is to spend the same length of time in walking. Sometimes little or no soreness will be connected with the pain, while at other times the parts affected will be exceedingly tender and sensitive.

DERANGEMENT OF THE UTERINE FUNCTIONS.

In connection with inflammation of the uterus, there is nearly always more or less derangement of menstruation. It sometimes causes the menstrual periods to recur more frequently than natural, and nearly always it makes them painful and increases the amount and duration of the menstrual flow. If the disease affects the body of the womb, or if there is severe inflammation of the neck, it usually causes the woman to be sterile, but simple inflammation of the neck does not commonly interfere with conception. Sexual intercourse is also usually attended with pain, especially if the inflammation is severe.

EFFECT UPON OTHER ORGANS.

If the disease continues for a long time it is very likely to extend to the rectum, producing piles, and

to the bladder, producing inflammation of the bladder. Very many cases of derangement of the urinary organs, which are called "kidney complaint," are due to an inflammation of the bladder which has extended from the womb, and can only be cured by removing the disease of the womb.

When the disease of the womb is severe, especially when it affects the body of the womb, distant organs will also sympathize, and there will be headache, dyspepsia, nausea, vomiting, palpitation of the heart, and sometimes enlargement and soreness of the breasts. The affections of the stomach sometimes so closely resemble the symptoms which accompany pregnancy, as to lead the woman to suppose that she is pregnant. Again the woman may be seized without the least apparent provocation, with severe cramping of the stomach and vomiting, which will continue for some hours, resembling very much an attack of colic or cholera-morbus.

EFFECTS UPON THE GENERAL HEALTH.

After these symptoms have continued for a time, they produce a decided effect upon the general health. The appetite becomes poor and fitful, the countenance pale and listless, the muscles weak and the blood thin and impoverished. The woman complains of cold hands and feet, of a lack of ambition, and of being weak and easily tired. But worse than this, her mind and disposition become affected; she is nervous, irritable, moody, and often hysterical, easily

annoyed and vexed, and the slightest provocation causes her to fly into a passion, even with her best and most cherished friends. She looks only on the dark side of life ; her mind dwells so much on her own unhappy lot, that she finally can think of little else, but pours out the tale of her woes to every one who will give her a listening ear. Sometimes she seems even to take a morbid enjoyment in making every one around her as miserable as herself, while nothing will be more sure to awaken her enmity than an apparent lack of attention to her real or imaginary troubles.

If the disease is not removed, she may continue from year to year without material change, or she may go on from bad to worse until finally she takes to her bed, not often to die—though death would be a relief—but to live on for many weary years, a confirmed and hopeless invalid. It is common for women to look forward to the change of life as a cure for all these complaints, and many have their health at this time either restored or greatly improved ; but many others, especially those whose mind and nervous systems have become greatly affected, find but slight amelioration of their sufferings, until they find it in death.

We have drawn, it may be thought, a sad picture, but we have only described the condition of those whom the physician frequently meets in his practice. Many of these cases are prevented by feelings of delicacy, from making known the nature of their suf-

ferings. There are women in every community who are supposed to be well, or at most only in delicate health, and yet they have for years endured intense and almost constant physical pain. This delicacy about making known their feelings, often deprives them of the sympathy which they deserve, and many times women have been called whimsical, spleeny and lazy, who endure and bear up under an amount of pain which would confine most people to their beds.

CAUSES.—These are usually both predisposing and exciting. A woman in robust health, does not often become affected with chronic disease, unless it results from acute inflammation, a severe fall, abortion, child-birth or great imprudence during menstruation. In the great majority of cases, however, the womb is first prepared for the disease by debilitating causes which act upon the system for a long time.

CONGESTION PRODUCED BY PRESSURE.

The most frequent of these causes is a chronic congestion of the uterine organs. We have already seen, in a previous chapter, how the womb will feel the influence either of the weight of the clothing, or of the unnatural pressure of the bowels. The effect of this weight, whether it crowds the womb from its position or not, is to interfere with the circulation of the blood, producing a chronic congestion of the organs of the pelvis.

This will be better understood by a simple illustration. If you tie a string tightly around one of the fingers, it becomes red and congested with blood ; and if the stricture is long continued, it will produce inflammation and ulceration of the finger. The reason of this is that the arteries which carry the blood to the finger, lie deep in the flesh and are not interfered with, but the veins which return the blood lie close to the skin, and are obstructed by the string. In like manner when the womb is pressed upon from above, or crowded from its natural position, the return circulation of the blood is more or less interfered with, producing congestion of the womb. If the congestion is caused by the weight of the clothing, at first it may continue only during the day, and be relieved at night, but after a time the supports of the womb become weakened and the womb displaced, when the congestion becomes continuous.

GENERAL DEBILITY

That general weakness of the muscles, which is the result of habits of indolence and luxury, lack of exercise, unwholesome food, and the excessive development of the mental and æsthetic faculties, also predisposes to inflammation of the womb. The natural supports of the bowels and womb, are affected by the condition of the general health ; when, therefore, the bodily health is feeble, the supports of these organs are weakened, and displacement and inflammation of the womb are much more likely to occur.

The effect of these influences upon the womb, you will readily understand, is to render it very liable to disease. A hard day's exercise, a severe cold, sexual intercourse, standing long upon the feet, a slight imprudence during menstruation—causes which in perfect health would be trivial, may now be sufficient to establish a disease which shall last for years. When the womb is displaced, the pressure of the neck of the womb against the sides of the vagina, is often sufficient to establish inflammation.

HABITS OF MODERN CIVILIZATION.

The causes of uterine diseases, it will be seen, are largely the direct out-growth of the habits of modern civilization and refinement. With our wonderful improvements in every branch of science, literature and arts, and with the experience of six thousand years before us, the laws of physical health are less obeyed, if not less understood, than in times past; and as a result, we have a class of diseases comparatively unknown to the ancients, which to-day furnishes nearly one-half of the employment of the physicians of our land.

But with this increased amount of disease, there has fortunately come also a way of escape. Experience and patient investigation, have revealed to us the causes of these diseases, and the means best adapted to their prevention and treatment. These facts are being gradually disseminated among the women of our country, so that they are at liberty to select intelligently between health and disease.

There is still however, great need for work in the field. If one-fourth of the efforts spent in enlarging the political sphere of woman's labor, were spent in instructing her in the care of her body, a few years would suffice to emancipate her from an amount of physical evils far more grievous to bear than any social or political evils from which she now suffers.

TREATMENT.—Our first care in the treatment of chronic inflammation of the womb, should be, if possible, to ascertain and remove the cause; for no treatment can be of any permanent benefit, so long as the cause of the disease still exists. Some of the causes as we have already seen are transient in their effects; but in the great majority of cases there are influences at work, which not only prevent natural recovery from the disease, but strongly counteract any medicinal remedy that may be employed.

NEED OF A CHANGE IN WOMAN'S APPAREL.

Perhaps the greatest difficulties to overcome, are the improprieties in dress. Not that there is naturally any insurmountable obstacle in the way, but most women prefer to sacrifice a considerable degree of their health, rather than to adopt any costume which does not correspond with the requirements of fashion. It is, we are well aware, no easy matter to effect a compromise between a dress that shall be healthful and one that shall meet the approval of modern society. We have given much careful thought to the subject and we can see no way by which the

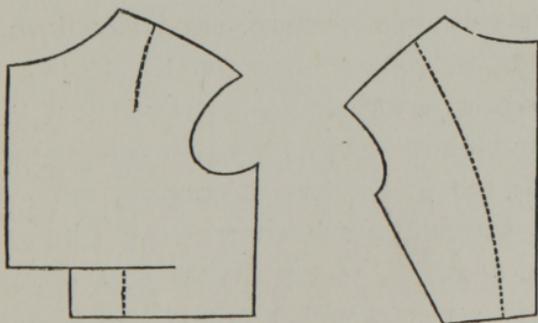
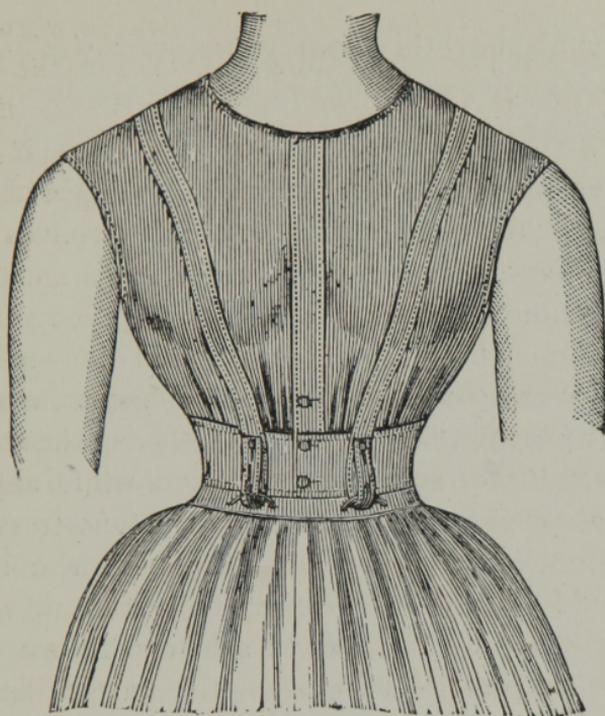
existing style of woman's apparel can be worn and give ease and freedom to the movements of the body. An entire revolution in woman's dress, is no doubt greatly needed, and let us hope it may sometime be effected ; but the time for this change has not yet come, so we must content ourselves with a compromise between health and fashion.

HOW TO DRESS THE WAIST.

A prominent fault in the dress of woman is compression of the waist. In regard to dressing the waist it is our firm belief that the only really healthful apparel is a loose-dress. No ordinary tight-fitting dress will allow full and deep inspiration, nor, what is quite as important, will it permit the easy bending and twisting of the body. We, therefore, lay it down as a rule, that all women suffering from uterine disease, should habitually wear a loose-dress with very loose bands to their under-clothing, and all women whether well or sick, should wear a dress so loose that they can fill their lungs to their fullest capacity, without feeling the clothing constrict around the chest.

SUPPORT FOR THE UNDER - CLOTHING.

An evil still more difficult to obviate, is that of wearing the under-clothing suspended around the hips. It is of first importance that the weight of the clothing should be borne wholly by the shoulders ; for, as we have shown in a previous chapter, if suspended around the body, not only does their weight fall directly upon the bowels and crowd them upon



the womb, but this steady pressure weakens the muscles of the abdomen, which are the natural support of the bowels.

The plan usually recommended for supporting the clothing is the use of straps or suspenders, but as most women wear from three to four under garments, and it necessitates a pair of suspenders for each garment, this plan is both cumbersome and inconvenient. There are also various patent appliances in market, for this purpose, but not one of them that we have ever seen is of any practical value, while many of them are decidedly objectionable. The worst of the kind are the skirt-supporters combined with corsets or shoulder-braces. The effect of corsets, supporters and braces of all kinds, as we shall explain more fully in another place, is to weaken the part which they pretend to support.

The best, most convenient and most efficient means that we have yet seen for supporting the under-clothing, is a waist similar to that represented in the accompanying plates. It may be made of white drilling or any other convenient material. The back is plain like an ordinary dress waist, but the front is full, like a Garibaldi waist, and is gathered at the bottom upon a band about two inches in width. This band should be lined with canvas to prevent its wrinkling. The waist should be cut short, loose and somewhat low in the neck. The peculiarity of the waist consists in two straps which are stitched to it, passing over the shoulders in about the position that would

be occupied by suspenders, and coming down two inches below the waist. The ends of these straps, which should contain a button-hole, are designed to pass through loops which are to be sewed to the bands of the under-clothing. They then double back and button upon the straps about two inches above the bottom of the waist.

We offer this pattern to our readers with great confidence, for we have carried it with us for several years, as we have been lecturing throughout the country, and it has been copied by many thousand ladies, who all, so far as we have heard, testify that it has fully answered the purpose for which it was designed.

An ordinary, plain waist, may be arranged with straps in the same manner as this, provided that it is made loose and very short. Whatever means may be employed always be certain that the shoulders receive the weight of the clothing, for we have known many women to *play* health by wearing straps over their shoulders which were so loose that they did not support half a pound's weight.

PURE AIR.

This is the most powerful health producing agent which nature has placed at our command. Whenever the state of the health will permit, women suffering from uterine diseases should spend a large part of each day in the open air. It invigorates the appetite, strengthens the digestion and imparts new life and vigor to the whole body. Nothing conduces more to

relieve the excessive nervous symptoms which so frequently exist with this class of diseases. A woman who is so nervous and irritable as to be almost seized with hysterical convulsions will frequently find her nervous symptoms entirely quieted, by spending two hours in the open air in some pleasant amusement.

When the strength will not allow proper exercise to be taken out-of-doors, the cold air may be brought into the room after the manner recommended by Dr. Byford.

“If it is cold weather we should cover the patient to protect her, and let the frosty air—the colder the better—into the room, by opening *all* the windows and doors, and keep the room cleared of visitors. It will astonish anybody who has not observed the effect of a temperature near to zero, on those swooning hypochondriacs. A change almost immediately occurs for the better.

“If the air is not cold, it will still do much good to give it perfectly fresh to the patients in abundance. When able, they may be taken out of doors. This treatment introduces the natural stimulants, oxygen and cold, into the lungs, and brings them into contact with the nerves, and is more enlivening than medicine. How long the room should be kept open and cold, will depend upon the effect; but we should always, if possible, make these patients sleep in open, cold rooms. This is a very important item,

which it will often require ingenuity as well as authority to enforce."

FOOD.

The diet of women suffering from uterine disease, should be plain and unstimulating, but abundant and nutritious. No system of starvation should be practiced, for the tendency of the disease is to impoverish the blood and produce general debility. Fresh lamb, beef, veal and chicken, with eggs, milk and good wheat or Graham bread, should constitute the chief part of the diet.

TONIC MEDICINES.

It should be our constant aim to keep the digestive organs in the highest state of health and activity. Attention to diet, exercise, and general hygiene will all be of great assistance in this respect ; but in addition to these measures, we should not neglect the advantages which may be derived from tonic medicines.

In some cases where the appetite is poor, wine and ale will be beneficial ; yet we always recommend them with great reluctance ; for it often happens that in this manner love of stimulants is acquired, which in after years proves of much more injury than any present benefit which may be derived. Some good vegetable tonic can nearly always be used in place of the alcoholic stimulant, with equal and often with better effect.

The kind of tonic to be used will depend upon the peculiarities of each individual case. Should the appetite be poor, and the blood deficient—as indicated by pale face and lips, and cold hands and feet, the compound tincture of cinchona, or citrate of iron and quinine will be found beneficial, as directed in formulas 4 and 5, page 73 ; or either of the following may be used :

FORMULA 6.

Tincture of the Chloride of Iron,	1 ounce.
Sulphate of Quinine,	- 1 scruple.
Simple Syrup,	- - - 7 ounces.
Essence of Bitter Orange,	- $\frac{1}{2}$ drachm.

Mix. Then add 2 grains of strychnine dissolved in 1 drachm of acetic acid. Take one teaspoonful in two tablespoonfuls of water, after each meal.

FORMULA 7.

Pyrophosphate of Iron,	- 4 drachms.
Sulphate of Quinine,	- 30 grains.

Pulverize the iron and quinine together and then add :

Brandy,	- - - - 4 ounces.
Simple Syrup,	- - - 6 ounces.
Flavor with essence of lemon or sassafras.	

Dose, one teaspoonful after each meal.

The same amount of strychnine may be added to this as to the formula above if desired. In case of weakness or derangement of the stomach, the strychnine will be found very beneficial. No one need hes-

itate to use it, because of its being a powerful remedy ; for in the small doses we have prescribed it is perfectly safe.

Only one of the tonics prescribed should be taken at a time, but the improvement will often be more rapid by changing from one form of tonic to another. They can be changed on alternate days, alternate weeks, or alternate months, as may seem best.

When constipation of the bowels exists, it should be faithfully treated according to the direction given in the chapter upon that subject ; but little progress can be made in curing diseases of the womb so long as constipation exists.

SLEEP.

In connection with diseases of the uterus, there is, as we have already remarked, nearly always excitability of the nervous system, with more or less inability to sleep. Attention to the general treatment will usually so far ameliorate these symptoms that they will need no special treatment. Sometimes, however, the want of sleep will become so great, as to materially interfere with recovery, when it may become necessary to employ means to counteract this difficulty. The best remedies for this purpose are bromide of sodium or potassium, and hyoscyamus. Either of the following formulæ may be used :

FORMULA 8.

Bromide of Sodium,	-	1 ounce.
Cinnamon Water,	- -	6 ounces.

Mix. Take from one to two teaspoonfuls each night, immediately before retiring. The dose can be repeated in an hour if necessary. If the bromide of sodium cannot be obtained, use in its place an ounce and a half of bromide of potassium.

FORMULA 9.

Extract of Hyoscyamus,	-	24 grains.
Extracts of Hops,	- -	2 scruples.

Make into sixteen pills. Take one each night. Hydrate of chloral is also a very valuable remedy, but it should never be used except under the directions of a physician. Never use opium if any other medicine will answer; for besides the great danger of acquiring the habit of opium eating, it interferes with the nutrition of the body.

SEXUAL EXCITEMENT.

It is important in treating uterine diseases that every thing which may excite the sexual feelings should be avoided; as it tends to direct the blood to the womb, and increase its congestion and inflammation. For this reason exciting literature and impure thoughts or conversation, should be carefully avoided, and sexual intercourse should be prohibited. The last matter is often very difficult to arrange; for many husbands are not as thoughtful and considerate of their wives as they ought to be. The benefit derived from travel, from sea-bathing, or from a sojourn at a water-establishment, is often chiefly due to the separation of husband and wife.

When separation is not possible or advisable, the rule of extreme moderation in sexual enjoyment will be better kept, and therefore more beneficial than that of total abstinence.

CHEERFULNESS.

Many cases of uterine diseases are made worse by the mind of the patient constantly dwelling on the organs which are the seat of the disease. For this reason the friends should endeavor, as much as possible, to divert her mind from her own complaint, and to make her cheerful and happy. The physician who meets his patient with a cheerful countenance, a pleasant smile and an encouraging word, will often do more for her by his personal presence than by his medicine. In like manner the friends and associates may do much for an invalid's recovery, by making her surroundings pleasant and agreeable.

EXERCISE.

No part of the treatment of uterine disease is more powerful for good or evil to the patient, than exercise and rest, and at the same time there is no part about which there is so great a diversity of opinion among leading physicans. Some claim that the uterine organs should have perfect rest, and accordingly that a woman should spend nearly the whole time in a recumbent position ; while others claim that exercise is the great means of cure, and therefore she cannot have too much of a good thing. As usual, in such controversies, the truth lies between the two extremes

Some cases are benefitted by very free and abundant exercise, while others are injured by any exercise, except it be of the mildest kind. If only the lining membrane of the womb is affected, exercise is generally well borne; but when the deeper tissues are involved, the exercise needs to be tempered with great judgment and moderation.

We cannot, therefore, lay down any absolute rule either in regard to the amount or kind of exercise best adapted to every case, but must leave this matter to individual judgment and experience. In a general way, we would say that exercise of any kind should never be carried to great fatigue. If the suffering and inflammation seem to be increased by the exercise, especially if the aggravated symptoms continue for several hours, the exercise should either be less in amount or of a different kind. During the monthly period, or at any time when the symptoms are more than usually severe, less than the habitual exercise should be taken for a few days.

The kind of exercise must depend upon the severity of the disease, and also upon the pecuniary means of the patient. Out-of-door exercise is better than that in the house, and by properly clothing the body, it may be taken at all seasons of the year. Riding in a carriage may do for a part of the exercise, but it is less beneficial than walking, playing croquet, cultivating flowers or gardening. Much benefit may be derived from change of scene and society, sea-bathing and visiting places of interest.

There are, however, other exercises which are equally beneficial, and which have the additional advantage of being accessible to the poor as well as the rich. The ordinary duties of the household, if engaged in with interest and pleasure, may be made nearly as beneficial as any other exercise. Says Dr. Byford upon this subject: "It is a great evil of the present state of society, that a lady can not find in useful employment that healthy tonic exercise for the body and mind which she needs. She must for muscular exercise, engage in the measured sameness of the quadrille, or the giddy whirl and violence of the waltz, or cramp her limbs to the steady routine of a system of calisthenics. What are all these for variety and adaptedness to their wants, compared to the washing, ironing, sweeping, milking, churning, spinning, weaving, cooking, walking, running, of household engagements: the stimulus of needs; thinking of all these things; timing them; proportioning them; caculating, economizing, nursing, doctoring, advising, correcting, teaching, and conducting little minds and bodies through the physical, moral and intellectual discipline which capacitates, unfolds and imbues them with what is good and useful? Woman's duties, taking them altogether, when well and appropriately performed, will do more than all the amusements ever invented to keep women well and healthy in every particular."

LOCALIZED MOVEMENTS.

Exercise, when directed with judgment and dis-

cretion, may be made a powerful means not only of acting upon the general health, but also of acting upon the special diseases of the pelvic organs. We have in a previous chapter explained how debility of the muscles of the abdomen, and of the natural supports of the womb may produce disease of the uterine organs. In order, therefore, to render any cure of uterine disease complete and permanent we must remove the predisposing cause by restoring the natural tone of the muscles of the abdomen and pelvis. This we can do by a course of systematic exercise, so directed as to act immediately upon the muscles which we desire to strengthen.

The principle underlying this treatment is that whenever a muscle is exercised more blood is sent to it than at other times, and this increases its nourishment and strength. We see abundant illustrations of this principle in daily life. The right arm of the blacksmith which wields his heavy hammer, is much larger and stronger than that of other men. Let any person in good health lie quietly in bed for four weeks, and it would be with great difficulty that he could rise and walk a quarter of a mile.

It makes but very little difference, so far as the development of the muscles is concerned, whether a person exercises his own muscles or whether they are exercised for him by an assistant. Thus if a person lying in bed for four weeks, were to have his muscles thoroughly rubbed and stretched several hours each day, he would retain his strength

nearly as well as though he had engaged in exercise during the same length of time. This principle of passive exercise is of great importance in the treatment of invalids ; for when persons have not the strength to take the exercise which their system needs, they may by the aid of an assistant receive an abundance of exercise not only without fatigue, but with positive rest and enjoyment.

Upon this principle of localized exercise or localized movements has been founded the system of the Swedish Movement Cure—called Swedish because it was first invented by Dr. Lang, a physician of Sweden. Like most exclusive systems, it is carried to extremes by many of its exponents, yet there is much in it that is of practical value.

We have not space in a work of this kind, to explain the system in detail, and we must, therefore, refer the reader, who is anxious for further information, to the work of Dr. C. F. Taylor, upon this subject, to which we are principally indebted for the examples here presented. From the great number of localized movements which might be practiced for the purpose of strengthening the natural support of the bowels and womb, we have selected the following as being of most service and easiest application in the treatment of uterine disease.

1. The woman lies upon her back upon a firm couch, her hands tightly clasped over her head, and her feet drawn up to her body, with her knees strong-

ly bent. Then, with a moderate effort, she slowly raises her hips several inches from the couch, holds them there for about half a minute, and allows them slowly to return to the couch. This movement may be repeated, with short intervals for rest, five or six times.

If the strength of the patient is not sufficient to perform these movements without considerable fatigue, they should be performed with the aid of an assistant. In this case the assistant stands beside the couch, placing one hand under each side of the body near the hips, and helps in raising and sustaining her body, carefully gauging the amount of her aid to the strength of the patient.

This exercise should be practiced several times each day. Its effect is to develop and strengthen the muscles of the abdomen, and at the same time to elevate the position of the bowels and womb in the body. It will be found very useful in removing congestion and inflammation of the womb, and also in relieving anteversion and falling down of the womb,—diseases which we shall describe in the next chapter.

In the systematic application of exercise, it is always desirable to have at our command a variety of movements; so we add another somewhat similar in principle to the one last given.

2. The patient lies upon a firm couch, her face downward, resting the extremities of her body upon

her elbows and toes. Then with a strong effort of the will, she slowly raises her hips from the couch, so that her whole weight rests upon her elbows and toes. After sustaining herself in this position as long as her strength will conveniently allow, she permits her body slowly to settle down upon the couch. Unless found too exhausting, the movement may be repeated three or four times.

Most invalids will find this exercise too severe to be performed without an assistant, at least until they have had some experience. The help of the assistant can be rendered in substantially the same manner as in the preceding example.

This exercise should also be practiced several times each day. It is, however, well to commence with great moderation, and learn by degrees how much the patient is able to endure with benefit. Not unfrequently the muscles will be a little sore for the first few days, in which case the amount of the exercise may be lessened, though not entirely discontinued.

The two forms of movements already described, are designed to strengthen the muscles of the abdomen, and at the same time to elevate the womb in the pelvic cavity. We will add one other, designed to still further strengthen the muscles of the abdomen.

3. The patient sits on a stool, her hands clasped over her head, and her feet either strapped to the

floor, or secured by placing then under some piece of furniture. An assistant then takes hold of her elbows and offers moderate resistance, while the patient twists the body as far as possible, first to one side and then to the other. This exercise may be varied by the patient holding her body still, while the assistant twists it from side to side. The movements should be performed slowly, as they are more beneficial and less fatiguing than quick motions.

The same movements may also be performed without an assistant, in which case they should be rather more rapid. The twisting movements should be practiced fifteen or twenty times at each sitting, and may be repeated several times each day. This exercise may also be profitably varied by bending the body, either with or without an assistant, forward, backward, or sidewise.

Exercise of this kind, may seem to the reader, like exceedingly simple means for the purpose of removing serious diseases, but, if faithfully carried out, it will be found as effectual as it is simple. Not only will it relieve the congestion of the womb, and facilitate the cure of the inflammation and displacements, but by directing the blood to the muscles of the body, it will do much to equalize the circulation and remove the cold hands and feet, headache, and nervous symptoms which so often form a serious complication in these troubles.

LOCAL APPLICATIONS.

The general treatment which we have described, we regard as first in importance for the cure of uterine disease, and in some mild cases it may be all that is necessary ; usually, however, the recovery will be greatly facilitated by combining local treatment with the general, while many times the patient will fail of a cure by the use of the general treatment alone.

VAGINAL INJECTIONS.

The local applications which are of the most general service, are injections into the vagina of water or medicated solutions. The water acts as a bath upon the parts and tends to relieve them from congestion and inflammation, while the use of alterative and astringent solutions assists in healing any sore or ulceration which may be present.

BEST STYLE OF SYRINGE.

The benefit to be derived from a vaginal injection will depend very much upon the manner in which it is used. The old-fashioned, straight, glass syringes, which, we regret to say, still find extensive sale in many drug stores, are not worth their weight in old glass for the purpose of treating uterine diseases. The best style of syringe, both for the treatment of uterine disease and for general use, is made of India rubber, and consists of a ball between two connecting tubes. The syringes made by Davidson are perhaps the most perfect and durable of any in the

market, although some of those made by other makers answer a very good purpose. The advantage of this style of syringe is that the patient can use a large quantity of fluid without having frequently to withdraw and replace the instrument.

There is one other method of applying injections to the vagina, which in some respects is superior to the use of the syringe, especially when the patient is weak, or when a large quantity of fluid is to be used. The apparatus consists of eight feet of rubber tubing, and a tin pail holding from two to three gallons, with an outlet near the bottom in which is soldered a small tin tube, about one inch in length. One end of the rubber tubing should be slipped over the outlet of the tin pail, and the other attached to a metallic or glass point, similar to the female point which accompanies most rubber syringes. The tube should be provided either with a stop-cock, or with some means of compressing it, so as to control the flow of the water. An ordinary clothes-pin can be made to answer the purpose very well.

In using this apparatus—sometimes called the fountain syringe—the tin pail is to be suspended at the height of five or six feet from the floor, while the patient sits over a convenient dish placed upon the floor. The elevation at which the pail is placed causes a steady stream to flow through the rubber tube, which can be directed against the neck of the womb, without any exertion

on the part of the patient. The force of the stream can be regulated by varying the height at which the pail is placed above the floor.

DIRECTIONS FOR USING INJECTIONS.

To get the full benefit of an injection it should be continued from fifteen to thirty minutes. For this purpose from two to three gallons of water will be required. The temperature of the water should vary in different cases, but as a general rule, it should be that which is found by experience to be most agreeable. It is advisable to commence with water about the same temperature as the body, and in most instances it will be found that warm water agrees best. Those cases especially which suffer from a feeling of internal heat, with the pain greatly aggravated after exercise, will derive the most benefit from using water as warm as it can comfortably be borne.

When the vagina is much relaxed, the use of water colder than the body, if it is well borne, will be beneficial by increasing the tone and strength of the vaginal walls. If cold water is used, the injections should not be continued for more than ten minutes at a time. The injections, whether warm or cold, may be repeated from one to four times each day, according as experience shall prove to be most beneficial.

In some cases it may be desirable to combine a sitz-bath with the vaginal injection, as in this way the patient may get the general good effect of the

bath, in addition to those of the injection. In taking the bath, water enough should be used to completely cover the hips. The same rules should govern the temperature of the bath that we have given for the injection.

It is often astonishing to see the happy results which will follow the use of injections or baths, taken in the manner we have indicated. A woman with uterine disease will often at night be tired and nervous, and will suffer so severely with pain and heat in her back and pelvis, that she finds it impossible to sleep; but a copious injection of water as hot as it can be borne will quiet her nerves, ease her pain, and enable her to go to bed and sleep soundly all night.

MEDICATED INJECTIONS.

When our chief object is to relieve the inflammation of the womb, the warm water injections are all that are needed; but when the inflammation of the womb is attended with considerable discharge from the vagina, medicated injections will be found most beneficial. For this purpose you can add to one gallon of water either of the following remedies:—one ounce of glycerine, one drachm of sulphate of zinc, or persulphate of iron, or two drachms of alum, acetate of lead, or tannin.

Should it be desirable to use a stronger solution, or to use the medicine more economically, the patient may first use one or two gallons of warm water and

then follow it with a pint of water, medicated with one of the ingredients given above, but of two or three times the strength there recommended. The injection should not be so strong as to leave a feeling of dryness of the parts for more than two or three hours after it is used. It is usually more beneficial to change the injection every two or three weeks, than to use one medicine all the time. Astringent injections should not be used oftener than twice each day, and usually once is sufficient.

Where considerable pain and suffering exist, we may often, with advantage, add some anodyne to the injection of warm water. For this purpose we can use two drachms of laudanum, or fifteen drops of the fluid extract of belladonna, mixed with a quart of warm water; or we can use a tea made of linseed, poppies, hops, or slippery-elm. The mode of applying anodyne injection is for the patient to first cleanse the vagina with an injection of warm water; then, sitting over the dish containing the medicine, she passes it through the vagina by means of a rubber syringe, for fifteen or twenty minutes. In cases where anodynes must be employed, they will be found much more beneficial either used in this way or as an injection into the rectum as recommended for dysmenorrhœa, than if taken upon the stomach.

DIRECT APPLICATIONS.

The local and general treatments which we have described, are, we believe, the most important means

at our command for the cure of inflammation of the womb. In very many cases they will be found all that is necessary; still there are some cases which these means alone will not reach. The action of injections is limited to the vagina, and to that part of the neck of the womb which projects into it; for it is neither safe nor convenient to throw injections into the cavity of the womb. When, therefore, the disease extends to the cavity or body of the womb, it is beyond the reach of injections. Even some cases of ulceration of the neck of the womb require more powerful applications than can be made in this manner.

In all such cases there is but one way to successfully treat the disease; and that is to apply our remedies by means of a speculum, directly to the parts of the womb which are affected. The medicines most frequently employed for this purpose are, nitrate of silver, iodine, chromic acid, carbolic acid, persulphate of iron, and tannin. These are all powerful remedies, and they should never be used except by a physician of skill and experience. We have known many cases of mild uterine trouble, changed into serious and lasting diseases, by the indiscriminate and bungling use of direct applications. Some physicians discard the use of direct applications entirely, because they have been productive of harm in the hands of the unskillful, but this is neither wise nor judicious; for there can be no question but that rightly applied, they are of great service in removing inflammation and ulceration of the womb.

By whatever means they may be treated, patients must not expect too rapid recovery. Occasionally a case may be cured in six or eight weeks, but more frequently it will require four or five months, and some cases will require even much longer than this. Diseases of the body of the womb, are usually much slower of recovery than diseases of the neck. Cases where the nerves are much affected, are usually very slow of recovery ; for no tissues of the body heal so slowly as those of the nervous system.

When a case has once recovered, if the rules which we have given in regard to the general health are faithfully followed, a relapse will seldom or never occur ; but if the patient adopt the prevailing habits of dress, exercise, and manner of living, there is a strong probability that the disease will return.

CHAPTER XV.

DISPLACEMENTS OF THE WOMB.

AS we have already seen, the womb is loosely poised or suspended in the pelvic cavity. In this respect it is unlike most of the other organs of the body which are closely bound in their position by firm and unyielding ligaments.

NATURAL SUPPORTS OF THE WOMB.

The most important means of sustaining the womb is the vagina ; this, when healthy, affords an elastic and tolerably firm support upon which the neck of the womb rests. In addition to this the womb is attached by loose connective tissue to the rectum behind, and the bladder in front. There are also two small round ligaments passing from the top of the womb to the front wall of the pelvis, and two other large broad ligaments passing from each side of the womb to the sides of the pelvis. Notwithstanding all these numerous supports, the womb is still so loosely suspended that it can easily be crowded upward or downward in the pelvic cavity to the extent of one or two inches.

When the womb and its surrounding organs are in a healthy condition, these supports are all that are needed ; but when the womb becomes diseased, or when its weight is increased by pressure from above, then the normal supports of the womb become insufficient and it is crowded from its natural position in the pelvic cavity.

VARIETIES OF DISPLACEMENTS.

It will be seen from the location of the womb that it may be displaced in any direction, upward, downward, forward, backward, or sidewise. The displacements upward and sidewise occur so rarely as a diseased condition, that we will pass them by without further mention. The most important displacements of the womb are prolapsus, or falling down of the womb, anteversion, or falling forward of the womb, and retroversion, or falling backward of the womb.

PROLAPSUS.

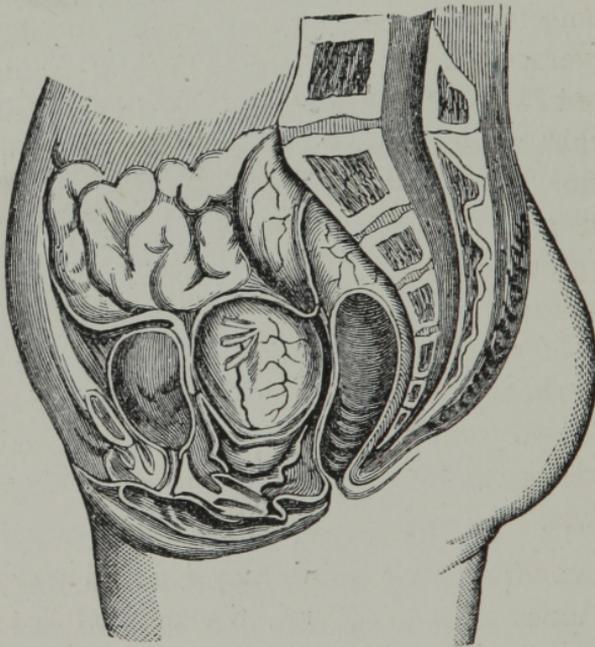
Prolapsus of the womb may be either partial or complete. Thus the womb may descend one or two inches lower than is natural, the neck of the womb may come to the outlet of the vagina, or a part or the whole of the womb may protrude from the vagina.

CAUSES.—Prolapsus, or falling of the womb, may be produced either by a weakening of the supports of the womb, or by pressure upon the womb from above. As the vagina is the most important support, so a weakening of the walls of the vagina is the most

frequent cause of falling of the womb. A long continued leucorrhœa, excessive sexual indulgence, or too frequent child-bearing, will tend to destroy the tone of the vagina, and thus produce prolapsus.

So too, when the weight of the womb is increased by any means, it tends to settle lower than natural into the pelvic cavity. Even the congestion of the

FIG. 5.



PROLAPSUS OF THE WOMB.

womb attending menstruation, causes it to settle somewhat lower than at other times, while the additional weight of the womb during the first three months of pregnancy, produces a very marked depression of this organ. These conditions are, however, only temporary, and pass away of their own ac-

cord; but when the womb is increased in weight by inflammation, tumors or other diseases, it very frequently becomes permanently displaced.

The effect of pressure from above in producing prolapsus of the womb, must be apparent to every intelligent reader. If the simple act of breathing will cause the womb to oscillate in the pelvic cavity, what must be the effect of crowding the bowels upon the womb by compressing the waist, and by wearing several pounds of clothing bound around the abdomen? Dr. Thomas makes the unqualified statement that it is impossible for a woman to lace, or wear her clothing suspended around the bowels, without producing displacement of the womb; and our own observation upon the subject fully confirms his opinion. The bowels must occupy a given amount of space in the body, and if they are crowded from the upper part of the abdomen, they must be forced down into the pelvic cavity, and occupy the space designed for the womb and other organs of the pelvis.

The conditions necessary to produce falling of the womb, exist in their fullest force immediately after child-birth or abortion. The womb is then many times its natural size, and the vagina and ligaments are so relaxed that they are scarcely able to support even their own weight. Let a woman at this time assume the upright position, and there is nothing to prevent the womb from passing to the bottom of the pelvic cavity, and in many cases even falling out of

the vagina. By far the largest number of severe cases of prolapsus of the womb are produced in this manner.

Occasionally prolapsus occurs suddenly, as the result of a fall, or of some violent effort. The woman feels all at once as though something within her had given way, and she is scarcely able to stand upon her feet. In the great majority of cases, however, the prolapsus comes on gradually, so that the patient can hardly tell the time when her trouble began.

SYMPTOMS.—These will depend very much upon the extent of the displacement and the amount of uterine disease which accompanies it. The womb may be displaced, so that the neck will come almost to the outlet of the vagina, and yet, so long as the womb does not become inflamed, it may give rise to very little distress or inconvenience. This is frequently the case when falling of the womb is caused by improper clothing.

The womb cannot, however, be prolapsed for a long time without becoming inflamed and ulcerated, and then that train of symptoms occurs which we have already described as accompanying inflammation of the womb,—such as pain in the back and loins, a sensation of dragging and weight in the pelvis, greatly aggravated by long walks or standing long upon the feet, painful and profuse menstruation, leucorrhœa, and often great derangement of the nervous system.

The womb is so connected with the rectum and bladder that when it descends it also drags these organs with it; hence severe prolapsus of the uterus always interferes with the action of the bowels and bladder. When the womb projects beyond the outlet of the vagina, it is nearly always necessary for the woman to replace it before she can void the urine or fœces. In this position the womb becomes irritated from the urine and from friction in walking, which tends greatly to aggravate the existing disease.

TREATMENT.—We shall nearly always find that displacement is accompanied by inflammation or other disease of the womb. In some cases the displacement has produced the disease, but in by far the majority of cases the disease existed first and was the cause of the displacement. In either case our first treatment should be directed to the removal of the existing disease. The means to be adopted for this purpose we have already fully explained in the last chapter. The remarks we made about removing the weight of the clothing from the bowels, and strengthening the muscles of the abdomen by appropriate exercise, are even more important in inflammation accompanied by displacement, than in simple inflammation of the womb.

INJECTIONS.

In addition to the treatment applied to the womb, benefit may often be derived from the use of means calculated to strengthen the walls of the vagina. The

most important of these means are astringent injections. For this purpose a strong solution of alum, tannin, or white oak bark, may be injected into the vagina each night before retiring. The tonic and astringent properties of cold or tepid water, may also be made serviceable, and hip-baths, sea-bathing, or copious injection of salt and water, or sea-water may be employed with advantage. Care should be taken in the use of cold water, not to chill the body or cause a severe shock, and in all cases the use of cold or tepid water should be followed by friction, until the skin becomes warm and of a ruddy hue.

THE USE OF ARTIFICIAL SUPPORTS.

In many mild cases of falling of the womb, the treatment already indicated will be sufficient, but in severe cases it often fails, and we are compelled to resort to other means for sustaining the womb in its proper position. For this purpose various artificial supports have been devised. All of these are liable to the serious objection that they are not usually a radical cure for the prolapsus, but only palliative. In spite of this objection, there are many cases where the use of a proper artificial support gives a great amount of comfort to the wearer; and if it does not cure the disease, it so alleviates the symptoms as to enable her to attend to her ordinary duties and to feel comparatively well.

These supports, or pessaries, are of such a multitude of shapes that it would be a hopeless as well as

a useless task to attempt to describe them all. There are two general varieties, one is designed to be introduced wholly into the vagina, and to support the womb by pressing upon the sides of the vagina ; the other consists of a bandage passing around the body to which is attached some suitable support passing within the vagina and sustaining the neck of the uterus. Of the first kind the ring pessary is the simplest and is applicable to the greatest number of cases. This is made of a very delicate watch spring, covered with India rubber, and is consequently so elastic that it adapts itself readily to the shape of the pelvis. Of the other form of pessary, that known as Babcock's Uterine Supporter is the best and most reliable.

There are also many other forms of pessaries, but it is unnecessary to describe them here, as their selection should always be left to the judgment of the attending physician. Whatever may be the form of the pessary, it should always be made of some material like silver or rubber, which will not corrode. Pessaries of wood or bone are almost certain to do more harm than good. Should the pessary give rise to any unpleasant symptoms it must at once be removed ; and in no case should it be allowed to remain longer than two or three months, without being examined and replaced.

In addition to the use of pessaries, there is occasionally a case which may be benefitted by wearing a support around the lower part of the abdomen. It is

very much better to strengthen the muscles which are the natural support of the bowels, by proper exercise; but when this cannot be done, it may sometimes be desirable to wear an artificial support. This may be made of drilling about six inches wide and cut so as to fit the shape of the body. It may be fitted still more accurately by sewing strips of rubber-cloth into the sides. From the lower border of the support straps, should pass between the legs to prevent it from slipping up.

It should always be borne in mind that the use of any artificial support tends to weaken the part to which it is applied, so that when a woman commences the use of supports, it is not easy afterward to lay them aside. For this reason they should only be resorted to after all other means of cure have failed.

ANTEVERSION.

By referring to figure 1st, it will be seen that the womb in its natural position is inclined considerably forward. In anteversion the body of the womb falls still further forward, so that the womb lies directly across the pelvis. This form of displacement is not as frequent as prolapsus or retroversion, and yet it is by no means rare.

CAUSES.—The most common causes of anteversion are, inflammation of the womb, tumors in the womb or abdomen, and tight clothing. When the womb is inflamed it is increased in weight. If the walls of

the vagina are loose and flabby, the womb will probably descend in the pelvic cavity, causing prolapsus; but if the walls of the vagina are firm, the body of the womb will fall forward, causing anteversion. So, too, a tumor in the womb, may, by increasing its weight, cause it to fall forward; or a tumor in the abdomen by pressing downward upon the womb, may press it forward. In a still greater number of cases the increased weight of the bowels, caused by tight clothing, and wearing the clothing suspended around the body, crowds the body of the womb forward upon the bladder

SYMPTOMS.—When anteversion occurs without inflammation, the symptoms are not usually very marked. The pressure of the body of the womb upon the bladder, often causes considerable inconvenience. Sometimes it diminishes the capacity of the bladder so much that the woman is compelled to void the urine every two or three hours during the whole day and night; and occasionally it produces an inflammation of the bladder, which makes the passage of the urine painful, and causes it to be highly colored and filled with a thick sediment. The neck of the womb may also press back upon the rectum so as to cause painful menstruation, and sometimes constipation, or other derangement of the bowels.

Most cases of anteversion are complicated with disease of the womb, and the symptoms of the disease, are so much the most prominent, that the displacement is scarcely noticeable.

TREATMENT.—In regard to the treatment of anteversion, very little need be said. The cause of the anteversion should be diligently sought for, and if possible, removed. If there is any disease of the uterus, this should receive our attention. If tumors exist, they should, if practicable, be removed. The dress should be loose, the weight of the clothing suspended from the shoulders, and the muscles of the abdomen strengthened by appropriate exercise. Pessaries are very rarely of any benefit in anteversion, although in some cases of anteversion and prolapsus combined, they may be used with advantage.

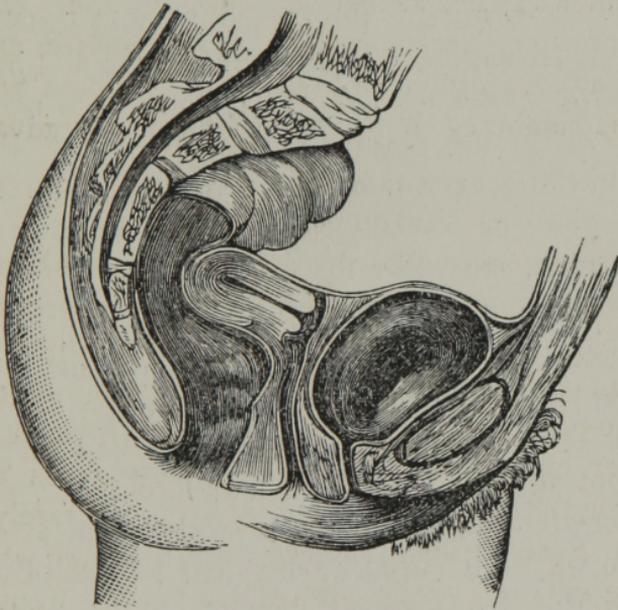
RETROVERSION.

In retroversion the body of the uterus falls back upon the rectum, while the neck presses forward against the bladder. This displacement very rarely occurs except as a result of disease of the womb or other pelvic organs. When the womb is displaced by improper clothing or by violent exercise, it is usually crowded either downward or forward, but rarely backward. Retroversion usually occurs in women who have borne children, while anteversion is most frequent in those who are childless.

CAUSES.—The usual causes of retroversion, are inflammation of the body of the womb, tumors in the womb, and mismanagement after child-birth or abortion. By far the most frequent of these is mismanagement after child-birth. We cannot present this subject better than by quoting a few words from Dr.

Thomas' Diseases of Women. "The woman lying almost constantly on her back, the heavy uterus tends to fall backwards into the hollow of the sacrum. Many nurses insist upon this position, and often for days refuses the patient the privilege of lying upon the side. But this is not all; many a nurse's reputation among the ladies rests upon her capacity for preserving the

FIG. 6.



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 the process can doubt its influence in displacing the uterus by direct pressure. There is no practice connected with the lying-in room to which so much of almost superstition attaches,

as to the use of the obstetric bandage, for preservation of the figure and prevention of hemorrhage."

SYMPTOMS.—As retroversion is nearly always accompanied by inflammation of the womb, so we find that the symptoms of the two diseases are nearly the same. A fixed, gnawing pain low down in the back, discomfort in walking or standing upon the feet, a bearing-down feeling, with pain in the hips and streaking down the thighs, painful and usually profuse menstruation, extreme nervousness and inability to sleep,—these are symptoms common to nearly all forms of uterine disease or displacement. In addition to these symptoms, there is usually in retroversion, more or less difficulty in the movements of the bowels, caused by the womb falling back against the rectum and blocking up its passage.

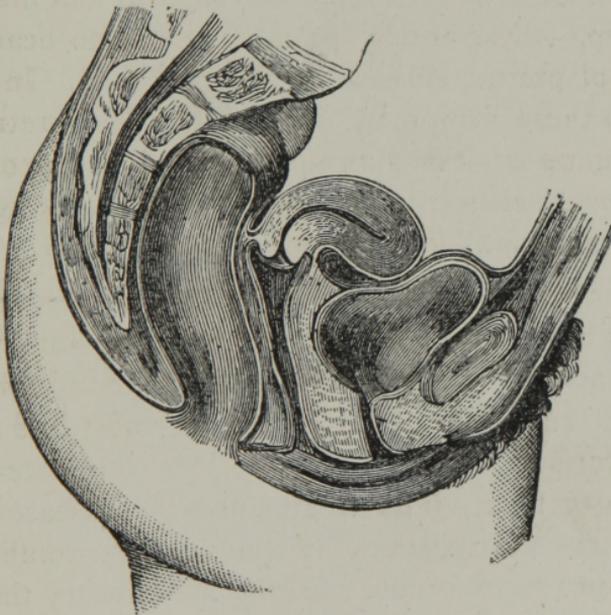
TREATMENT. — The treatment of retroversion should be conducted upon essentially the same principles as those we have already indicated for prolapsus and anteversion. First and foremost, the existing uterine disease should receive our attention. When we have cured or modified the disease upon which the displacement depends, if the womb does not return to its proper position, we may try the use of some artificial support. The ring pessary, Hodge's closed or open lever-pessary, White's pessary, and Babcock's silver uterine supporter, may all, in different cases be found serviceable. If there is much inflammation of the womb, a pessary cannot usually be borne. Whatever form of pessary may

be employed, it should sustain the uterus without causing pain or discomfort. Should it produce any great inconvenience it must be removed at once, or serious trouble may result.

FLEXIONS OF THE WOMB.

Besides the forms of displacement which we have already described, there are two other displacements known as ante flexion and retro flexion. The differ-

FIG. 7.



ANTEFLEXION OF THE WOMB.

ence between a version and flexion of the womb is, that in version of the womb, when the body falls forward the neck falls backward, and *vice versa*; but in flexion of the womb, the neck remains in its natural

position while the body falls forward or backward. Thus it will be seen that in version of the womb the body and neck remain in the same straight line, while in flexion the body of the womb is bent upon the neck, as shown in accompanying plate representing anteflexion.

CAUSES.—Flexions of the womb, like versions which we have already considered, are nearly always produced by disease of the womb. The tissues of the uterus are so firm in a state of health that it is rarely bent out of its natural position ; but when affected with disease, especially if the disease is confined to one side, flexions of the womb occur very easily.

SYMPTOMS.—The symptoms of flexions do not differ materially from those of versions, except that the bent condition of the outlet of the womb, interferes more with the passage of the menstrual blood, thus giving rise to much more serious derangements of menstruation. Flexions of the womb are also a frequent cause of sterility, as we shall show in a future chapter.

TREATMENT.—The treatment for anteflexion and retroflexion is substantially the same as for anteversion and retroversion. Our chief reliance must be placed upon removing the exciting cause, and curing the existing uterine disease. When this is done the flexion will nearly always disappear, or if it remains it will give rise to little or no inconvenience. Pessaries are of less benefit in flexion than in versions, though occasionally they may be beneficial in retroflexion.

TWO OR MORE DISPLACEMENTS OCCURRING TOGETHER.

We have for the sake of clearness described the different forms of displacements as though they always existed separately, but this is by no means the case. Thus with anteversion and retroversion we very often have more or less prolapsus of the womb. So, too, anteflexion and retroflexion are nearly always accompanied by partial anteversion and retroversion. This combination of different displacements does not, however, usually interfere with the plan of the treatment.

MEANS OF DISCRIMINATING UTERINE DISEASES.

While we have endeavored to give a clear and accurate description of the different forms of uterine affections, it must not be supposed that it will always enable a woman to tell the exact form of disease from which she is suffering. There are so very many symptoms in common, between the different uterine complaints, that it is often impossible from these alone to tell the precise condition of the uterine organs.

The description which we have given in the preceding pages will, however, greatly assist the patient in an intelligent understanding of her disease. If she is suffering from an inflammation of the womb, she will usually be able to tell this fact, by the general symptoms of her case. If she is suffering from prolapsus, she will be able to feel the neck of the womb at or near the outlet of the vagina. It will feel

like a firm round bunch, about as large as the ends of the two thumbs, with a slight depression in the center, at the entrance of the small passage leading to the body of the womb. If she should feel the neck of the womb pressing forward against the bladder, with the body lying back against the rectum, she may suspect retroversion. In case of anteversion, the neck of the womb will press back against the rectum, but will generally be higher up than she can reach ; while the body can be felt through the walls of the vagina, as it falls forward against the bladder.

There will, however, be many cases where a woman cannot be satisfied as to the nature of her disease from any examination which she can herself make. In all such instances she should not hesitate to apply to some honest and capable physician. The pelvic organs, as you have already perceived, are exceedingly delicate and complicated, and they are liable to many diseases which the experienced physician alone can understand and properly treat.

CHAPTER XVI.

TUMORS OF THE WOMB.

THE uterus is frequently the seat of bunches or unnatural growth of tissue, known as tumors. There are three general forms of these tumors,—the fibrous tumor, polypus and cancer. Of these, the first two are rarely, of themselves, fatal, but are only serious because of the inconvenience and derangement of the uterine functions, which they cause. Cancer, on the other hand, is always a malignant tumor and almost invariably terminates fatally.

FIBROUS TUMORS.

A fibrous tumor is composed of essentially the same materials as the substance of the womb from which it grows. It may be developed in any part of the body or neck of the womb, but is most common in the body. In size, these tumors vary greatly in different cases, sometimes not being larger than a pea, and at other times weighing several pounds. In the majority of cases, the womb contains only a single tumor, but occasionally we find several of different sizes in the womb at the same time. Dr. Thomas

mentions the case of a negress, whose womb contained thirty-five tumors, varying in size from a marble to that of a child's head.

CAUSES.—Very little is known in regard to the causes of fibrous tumors. They occur usually between the ages of thirty and forty-five. They also occur more frequently in the African race than among white women, and more frequently in women who are sterile, than in those who have borne children; but further than these facts we know nothing of their origin.

SYMPTOMS.—A very small fibrous tumor may exist in the womb without giving rise to any symptoms, but it will rarely attain the size of a pigeon's egg, without producing uterine derangement. In the first place the weight of the tumor nearly always produces displacement of the womb with its attending symptoms. The presence of the tumor also causes the monthly periods to be much more profuse and painful than natural. Often this is the chief symptom which leads to the suspicion of a tumor in the uterus. Besides the large quantity of blood lost during the monthly period, spells of hemorrhage will come on at other times during the month; or the periods will occur more frequently than is natural. If the tumor becomes large it crowds upon the bladder and rectum, and interferes with the functions of these organs.

These symptoms may lead to the suspicion of some uterine tumor, but as nearly the same symp-

toms may occur in simply inflammation of the womb, these alone are not sufficient to determine the nature of the difficulty. Sometimes the tumor can be felt, as a hard bunch, by pressing upon the lower part of the abdomen, but a more extensive examination by a competent physician, is usually necessary, in order to remove all doubt as to the nature of the disease.

TREATMENT.—The benefit to be derived from the treatment of fibrous tumors is unfortunately much less than could be desired. There are various remedies recommended to be taken internally to cause the absorption of the tumors, but we have yet to learn of a single well-marked case which has been thus cured. In some rare cases it is desirable to remove the tumor by an operation, but generally the risk is too great to justify this proceeding. In the majority of cases the treatment can be only palliative. We should by mechanical support, correct the displacements of the womb, while any inflammation or excessive hemorrhage which may occur, should be treated by the means detailed in the chapters treating upon those subjects.

If the prospect of a radical cure is very poor, on the other hand that of life and tolerable health is very good. It rarely happens that fibrous tumors become so large as to be a source of danger to the patient. They may occasionally give rise to so much hemorrhage as to exhaust the vital powers and cause death, but with proper treatment this result is very unusual. In the majority of cases they attain a moderate size,

and then remain stationary, or increase very slowly until the change of life, when they begin gradually to diminish in size, and cease to be, to any great degree, a source of annoyance or danger.

POLYPUS OF THE WOMB.

A uterine polypus is similar in structure to a fibrous tumor, but differs from it in being attached to the womb by a slender pedicle or stem. It may be connected with any part of the cavity of the womb, but is more frequently attached to the neck than to the body. The pedicle or stem may be very short, so as to hold the tumor wholly within the womb; or as more frequently happens, it is so long that the tumor extends partially or wholly into the vagina. The tumors are usually pear shaped, and vary in size from that of a marble to that of a large orange.

CAUSES.—We know no more of the real cause of polypus of the womb, than we do of fibrous tumors. It occurs most frequently in women suffering from chronic inflammation of the womb, and from derangements of menstruation; but aside from this any attempt to assign a cause is mere conjecture.

SYMPTOMS.—The general symptoms of polypus of the uterus are very similar to those of a fibrous tumor. Its presence nearly always excites congestion of the mucous membrane lining the womb, and this gives rise to profuse leucorrhœa, pain in the back, and the other usual symptoms of uterine disease.

Another frequent and more important symptom, is profuse menstruation and excessive flooding. In many cases the tumor may lie partially in the neck of the womb, and thus keep it inflamed and constantly open. In this condition the slight friction caused by walking, is sufficient to induce a flow of blood. We have known women to suffer for years from almost constant hemorrhage produced in this way. If it occurs in women past the age of forty, it is very likely to be mistaken for the hemorrhage attending the turn of life, as was done in the case narrated on page 101. The frequent occurrence of mistakes of this kind, should demonstrate to us the importance of care and skill in the examination of diseases of the uterine organs. As we have frequently remarked, the general symptoms alone are not always enough to determine with certainty, the nature of uterine affections.

TREATMENT.—The treatment of polypus is much more favorable than that of other uterine tumors. As it is attached to the womb by means of a slender stem, it is only necessary to divide the stem and the tumor is removed. This operation in the hands of a skillful surgeon is neither painful nor attended with any serious risk. It is often necessary to treat the womb for a short time after the removal of the tumor, in order to cure the inflammation which it has produced.

CANCER OF THE WOMB.

In common with the other organs of the body, the

womb is not unfrequently affected with that most malignant of tumors, cancer. According to the statistics collected by Professor Simpson, of Edinburgh, the womb is the most frequent seat of cancer, of any organ of the body. After this the next most frequent organs, are the breast and stomach.

Cancer nearly always attacks the neck of the womb first, though very rarely it has been known to begin in the body. In the first stages of the disease the neck of the womb is hard and nodulated. This soon passes into the ulcerative stage when the tissues of the womb, vagina, and other adjacent parts, are gradually eaten away by the destructive progress of the cancer. Its course is always onward until finally it terminates in death. The rapidity of its progress varies greatly in different cases, death sometimes occurring as soon as six months after the first symptoms, and at other times not under five or six years.

CAUSES.—The causes of cancer are but little understood, although it is a subject which has been patiently investigated by men of science, for many hundreds of years. In many cases it seems to be hereditary. It is also found that cancer of the womb occurs most frequently between the ages of thirty-five and fifty, and in women who are either sterile or who have borne very large families. It also occurs more frequently in large cities than in the country; but beyond these few meager facts, nothing is positively known of its origin.

Many women suffering from other forms of uterine disease, give themselves great uneasiness for fear it will terminate in cancer, but these fears are altogether groundless ; for it is now a well established fact that fibrous tumors, polypus and ordinary inflammation and ulceration of the womb, never produce cancer.

SYMPTOMS.—The symptoms of cancer are not usually very marked until ulceration begins ; then there is pain and tenderness in the pelvis, profuse menstruation, frequent and often excessive hemorrhage, and a watery and exceedingly fetid leucorrhœa. This leucorrhœa is one of the most troublesome symptoms of cancer, for besides its offensive smell, it is very irritating to the vagina and external parts, and causes them to become sore and ulcerated. As the disease progresses, it very frequently eats through the walls of the rectum and bladder, so that the secretions of these organs are discharged through the vagina. As soon as the local symptoms become severe, the general health begins rapidly to decline, and the skin assumes that peculiar sallow color, which always attends cancer in whatever part of the body it may be developed.

TREATMENT.—Of the treatment for cancer we have but little to say, for no means can be of much service in delaying the fatal termination. In all cases we would warn the patient against that class of public leeches, known as cancer doctors. Their reputation is founded on lies and sustained by falsehood ; for they thrive by calling bunches and tumors can-

cers, which are not cancers, and then pretending to perform wonderful cures. We have never yet known a single case of cancer of the womb to be cured by these men, while thousands have had their death hastened by their villainous operations. A woman suffering from cancer will be much better off at home with her friends, attended by her family physician than in the hands of these imposters.

Whatever we do in a case of cancer of the womb should be done with a view of ameliorating the symptoms; the three most troublesome of these are hemorrhage, fetid discharges and pain.

The hemorrhage may usually be controlled by rest and by injections of cold water, or of a strong solution of tannin, oak bark, or alum. If these means fail, a small wad of cotton batting filled with tannin or powdered alum, may be introduced into the vagina against the neck of the womb. Should all of these means fail the physician will usually be able to control the hemorrhage by the occasional use of the cautery.

The disagreeable smell may be in a great measure removed by injections of carbolic acid, one or two drachms to a pint of water, or of Labarraque's solution in the same proportion. Injections of a tea made from some aromatic herbs, may also be used for this purpose; but usually the carbolic acid will be found so efficient that no other remedies will be needed.

The pain, which is often in these cases very severe, is best relieved by the free use of opium or morphine. Relief may, in some cases, be found in the use of warm hip baths, and warm water injections, as directed in the chapter on inflammation of the womb; but sooner or later these means will fail, and opium must be used as the only resort.

During the whole progress of the disease, the general health should be sustained as much as possible by fresh air, cheerful society, a generous diet, and if necessary tonic medicines and stimulants. The food should be nourishing, but of a kind to be easily digested. When vegetable food seems to disagree the diet may be almost entirely composed of animal food, eggs and milk; or if this cannot be digested, then the diet may be chiefly restricted to beef-tea, raw eggs, and milk.

CHAPTER XVII.

LEUCORRHŒA.

L EUCORRHŒA is the term applied to the discharge of a white, yellow or greenish fluid from the vagina. It is also known as fluor-albus, and whites. This is by far the most frequent affection of the generative organs to which women are liable. It would be as rare to find a woman who has never had the whites, as to find one who has never had a cold in the head, or increased discharge from the nose. It affects women at all periods of life from infancy to extreme old age, but is most common between the ages of fifteen and fifty.

Although we have for convenience classed leucorrhœa as a disease of the generative organs, it is in reality only a symptom. The real disease is some affection of the vagina, or womb, which gives rise to a discharge that we call leucorrhœa. We need to bear this distinction in mind to clearly appreciate its causes and treatment.

In many cases leucorrhœa is the result of some temporary congestion of the vagina or womb. The

same kind of mucous membrane lines these organs, that lines the cavities of the nose and throat, and the same causes which may produce a common cold may produce leucorrhœa. Exhaustion, fatigue, excitement, trouble or grief, may also give rise to a leucorrhœal discharge. In these cases, the leucorrhœa is only temporary and will pass away of its own accord in a few days time. In many persons the congestion attending menstruation is sufficient to cause leucorrhœa for a day or two preceding or following that period. If it does not continue during the interval between the menstrual periods, its presence at this time need not be regarded as a sign of disease; but when the discharge is constant, and especially when it is profuse or of an acrid nature, it is a sure sign of disease.

There is usually some difference in the appearance of the leucorrhœa which comes from the vagina, and that which comes from the womb. That from the vagina is of a white, creamy consistence, which may or may not stain the linen, while that from the womb is thick and much more tenacious. As it flows from the neck of the womb it resembles very much the white of an egg, but while passing through the vagina it becomes changed to a curdled substance resembling boiled starch. In some cases the leucorrhœa will be wholly from the vagina, and in others wholly from the womb, while in many others it will be made up from both of these sources.

Leucorrhœa from the womb is generally produced

by chronic inflammation, tumors, or derangements of menstruation. In all of these cases the leucorrhœa is only to be regarded as a symptom of a more serious affection, and accordingly our attention should be directed to the original disease, rather than to the leucorrhœa.

VAGINAL LEUCORRHŒA.

This may be produced by anything which causes irritation or congestion of the vagina. Irritating discharges from the womb flowing through the vagina, the presence in the vagina of a badly fitting pessary, or a polypus hanging from the neck of the womb, will often excite a discharge from the vagina. In like manner the irritation of the vagina, attending excessive sexual intercourse, or self-abuse, or the inflammation resulting from abortion, may cause vaginal leucorrhœa.

There are also certain conditions of the system which predispose to leucorrhœa. Women who suffer from chlorosis, who become debilitated from long nursing, or who have a feeble and scrofulous constitution, are almost always afflicted with severe leucorrhœa. Anything which impoverishes the blood and reduces the vital powers, tends to increase the vaginal discharge. Thus it may be produced on the one hand by habits of indolence and luxury, or on the other by privation and want ; especially by insufficient food, and living in damp, poorly-lighted rooms.

DANGERS OF NEGLECTING LEUCORRHŒA.

From the description which we have given of leucorrhœa, it will be seen that it may indicate a grave affection of the generative organs, or it may result from some slight derangement which will pass away in a few days or weeks. If the discharge is accompanied by severe constitutional symptoms, like pain in the back or hips, bearing-down feelings, inconvenience in walking or standing; or if without these symptoms it continues for several weeks unabated, it should always be looked upon as an indication of disease and should receive prompt attention.

Many suppose that a vaginal leucorrhœa is of no consequence, and so allow it to run on from year to year. Some even suppose that it is beneficial to the health for the "bad humors" of the blood to find an outlet from the body, in this way. Such views are not only erroneous but pernicious. Nature has provided all the organs that are necessary for cleansing and purifying the blood, and every unnatural discharge is only robbing the body of so much nourishment. Thus we usually find that women who have suffered long from leucorrhœa are weak, pale and bloodless. They may have a very good appetite, but they do not get the strength from their food which they ought.

Besides this, the leucorrhœa tends directly to produce other uterine diseases. A leucorrhœa of the vagina cannot long exist without weakening the vaginal walls and producing a displacement of the

womb. It is rare that we find a case of leucorrhœa of one year's standing, in which the womb has not become more or less involved.

TREATMENT.—In the treatment of leucorrhœa, the first consideration should be to ascertain whether the discharge is wholly from the vagina or partially from the womb. The appearance of the discharge and the severity of the accompanying symptoms, will assist very much in determining this fact. Should there be any doubt, an examination by a competent physician will set the matter clear. If the womb is found to be involved in the disease, this should be looked upon as the more serious affection, and accordingly should receive our chief attention.

Should the vagina alone be diseased, or should considerable disease of the vagina accompany that of the womb, it should be treated by means of vaginal injections. When there is considerable soreness about the vagina, injections of warm or tepid water, salt water, flax seed or slippery elm tea, will at first be found most beneficial; but as soon as they can be borne without producing unpleasant symptoms, astringent injections should be used. The best astringents are sulphate of zinc, tannin, or persulphate of iron. One or two drachms of either of these may be dissolved in a pint of warm water. A solution of alum, borax, or white-oak bark, may also be used with advantage. The application should be used two or three times each day, as may be found

necessary to control the discharge. The effect will be better to change the form of injection frequently, than to use the same medicine all the time.

In addition to the local treatment, attention should be given to the general health. The diet should be plain and nutritious ; as much exercise should be taken each day in the open air, or in a thoroughly ventilated room, as the health or circumstances will permit ; the clothing should be loose and comfortable, and every influence which tends to depress the mind or impair the general health, should, so far as possible, be removed.

Should the appetite be poor, or should the blood be thin and impoverished, much benefit may be derived from the use of appropriate tonics, especially from the preparations of iron and cinchona. (See formulæ 4 and 5, page 73.) In persons of a scrofulous constitution the syrup of the iodide of iron may be given in doses of ten or fifteen drops, two or three times each day, in addition to the use of the other tonics. The condition of the bowels should also receive careful attention, and if diarrhœa or constipation exists it should receive appropriate treatment.

Last, but not least, there should be strict attention to cleanliness. The whole body should be bathed at least twice a week, and the external generative organs should be washed several times each day ; for the discharges, if allowed to remain, are liable to produce severe itching, and sometimes soreness of the external parts.

CHAPTER XVIII.

DERANGEMENTS OF MENSTRUATION.—DYSMENORRHŒA OR PAINFUL MENSTRUATION.

IN some women the function of menstruation is accomplished without any pain or discomfort ; but in a great majority there is a sense of fullness and tenderness in the pelvis, accompanied by a general feeling of lethargy, with slight pain in the back and loins. Those women in whom menstruation is usually painless, will sometimes experience these feelings of discomfort, either as the result of over-exertion and imprudence, or occasionally without any appreciable cause. There are many other women in whom the functions of menstruation are accomplished with great suffering, so that this period is looked forward to each month with dread. It is the last class of cases to which is applied the term dysmenorrhœa, or painful menstruation.

There are three general causes which may make menstruation painful : increased sensitiveness in the nerves passing to the womb and ovaries, increased congestion of the womb, and obstruction to the flow

of blood from the womb. These forms of dysmenorrhœa we shall describe separately.

NERVOUS DYSMENORRHŒA.

The first, or nervous dysmenorrhœa, as it is often called, occurs most frequently in women who are pale and bloodless, especially those who are liable to neuralgia in other parts of the body. It also occurs more frequently in girls than in married women, particularly in those who suffer from hysteria and chlorosis.

CAUSES.—Nervous dysmenorrhœa may be produced by any cause which tends to impoverish the blood, or increase the excitability of the nervous system. The causes which we have given as producing hysteria and chlorosis, may also be instrumental in producing this form of dysmenorrhœa. In addition to these we may mention as occasional causes, rheumatism, gout, and that condition of the system which is produced by living in a malarious region where ague and fever prevail.

SYMPTOMS.—There are usually sharp, darting pains in the region of the uterus, which occasionally extend to the breasts and other distant organs of the body. The urine is often scanty and straw-colored, and not unfrequently there will be derangement of digestion and severe head-ache. These symptoms usually come on some hours, or days, before the commencement of the discharge, and cease as soon as the flow is well established; but they may continue

during a part or the whole of the menstrual epoch. During the interval between the menstrual periods, the woman will enjoy good health, but with each menstruation her pain and sufferings return with equal intensity.

TREATMENT.—The treatment of this form of dysmenorrhœa, must of course, vary with the cause upon which it depends. When chlorosis, hysteria, rheumatism, gout, or malaria exist, these should receive appropriate attention. If, as is often the case, the nervous system has been made unnaturally sensitive by habits of indolence, luxury and dissipation, then there must be a complete change in the mode of life, or all remedies will be powerless. In cases where the lips are pale and the blood thin, and in all cases where the woman is liable to attacks of neuralgia, benefit will be derived from tonics of iron and quinine. (See formulæ 6 and 7, page 142.)

For the relief of the pain, warm hip-baths, and injections of warm water may be freely used, unless they should excite too great loss of blood. The injections will often be found most beneficial when used in large quantities and as warm as the water can conveniently be borne. If the water should cause too free a loss of blood, or if it should not relieve the pain, then anodyne medicines may be used. Either belladonna or opium will usually be found the most serviceable. If belladonna is used, get the fluid extract and take it in doses of from five to eight drops,

every four or six hours. It should never be given in doses larger than this, and it should always be discontinued as soon as the system is under its influence which will be indicated by dryness of the throat and enlargement of the pupils of the eyes. The best means of giving opium for the relief of dysmenorrhœa, is by injections. From fifteen to twenty-five drops of laudanum may be mixed with half a teacupful of water and injected into the rectum. Should it not be retained, in the course of half an hour the injection may be repeated. The use of opium in this way will relieve pain with far less effect upon the general system than if taken into the stomach.

CONGESTIVE DYSMENORRHŒA.

By far the most frequent form of dysmenorrhœa, is due to increased congestion or inflammation of the uterine organs.

CAUSES.—In the majority of cases it is the result of chronic inflammation of the uterus. It will readily be seen that if the womb is already inflamed and tender from disease, the extra congestion which attends menstruation must aggravate this inflammation and cause the uterine organs to become sore and painful. Sometimes, however, this form of dysmenorrhœa may occur when the womb is not diseased. A sudden cold, strong mental emotions, or excessive sexual indulgence, may have the effect of sending a much larger amount of blood to the uterus than usu-

al, and causing menstruation to be painful. Again the womb may be kept in a state of congestion by displacement or by the pressure of the bowels, caused by improper clothing, and thus be in a condition to become painful, when to the habitual congestion is added that of menstruation.

SYMPTOMS.—The symptoms of congestive dysmenorrhœa, are a dull, heavy pain, with a feeling of weight and heat in the region of the pelvis. This is sometimes accompanied by considerable fever with full pulse, flushed face and a throbbing pain in the head. These symptoms begin a short time before the flow commences and continue with more or less severity during the whole menstrual period, and sometimes even for a day or two after the flow ceases. The amount of the flow may be natural, but in the majority of cases it will be too abundant.

TREATMENT.—The success of the treatment will, in a great majority of cases, depend upon the curability of the disease, which is the cause of the dysmenorrhœa. While this exists, our remedies can only be palliative. Rest and warmth are of first importance, and these alone will often do much to relieve the suffering. Warm injections may be used unless the discharge is too profuse, in which case they will not usually be well borne. The injections of laudanum as recommended for nervous dysmenorrhœa, will very often be found to give great relief.

In cases not dependent upon existing disease, a

cure can usually be effected in a short time. If produced by some accidental cause,—like exposure to cold, over-exertion, or excitement—rest in bed, warm hip baths and warm cloths or poultices over the lower portion of the bowels and between the thighs, will usually afford relief; and by taking good care of the health for the next month, and then, if necessary, renewing the same treatment, the difficulty will soon disappear. In case the womb is kept in a state of chronic congestion by the pressure of improper clothing, this source of evil must of course be removed.

OBSTRUCTIVE DYSMENORRHŒA.

Sometimes an obstruction exists in the neck of the womb or vagina, which prevents the free escape of the blood during menstruation. The fluid thus detained distends the womb, until it is expelled by violent and painful contractions.

CAUSES.—Obstructive dysmenorrhœa is most frequently produced by a contraction of the outlet of the womb. Sometimes this outlet is naturally very small, so that the presence of a drop of mucus is sufficient to block it up, and impede the passage of the menstrual blood. Still more frequently the ignorant or careless use of caustics within the neck of the womb, causes a partial closure of the passage.

Displacements of the womb are quite a frequent cause of painful menstruation. By referring to figure 7, page 173, it will readily be seen how a flexion of the womb may obstruct its outlet. The womb

being bent upon itself its passage is closed, as the passage of a rubber tube would be closed by a bend in the tube. So also, in severe anteflexion or retroflexion, the outlet of the womb may occasionally be pressed so closely against the walls of the vagina as to cause an obstruction.

An obstruction occasionally exists in the vagina, which interferes with the escape of the menstrual flow and so causes dysmenorrhœa; but such cases are much less frequent than obstruction of the womb.

SYMPTOMS.—The symptoms of obstructive dysmenorrhœa do not usually manifest themselves until some little time after the commencement of menstruation. As soon as sufficient blood has accumulated in the womb to distend it, violent expulsive pains come on, resembling those produced by miscarriage. These pains expel the blood which has accumulated, and then cease for a time, coming on with each fresh accumulation of blood in the uterus.

TREATMENT.—The treatment of this difficulty must consist in removing the obstruction. When it is due to a contraction of the outlet of the womb, it may be cured either by dilating the neck of the womb by introducing instruments made for this purpose, or by enlarging the opening by means of a properly constructed knife. The latter operation is generally preferable as it is much less tedious, and more certain to accomplish the purpose.

In cases where it is not desirable to operate for a

radical cure, palliative treatment may be used which will greatly moderate the suffering. The most efficacious means for this purpose is the use of belladonna as recommended for nervous dysmenorrhœa. Warm baths and injections will also prove beneficial, by relaxing the tissues of the womb. When the obstruction is due to displacement it can only be removed by curing the displacement, although relief may usually be obtained by the use of warm water, and injections of laudanum as has already been recommended.

DANGER OF NEGLECTING DYSMENORRHŒA.

Whenever dysmenorrhœa occurs from any cause, it should be looked upon as a serious matter, for it is often the fore-runner of other uterine diseases. It is especially important that young girls who suffer from this difficulty, should receive proper care and treatment. The following advice from Dr. Henry Bennet, of London, may be read with profit by every mother and daughter.

“A great amount of subsequent uterine disease would be spared to those young females who, unfortunately suffer from dysmenorrhœa, were mothers more generally aware that its existence constitutes throughout life, a strong predisposition to uterine inflammation, and that they cannot take too great care of such of their daughters as labor under it. For such young females the discipline of public schools may be said to be nearly always too severe, and often

to lay the foundation for much future physical and mental misery. That this must be the case, will be easily understood when we reflect that the domestic treatment of this form of dysmenorrhœa consists principally in *rest* and *warmth*.

Females who suffer habitually from dysmenorrhœa, whatever their age, should remain quietly at home, taking care to preserve themselves from atmospheric vicissitudes during the first day or two of menstruation, which is the period during which the pain is mostly felt. In public schools it is very seldom that such requirements are, or perhaps can be attended to. A warm hip-bath will often be found useful. If the pains are very decided, it is best even to confine the sufferer to bed, and to apply warm linseed poultices to the lower abdominal region, a valuable and simple mode of soothing pain."

CHAPTER XIX.

MENORRHAGIA OR PROFUSE MENSTRUATION.

BY the term menorrhagia is meant an excessive loss of blood during menstruation. This may occur either from too profuse or too frequent menstruation. We have already seen that there is great variation in the normal amount of blood lost by different women. What in one woman would be very excessive menstruation, in another would be only the normal amount, and *vice versa*. In determining what is excessive menstruation, each woman must be judged, so to speak, by her own standard. If the health does not suffer, the menstruation, although large in quantity, is normal; but if the system does not fully rally from the loss of blood before the next monthly period, it is excessive.

CAUSES.—Excessive menstruation is nearly always the result of some disease of the uterus. As we have already seen, there is at each monthly epoch a natural congestion of the womb, which causes the rupture of blood vessels, and the discharge of blood. If at this time the womb is already inflamed, this nat-

ural congestion will be greatly increased causing the loss of blood to be proportionately augmented. So, too, if the neck of the womb is ulcerated, or if there is a polypus, or other tumor of the womb, the congestion attending menstruation will cause this to bleed, and thus increase the amount of the flow. Again, the body of the womb may be enlarged as the result of previous disease, or of bad management after pregnancy, or abortion, in which case there will be an increased amount of bleeding surface and consequently an excessive loss of blood.

These are the most frequent causes of habitual menorrhagia. In addition to this, occasional menorrhagia may be brought on by accidental causes when the womb is not diseased. The most frequent of these causes are over-work, excitement, violent emotions of joy, grief or anger, the too free use of warm or stimulating drinks, or of warm baths, excessive dancing, and immoderate indulgence of marital intercourse. Attacks of menorrhagia also often occur during the first development of the menstrual functions, and during the change of life.

TREATMENT.—Our first object in treating menorrhagia should be to check the loss of blood. To this end the woman should remain perfectly quiet upon her back, and cloths wrung out of cold water should be applied over the region of the uterus, and between the thighs. If the flow has already continued some days, so that it is near the close of the menstrual period, injections of cold water may also be used; but

if near the commencement of the period, there is danger of arresting the flow too suddenly. In all cases where cold applications are used about the hips the feet should be kept warm.

No warm drinks should be allowed, but cold acidulated drinks, like lemonade, syrup of currants, &c., should be freely taken. The room should also be kept moderately cool, all company excluded, and all conversation and excitement carefully avoided. If there is much restlessness, or if the menstruation is very painful as well as profuse, an injection of laudanum, as recommended for dysmenorrhœa, may be used ; or a pill containing one grain of opium may be taken every six hours.

In most cases this treatment will be sufficient to control the hemorrhage ; but when it is not, and the life of the woman seems in danger, the *tampon*, as it is called, should be resorted to. Take a small linen bag, fill it with powdered alum, and place it into the vagina against the neck of the uterus ; then introduce into the vagina small pieces of cotton until it is filled full and the hemorrhage ceases. The cotton should be removed in twelve hours, when more may be used if necessary.

There is one medicine which may be used internally, that will often stop hemorrhage from the womb, but it is so powerful a remedy that it is not often advisable to use it except under the direction of a physician. We refer to ergot, or as it is popularly

known, smut rye. It may be given in the form of the fluid extract, in doses of from fifteen to thirty drops, repeated every two or three hours, if necessary. Many cases of uterine hemorrhage will be arrested in fifteen minutes by the use of this medicine.

The directions we have thus far given are for checking the hemorrhage. The chances of preventing its return at the next menstrual period, will depend very much upon our ability to remove the exciting cause. If the hemorrhage occurs in connection with the development of puberty or the turn of life, or if it is brought on by some special exciting cause which does not involve disease of the uterus, we may hope that with good hygienic treatment, during the interval of the menstrual periods, the difficulty will soon pass away. If there is inflammation, ulceration or tumors of the womb, these and not the menorrhagia are the diseases which demand our treatment.

When the cause of the excessive menstruation cannot be removed, we should seek to control the discharge as much as possible. This may be done by avoiding all excitement, leading a quiet, simple life, keeping much in the open air and abstaining from all stimulating drinks. At the same time the diet should be nutritious and some medicine containing iron, or iron combined with a bitter tonic, should be taken during the interval between the menstrual periods.

CHAPTER XX.

AMENORRHŒA, OR SUPPRESSION OF THE MENSES.

A MENORRHŒA is the term applied to the absence of menstruation in a woman in whom it should naturally exist. Before the age of puberty and after the change of life, during pregnancy, and usually during nursing, the menstrual flow is naturally absent, and therefore such cases are not included under the term amenorrhœa.

There are two general varieties of amenorrhœa:—first, where menstruation has never taken place; and second, where it has once existed, but has afterward become suppressed. Of these two varieties the second is much the more frequent.

SUPPRESSION WHERE MENSTRUATION HAS NEVER OCCURRED.

Those cases of amenorrhœa where the menses have never existed, need to be carefully distinguished from the tardy appearance of the menses. We have already shown in treating upon this subject, that some girls do not menstruate before the ages of

eighteen or twenty. If such girls have well developed bodies, enjoy good health, and do not complain of any especial ailment, except perhaps an occasional back-ache or headache, they may usually be considered cases of tardy menstruation, and by attention to the general health, the flow will be established in its own good time.

CAUSES.—In the majority of cases, girls who reach the age of eighteen or nineteen without menstruating do not enjoy good health. The breast may be enlarged, and the body may manifest the general physical appearance of the development of puberty; but there will be an almost constant head-ache and dizziness with flushed face, and severe pain in the back, sides, and limbs. In these cases it is evident that the physical changes preparatory to menstruation have taken place, but there is some derangement of the circulation or other impediment, which prevents the establishment of the menstrual flow.

In another class of cases we find that the changes preparatory to puberty have not taken place, but the girl remains flat-chested, thin and angular, retaining both the physical and mental characteristics of childhood. In such instances the ovaries and uterus remain undeveloped and inactive. In some very rare cases these organs have been found to be entirely absent; but much more frequently some traces of them exist, although they may be very small and rudimentary.

Amenorrhœa is frequently produced by those diseases which are accompanied by great impoverishment of the blood, like chlorosis, scrofula and consumption. It was formerly thought that the absence of menstruation frequently caused these diseases ; but now it is known that though amenorrhœa is often the result of these diseases, it is rarely or never their cause. The suppression of menstruation in such cases should not be looked upon as an evil, but rather as a wise provision of nature for economizing the vitality of the system ; for when the blood has been already impoverished by disease, it is in no condition to sustain the loss that would be occasioned by menstruation.

Occasionally amenorrhœa is caused by an obstruction to the escape of blood from the womb. This may result from the closure of the neck of the womb, from the absence of the vagina, or from the outlet of the vagina being completely obstructed by the hymen. In these cases the woman will each month have all the symptoms of menstruation, but no blood will escape. The difficulty can usually be cured by an operation, but if not, it will eventually produce death.

SUPPRESSION OCCURRING AFTER MENSTRUATION
HAS BEEN ESTABLISHED.

The cessation of the menses after they have once been established, may occur either suddenly or gradually. When it occurs suddenly it is generally the result of exposure of the body, and especially of the

feet, to cold and wet ; to sudden and violent emotions of grief, fear or joy, or to a sudden attack of disease. The gradual cessation of the menses may be produced by impoverished blood or disease of the ovaries ; or it may occur in women in whom menstruation was very late in its development, and has always been scanty and irregular.

TREATMENT.—We need to bear in mind that amenorrhœa does not of itself constitute a disease, but only a symptom. The real affection is some derangement of the uterine organs, or of the general health, which prevents the performance of the functions of menstruation ; amenorrhœa is important only as an indication that such derangement exists. Our first care should, therefore, be to seek for the cause of this suppression, and when we have ascertained this we can treat the case intelligently.

ATTENTION TO THE GENERAL HEALTH.

In the case of girls eighteen or twenty years old, whose bodies are well developed, and who have never menstruated, we should attend first to the condition of the general health. If they are pale and thin, the blood should be improved by a generous diet, fresh air, sun-light, exercise and the use of tonics containing iron. If on the other hand, they are fleshy and full-blooded, the system should be reduced by a low diet, by frequent doses of Epsom or Rochelle Salts, and if necessary by the abstraction of blood. A girl suffering from suppression of the menses is much

better off at home, under the care of a judicious mother, than in a public school where there will be little chance for her to receive the hygienic care she requires.

LOCAL STIMULANTS.

Proper attention to the general health will often be all that is necessary to bring on the menstrual functions, but if after a few months' trial this is found insufficient, gentle local stimulants may be resorted to. For this purpose warm hip-baths and copious injections of warm water or of a warm solution of salt, or soap and water, may be used several times a day. Injections of ammonia are also often beneficial, adding about ten drops of aqua ammoniæ to one pint of warm water or milk. Dr. Bennet recommends very highly the use of mustard poultices upon the breasts and thighs. They should be applied once each day, and left until the skin becomes red and a little painful, but not until it is blistered.

Whatever means may be adopted they should be used for four or five days preceding the time that the symptoms of menstruation are usually felt. When no such symptoms are present, then some time should be selected, and the treatment repeated regularly every twenty-eight days.

ELECTRICITY.

In amenorrhœa connected with a deficient development of the body and uterine organs, the local

and general treatment, already described, should be employed; but it will need to be continued for a much longer time. In addition to this the persistent use of electricity will often be found serviceable. One pole of the battery should be placed against the lower portion of the spinal column, and the other applied to the front part of the body in the region of the uterus, or introduced into the vagina against the neck of the womb. A mild current may be used in this way for half an hour, night and morning, especially during the week that other local treatment is employed. There is also a pessary known as the galvanic pessary which may often be used with advantage.

MEDICINAL AGENTS.

This class of cases may sometimes be benefitted by medicines designed to act directly upon the uterus, like tansy, ergot, rue and savine. These remedies should only be employed after other means have failed; and then, only under the directions of a physician. Should constipation exist, the following pill will be found beneficial:

FORMULA IO.

Aloes,	-	-	-	-	1 scruple.
Myrrh,	-	-	-	-	10 grains.
Citrate of Iron,	-	-	-	-	2 scruples.
Nux Vomica,	-	-	-	-	2 grains.
Make into 15 pills. Dose, 1 each night.					

The treatment already indicated will in nearly all cases, succeed in establishing the menstrual flow. When it fails we shall usually find that the ovaries, or uterus, are either entirely absent, or so small and rudimentary that they cannot be excited to the performance of their functions.

SUDDEN SUPPRESSION.

Amenorrhœa coming on after menstruation has once been established, should be treated upon the same general principles as when the flow has never existed. If it comes on suddenly, as a result of exposure, or excitement, and is accompanied by severe symptoms, it is probably due to acute inflammation of the womb, and should be treated according to the directions already given upon that subject. If it is accompanied by no special inconvenience, the flow will generally be re-established in two or three months, by proper attention to the general health. If not, and the health should seem to suffer from the suppression, it should be treated by general tonics and local stimulants as already described.

GRADUAL SUPPRESSION.

Cessation of the menses when it comes on gradually is due in the majority of cases to impoverished blood. The menstrual flow will at first become scanty and irregular until finally it ceases altogether. The treatment in such cases should be directed to the general health, for in the present condition of the blood, menstruation would be a damage.

Frequently amenorrhœa is due to diseases of the ovaries or to severe constitutional disease like consumption, dropsy, &c. In all such cases the organic disease and not the amenorrhœa should receive our attention.

INFLUENCE OF MARRIAGE.

When the sexual instincts are weak and late in manifesting themselves, menstruation will often remain scanty and irregular and perhaps after a time cease altogether. Such cases are often entirely cured by marriage, and nearly always by pregnancy, but it should be distinctly understood in case of marriage, that pregnancy will be less likely to occur than in other women.

The remedies already indicated for establishing the flow, may also be employed to restore it. Especially is it important that every available hygienic means should be used, that the system should be kept up to the fullest standard of health.

CHAPTER XXI.

DISEASES OF THE OVARIES.

THE ovaries, as we have already seen are the source of the generative organs in the human female. They are liable to nearly the same diseases that we have already described as affecting the uterus, viz: acute and chronic inflammation, cancer and tumors.

ACUTE INFLAMMATION.

This is usually brought on by diseases of the surrounding organs extending to the ovaries, or by severe disturbance of the menstrual functions. It is attended by almost the same symptoms as acute inflammation of the womb, and should receive the same general treatment. It is important in acute inflammation of any of the pelvic organs, that the woman should be kept perfectly quiet upon her back, for otherwise the disease may extend to the membrane which encloses the bowels, and cause an inflammation which will produce death.

CHRONIC INFLAMMATION.

This is not a very common disease, yet it occasionally occurs. As it is not possible for any one except an experienced physician to distinguish it from chronic uterine disease, it will hardly be profitable to enter into a description of its causes and symptoms. The prospect of cure is generally very good. It is often associated with chronic inflammation of the womb, and is to be treated in essentially the same manner.

CANCER.

Cancer of the ovaries is much less common than of the womb. It is principally distinguished from other tumors of the ovaries, by the peculiar appearance of the skin, which always accompanies cancer, whether internal or external. It is always fatal and generally very rapid in its growth, the patient rarely living more than a year after its first appearance.

OVARIAN TUMORS.

Ovarian tumor, or dropsy of the ovaries, is the most important disease to which these organs are liable. It grows from the surface of one of the ovaries and often attains an enormous size, weighing thirty or forty pounds. The contents of the tumor is sometimes thin and clear like water, sometimes adhesive like the white of an egg, and sometimes of a reddish or dark brown color, like coffee grounds. It is usually very rapid in its growth, often filling the entire abdominal cavity in a few months;

although occasionally it increases much slower so that it may be several years before it will be large enough to produce very great discomfort.

CAUSES.—Very little is known respecting the causes of ovarian tumors. Age appears to have the greatest influence, as it occurs most frequently between the ages of twenty and forty. Frequent child-bearing and chronic inflammation of the ovaries are also thought to be predisposing causes; but concerning this very little is known with certainty.

SYMPTOMS.—These are not at first very marked. There may be pain in the region of the ovaries, with a feeling of weight in the pelvis; but there is nothing sufficiently characteristic in these signs to distinguish ovarian tumor from other chronic diseases of the uterine organs. In most cases the first thing that leads a woman to suspect any difficulty is the discovery of a tumor or bunch in the lower part of the abdomen. It will often be as large as the double fist when first noticed. At this time it is readily seen to be mostly on one side; but as it increases in size it occupies the centre of the body, so that it often becomes difficult to determine to which ovary it is attached. It is often mistaken for a tumor of the womb, and general dropsy, from which it can only be distinguished by a competent physician. It is also liable in its earlier stages to be mistaken for pregnancy, and not unfrequently it is accompanied by suppression of the menses, and other symptoms of early gestation.

The termination of an ovarian tumor when left to itself is nearly always fatal, though in a few instances it has been known to go away of its own accord. The average length of life from the commencement of the disease is two years, but death sometimes occurs as soon as one year, while occasionally the development of the tumor is so slow, that life is prolonged for ten or even twenty years. Tumors that occur after the age of forty-five are usually slower in their development than those that occur earlier in life.

TREATMENT.—For the treatment of ovarian tumors both medical and surgical means have been recommended. There are many remedies which have been given with a view of causing the absorption of the tumor, but inasmuch as there is not a single well-authenticated case of recovery by these means, it is hardly advisable to annoy a patient by their use. Medicines for sustaining the health or relieving pain may be employed with advantage, but aside from this they are of but little benefit.

The surgical treatment consists either in tapping the tumor and drawing off its contents, or in removing it from the body. Tapping is attended with little risk, and will be serviceable in prolonging the life of a patient, but is very rarely of any permanent benefit. The only reasonable hope of a radical cure is in removing the tumor. This is a very formidable operation, yet when life is at stake it often becomes advisable. In the hands of our best surgeons about

two-thirds of the cases recover, and are cured by the operation. This is far from an encouraging prospect to hold out to the afflicted, but it is the best in the present state of surgery which we have to offer. It is at least better than that of cancerous disease, where the chances are all against recovery.

CHAPTER XXII.

CONSTIPATION OF THE BOWELS.

CONSTIPATION, although not a disease peculiar to women, is yet so frequent a complication of the various uterine diseases, that no excuse is needed for introducing the subject in a work of this kind. In order to understand clearly the causes and effects of constipation, we will first briefly consider the normal structure and action of the bowels.

The food leaving the stomach, enters the small intestines. These are about twenty feet in length, and pass across the body in a zig-zag manner. All the nutritious part of our food is taken into the blood from the stomach and small intestines, while the waste materials pass on into the large intestines, or colon. The colon commences on the right side of the body just above the pelvis ; passes up the right side and crosses the body just below the lower border of the ribs, then passes down the left side and inward to the spinal column. Here it assumes the name of rectum and passes down through the pelvis, behind the womb and vagina.

The bowels possess what is termed paristaltic action ; that is, each portion alternately relaxes and contracts, thus forcing the food through them. The passage of the food is more rapid through the small intestines than through the colon, which by its large size and slow motion allows the greater part of the waste material or fœcal matter to accumulate in it. While this remains in the colon it occasions no inconvenience ; but as soon as it passes into the rectum it causes a desire to evacuate the bowels.

It seems to be the natural law of our bodies that the bowels should be evacuated once each day. This is indicated not only by the natural capacity of the rectum and colon, but also by the fact that most persons have a desire for a movement of the bowels once each day. There are, however, occasional exceptions to this rule, in which persons in perfect health habitually evacuate the bowels twice each day, or once in two days. In determining, therefore, whether a person is suffering from constipation, something more than the frequency of the evacuations should be taken into account. When the evacuations are hard and dry, and attended with pain, or when they are evidently deficient in quantity, the person is suffering from constipation, even though a movement of the bowels may occur daily.

CAUSES.—In nearly all forms of constipation there is a lack of contractile power in the colon and rectum. This is often a result of sedentary habits. Every step in walking, and every twisting movement of the

body, by jarring and crowding the intestines, assist them in their work. The bowels may also become inactive from the use of very nutritious food. If persons confine themselves to concentrated forms of food, like fine flour bread and meat, which have very little waste, but go almost entirely to the blood, the bowels have so little to do, that they become constipated from want of use. Debility and weakness may also affect the bowels in common with other organs of the body, and thus cause them to become inactive and constipated.

NEGLECTING THE CALLS OF NATURE.

By far the most frequent cause of constipation is neglecting to attend to the calls of nature. The rectum is naturally empty. As soon as it becomes distended with fœcal matter it gives warning by creating a desire to evacuate the bowels. If the warning is neglected, the accumulation of fœces soon destroys the sensitiveness of the rectum, so that it no longer does its duty as sentinel. This allows the rectum to become distended far beyond its natural capacity, until like a piece of India-rubber, which has been over-stretched, it loses its contractile power, and is no longer able to expel its contents. The same cause tends also to produce an accumulation of fœcal matter in the colon, when this in like manner becomes distended and weakened.

POOR WATER-CLOSETS.

Attention to the calls of nature is often looked

upon as an onerous duty to be avoided when possible, and always to be performed in a hurried and imperfect manner. This natural aversion is made still worse by the wretched accommodations which are usually provided for this purpose, especially in country places and villages. Many cases of constipation, of piles and of diseases of the generative organs, can be traced directly or indirectly to an inconvenient water-closet, built over an open stream of water, or otherwise constructed so as to be exposed to all the inclemencies of wind and weather.

INJURIOUS HABITS OF DRESS.

Constipation may also be produced by injurious habits of dress. We have already seen in a previous chapter, that in the act of breathing the diaphragm descends in the body, imparting motion to the bowels and thus assisting them in the performance of their functions. We have seen, also, that contraction of the waist, and wearing clothing fastened around the hips, tends to diminish the action of the diaphragm, and to destroy abdominal breathing. This is a very frequent and important cause of constipation, but one which has generally been over-looked by medical writers.

SYMPTOMS.—Constipation, although rarely a dangerous disease, is yet productive of much evil to the system. No person can enjoy good health when the movements of the bowels are irregular or insufficient. In some cases the only immediate symptoms will be

an occasional head-ache and a general feeling of languor and debility, while in others the discomfort will be so great that they are unable to get about or to attend to their ordinary business. Besides this the pressure of the fœcal matter in the rectum and lower bowel, causes congestion of the pelvic organs which predisposes them to disease. Many cases of piles and of inflammation of the womb are produced in this manner.

TREATMENT.—Our first effort in the treatment of constipation should be to re-establish the natural habit of the bowels. The desire for food recurs at regular hours each day, because we are accustomed to eat at those hours. In like manner we may establish a habit of the body, by which we shall have a desire to evacuate the bowels at some given hour. We cannot expect to accomplish this result in a day or a week. In many cases of obstinate constipation, months or years will be required before the normal functions of the rectum will be restored ; but the end accomplished is worth far more than the effort put forth.

Lest we should be thought to exaggerate the importance of this part of the treatment, we make some extracts upon this subject from a work of Dr. Byford, of Chicago:—"A new habit cannot be formed, or an old one altered, without long and persevering effort in the right direction. We should, therefore, encourage the patient, that is in earnest in her search after health, to persevere for months, years,

and indeed her whole life, in going to her water-closet without fail, once every day, at a certain hour, as regularly as the clock points to it. This is indispensable to a correction of the bad habit of constipation. A very effective part of this regular endeavor is to cause the mind to dwell upon the necessity of an evacuation, and the process itself, for at least half an hour before retiring to the proper place. It is not a difficult matter with many persons to create a desire in this way. Let no consideration of convenience enter into this punctual effort at the stool.

Arrived at the proper place, the position should be an easy one; no inconvenient strain upon any muscle should be allowed, and the patient should be possessed with an entire sense of leisure, to perform the act completely. The value of all these considerations, where faithfully followed is incalculable, and very few cases can long resist them. Without them medicine will only temporarily relieve, instead of permanently curing, obstinate cases."

"Another matter of great importance when an effort is made to have an evacuation, is to have the abdomen distended with food. The patient should be instructed to eat plentifully of vegetable diet, such as is by its bulk calculated to produce fullness. If the patient go to the water-closet with a sense of fullness of the abdomen, success will be much more likely. Should the regular time for making an effort be soon after breakfast, which is undoubtedly the

best time, and the meal has not been sufficient to produce a sense of moderate distention, a full glass of water will complete that condition." The various kinds of fruits may also be used for this purpose, such as ripe, mellow apples, without being divested of the rind, prunes, figs, the different kinds of berries, and tamarinds. The acids of these fruits increase the secretions of the intestines, while the rind and seeds, besides distending the bowels increase their peristaltic action. Very acid fruits, as lemons and oranges, produce their effect only on account of the acids they contain. They are excellent in the case of patients whose stools are dry, hard and lumpy.

COARSE BREAD.

It is also desirable to substitute coarse bread for the fine flour bread generally in use. What is known as Graham flour makes a sweeter and far more nutritious bread than fine flour, and it would be a great blessing to community were it in more general use. Some of the most valuable parts of the grain are contained in the shorts which are removed in making fine flour. Corn meal, oat meal and cracked wheat may also be prepared in various ways which make them loosening to the bowels and valuable articles of food. Many vegetables may also be used with advantage, especially turnips, squash, tomatoes, lettuce, asparagus and cabbage.

In some cases dyspepsia exists with the consti-

pation, so that many of the articles of food we have enumerated cannot be borne. If after a faithful trial this proves to be the case, they must be abandoned and other means resorted to.

INJECTIONS.

When the cause of the constipation is inactivity of the rectum, great benefit may be derived from daily injections of cold water. Besides helping to relieve the bowels it will assist in restoring their sensitiveness and tone. It will not, however, do to rely upon injections alone, for we find that after a time they lose their efficiency. If obliged to continue the injections, and the cold or tepid water is not sufficient, some salt, Castile soap or chlorate of potash, may be added with advantage.

THE WET COMPRESS.

The use of the wet compress will also in many cases prove beneficial. This is prepared by doubling a napkin several times so as to make a thick compress, large enough to cover the whole front part of the abdomen. This is wrung out of warm water, placed over the bowels and held there by fastening around the body a strip of dry flannel cloth. It should be put on at the time of going to bed and worn during the night.

LAXATIVE MEDICINES.

The use of laxative medicines in constipation should always be avoided when possible, but occasionally it

is necessary to employ them as a temporary expedient, or as a last resort. In such cases only just enough of the medicine should be used to produce an easy and natural movement of the bowels. The taking of medicine to act as physic, almost invariably leaves the bowels in a worse condition than before.

The laxatives most beneficial will depend upon the nature of the constipation. If the fœces are very dry and hard, and especially if the person is inclined to be plethoric, some Epsom or Rochelle salts may be taken each morning before breakfast. They may be dissolved in water and enough lemon juice, or dilute sulphuric acid, added to give them a pleasant sour taste. When the constipation is accompanied by inactivity of the bowels, rhubarb, aloes and nux vomica may be used either alone or combined with some tonic. The rhubarb can be best taken by chewing the root and swallowing it. A little experience will enable a person to judge of the amount needed. The following pill containing rhubarb, will often be found preferable to the use of the root :

FORMULA II.

Sulphate of Iron,	-	-	20 grains.
Extract of Rhubarb,	-	-	3 scruples.
Sulphate of Strychnine,	-	-	1 grain.

Make into 36 pills. Take one pill, once, twice, or three times each day, as may be found necessary. If the rhubarb pill should seem to disagree, or should not be found sufficient, a pill of aloes and nux vom-

ica may be used. (Formula 10, page 210.) The tincture of aloes and myrrh is also a valuable preparation in case of constipation. A teaspoonful may be taken once or twice each day. The disagreeable taste will wear off with use.

If there is debility or impure blood, this may be treated at the same time, by the use of the tonics of iron and quinine, given on page 142. The reader need not be afraid of these prescriptions because they contain strychnine. We give it because it is the best medicine we have, for imparting tone to the bowels, but in the small doses prescribed it is perfectly safe. If pills are taken which contain strychnine or nuxvomica, then the strychnine may be omitted from the tonic. The prescriptions should always be prepared by a careful druggist.

GENERAL REGIMEN.

The importance of attending to the general health should not be over-looked. In many cases a complete change must be made in the employment and habits of exercise. Whenever the health will permit, much time must be spent upon the feet, in such exercise as will cause frequent bending and twisting motions of the body. The clothing must be loose so that the movements may be unimpeded, and every effort should be made to strengthen the weak and flabby muscles of the abdomen.

The localized movements already described in the chapter on chronic inflammation of the womb, will all be useful in constipation ; but a still more valuable

exercise, is that of kneading the bowels. This may be done by the patient herself, but is much better accomplished by the aid of an assistant. It may be practiced either by grasping the bowels in the hand and squeezing them, or by partially doubling the hand, and kneading them as a person would knead bread. The manipulations should be commenced at the right groin and should work around the bowels, as nearly as possible along the course of the large intestine. The motions should at first be very gentle, but as the bowels become toughened more force may be used.

In cases of constipation, where medicines are employed, the other means we have suggested should also be thoroughly carried out; for the benefit from medicine is only temporary, while that from the use of hygienic means will be permanent.

We cannot conclude this subject without again alluding to the importance of attending to the calls of nature with regularity and promptness. If this practice were generally followed, constipation would be as rare as it is now frequent. The prevention of constipation will be found much easier than its cure. The functions of the bowels can always be kept under the control of habit by proper management; and no woman should allow any false modesty or delicacy to interfere with the discharge of her duties to nature. It is highly important that these facts should be understood, especially in the training of girls, many of whom become afflicted with habitual constipation, and suffer from it all their lives.

CHAPTER XXIII.

MARRIAGE.

MARRIAGE is one of the oldest as it is also one of the most important ordinances of society. There is scarcely any act which has so great an influence upon a person's prospects in life as that of entering the marriage relation. This is particularly true of woman, who, in giving her hand to her husband in marriage, commits also to his keeping her social position, and to a great extent, her culture of mind and her happiness.

Marriage is an institution ordained of God ; and is, therefore, obligatory upon mankind. It is the natural state for all persons who have reached the age of maturity. The woman who lives single goes through life with one-half of her nature undeveloped. The two sexes are the natural complements of each other, and it is only as they are brought together in the intimate relations of marriage, that their full nature is unfolded. The strongest, purest and holiest earthly love, is that which the wife and husband feel for each other, and for the children which have blessed their union.

The formation of the marriage tie is usually determined by other than physiological reasons. It may not, however, be without profit to mention some of the considerations which should have an influence in assuming this important relation.

AGE OF NUBILITY.

The most suitable time for marriage is soon after the body has attained its full growth and development, which, with women in this climate, is between the ages of eighteen and twenty-three. It does not follow because the organs of generation are developed at the age of thirteen or fifteen, that they should be brought into use at this time ; at least three or four years should elapse before the system is fitted to sustain the important functions of reproduction.

Very early marriages are attended with increased danger to the wife. It is well known to every physician, that the risks of child-birth are much greater in women under the age of eighteen, than after this period. From extensive statistics collected by Dr. William Farr, from the census of France, it is shown that the mortality of women who marry before the age of eighteen, is nearly twice as great as of those who remain single ; while those who marry after this period, have their chance of life increased. The children also of early marriages are not generally as well formed and healthy, as those of later unions ; and the mother is much more likely to become the victim of uterine disease.

Late marriages are liable to objections, though not as important as those which apply to early marriages. Women who marry after the age of thirty are much more likely to be sterile than those who marry before twenty-five, and the first pregnancy is attended with greater danger. Late marriages are also rarely attended with as much harmony of feeling as those formed earlier in life ; for the habits and opinions of the husband and wife have become fixed, so that they are not easily assimilated.

FITNESS FOR MARRIAGE.

An important, though not the only object of marriage, is the reproduction of the species. By the laws of most countries any imperfection in either the husband or wife, which makes the consummation of marriage impossible, renders the marriage void. No woman, therefore, should contemplate entering this relation unless her generative organs are perfectly developed. If menstruation occurs with tolerable regularity, it may usually be taken as evidence of the proper development of the generative organs.

In some women there is a deformity of the bones of the pelvis, which would prevent their giving birth to a child should they become pregnant. This condition may be suspected when there is a deformity of the lower part of the spine, when the hips are very narrow, or when the hip-bones are considerably higher upon one side than the other. Such persons should not marry without consulting some competent

physician ; for they would incur a strong risk of sacrificing their lives.

Women who have pulmonary consumption, or who are strongly predisposed to this disease, should not marry ; for, besides greatly lessening their own chances of life, their children will be almost sure to find an early grave. Women also who suffer from attacks of insanity, or from epileptic fits, which have continued since the age of puberty, should not assume the responsibilities of marriage.

SHALL PERSONS OF THE SAME TEMPERAMENT MARRY ?

This question will usually be decided by the affections rather than by any advice that may be given. These, however, are not so blind a guide as many suppose. Most persons in forming attachments select those of a different temperament from themselves ; thus, those who have blue eyes with light skin and hair, will admire most the brunette ; while those of a dark complexion will in their turn fancy the blonde. This rule is liable to many exceptions ; but it will be found true in more than two-thirds of the cases.

The objection to a union between persons of the same temperament, is that the peculiarities of the parents are likely to be intensified in their offspring. Thus, if the father and mother are excessively nervous and irritable, the children will probably excel even their parents in these undesirable qualities ; or if

both parents are inclined to corpulency, the children will almost surely inherit the same tendency. As a general rule the children of parents who are of different temperaments will possess a finer mental and physical organism than those whose parents are of the same temperament. This rule must, however, be taken with considerable allowance, for it is by no means invariable.

SHALL COUSINS MARRY?

The same principle which should govern the marriage of persons of the same temperament, applies also to the marriage of relatives. Deriving their constitution in part from the same ancestors, they will inherit many of the same traits and peculiarities ; and these they will transmit to their children with increase. In almost every family there are certain peculiarities and oddities of character, which it should be our care to exterminate rather than to perpetuate.

So also, there are in most families, traces of disease which should not be entailed upon posterity, by inter-marriage. Statistics prove beyond a doubt, that cases of deaf mutes, idiocy, insanity, deformity and scrofula, are more frequent among the children of those who marry relatives, than among others. This may not, however, be entirely due to the consanguinity of the parents, but the same hereditary disease afflicting them both, may descend with two-fold force upon their offspring. We accordingly find that in most cases of deformed or diseased children, which

result from a marriage of relatives, one or both parents will manifest strong symptoms of some constitutional disease.

We do not wish to be understood as condemning, under all circumstances, the marriage of cousins ; nor do we wish to alarm those who are thus married, by implying that their children will probably be deformed or idiotic. Many smart and healthy children have sprung from the marriage of cousins. If the parents are both healthy, and there is no hereditary disease in their families, they have every reason to expect that their children will be healthy and intelligent. There are, however, so few families that are entirely free from hereditary peculiarities and traces of disease, that the risk of marrying cousins is much greater than that of marrying into distinct families. The amount of risk will, of course, be proportionate to the degree of consanguinity ; the relation of first cousin being twice as great as that of second, and four times as great as that of third.

LONG ENGAGEMENTS.

These are generally unnecessary and injurious. Girls should not keep company with young men until they are of a suitable age to select a husband and marry. If an acquaintanceship of three or four months does not satisfy a couple whether they are adapted to each other, they will rarely be better informed after a courtship of three or four years.

When a marriage has once been decided upon, it is better that it should not be deferred more than a few weeks or months. No matter if your intended husband has not already accumulated a fortune, show your love and devotion to him by putting your shoulder to the wheel and assisting him in his work. No young lady is worthy of a beautiful and pleasant home unless she is willing to help earn it. Besides there is a "sweet sense of providing," which every young lady should have the privilege of enjoying. The feeling that her exertions have helped to acquire what she has, will greatly increase her appreciation and enjoyment of life.

There are also strong physiological reasons against long engagements. It keeps the affections and passions in an excited and unnatural condition, which tends to weaken the nervous system and undermine the health. These evil consequences are common to both sexes, though they usually affect men rather more severely than women. We have known several cases of worthy and virtuous young men who have had their health seriously impaired by protracted engagements. If, therefore, a lady is indifferent about her own health she ought to discourage a long engagement, in consideration of the health of her intended husband.

Some instances of engagements will of course occur, where the circumstances are such as to render marriage impossible for several years. Such cases should always be looked upon as unfortunate in a

physiological point of view. If the engagement must be kept up, our advice to the parties is to make their interviews infrequent, and to give as little thought to the subject as possible; but to devote their time energetically to whatever business engages their attention.

TIME OF MONTH AND YEAR TO MARRY.

The appointment of the wedding day is, by general consent, left to the bride. She should select a time about ten or fifteen days after the close of one of her menstrual periods. The generative organs will then be free from the congestion and sensitiveness which attend menstruation, and pregnancy will not be likely to follow the first approaches of the husband.

There is very little choice in the different seasons of year for marriage, except that it is well to avoid extremes of either heat or cold. The labor and excitement attending the preparation for a wedding is always exhausting, and if to this is added the depressing influence of extremely hot or cold weather, there is danger that it may prove too much for the bride, and that her health may give way.

THE WEDDING TOUR.

It is usually customary for a married couple to spend the first few days or weeks away from home. The natural feeling which prompts them to do this is perhaps all the reason that need be urged in favor of the practice. The manner in which the honey-moon

is usually spent, is, however, liable to serious objections. The bride, tired out with the marriage preparations, with her nervous system in the highest state of excitability in view of the new and strange relation which she has entered, needs a season of repose and rest. But instead of this, she enters upon a fatiguing tour of travel and sight-seeing. Wherever she appears, whether in the cars, the hotel, the dining-room, or the public assembly, searching eyes pick her out as the new bride, and she finds herself the observed of all observers. The result is that she returns from the wedding tour, worn out and sick. Many a bride lays the foundation for years of future suffering, by over-taxing herself on her wedding trip.

If instead of this tiresome journey of sight-seeing, which neither of the couple are in any condition to enjoy, they would go to some quiet sea-side or country hamlet, or if they choose to the house of some intimate friend, they could there enjoy their honeymoon away from the prying eyes of inquisitive strangers. This would give them an opportunity to adapt themselves to their new relation, and to wear off the appearance of newness which always characterizes the couple who are but just married; then at the close of their honeymoon they could return to their ordinary pursuits rested and invigorated.

CONSUMMATION OF MARRIAGE.

The first consummation of marriage is often attended with difficulty. If the hymen is present it must usually be ruptured before connection takes

place ; but aside from this, the passage of the vagina is often at first too small to admit of complete intercourse. In overcoming these difficulties the husband should exercise great gentleness and forbearance. If the obstructions do not readily yield, the use of some unctuous substance, or of copious injections of warm water, will generally succeed in relaxing the parts so as to render connection possible. In no case should violence be used, as it might produce injuries which would be irreparable ; but if after following the directions already given for a few weeks, the husband does not succeed, a physician should be consulted.

SEXUAL INTERCOURSE.

[Many young couples are disappointed because the wife does not derive the same amount of pleasure from marital intercourse as the husband. This grows out of the mistaken opinion that the sexual feelings are as strong in women as in men. Nature has wisely ordained that the desire for sexual gratification should only be so strong as to become a ruling passion in one of the sexes. Were this instinct equally powerful in women as in men, there is reason to fear that the evils of prostitution would be greatly increased.]

Women may be divided into three classes as regards the strength of their sexual instincts ; the first and smallest class have little or no sexual feeling. Intercourse with their husbands is almost a matter of indifference to them. They may make

affectionate wives, and loving and tender mothers, but they have no idea of the nature and force of the sexual instincts.

The second class, larger than the first, but still small as compared with the whole number of women, have strong sexual passions—as strong in some instances as those of men. Some women seem to possess these passions naturally, while in others they are cultivated by the practice of masturbation, by reading impure literature, and by indulging unchaste thoughts. In occasional instances the passions are so strong as to overpower the will and constitute almost a species of insanity. Modesty and shame are laid aside, and the wretched woman is almost constantly tormented with the goadings of her degrading passions.

In the great majority of women, the sexual passions like all the other instincts of her nature, are moderate. She is never indifferent to the approaches of her husband, but sometimes enjoys them much more than at others. She is not, however, often anxious for gratification and suffers no special inconvenience from a separation from her husband of a few weeks or months.

Usually the sexual feelings increase somewhat after marriage, so that after a few months marital intercourse becomes more agreeable to the wife than at first. Not infrequently there is also a fuller development of the breasts after marriage than before.

FREQUENCY OF SEXUAL INDULGENCE.

The human species is the only class in the animal kingdom that indulge in the pleasures of love, except for the purpose of reproduction. Many have argued that man ought to conform in this particular to the example of the lower animals ; but there are so many respects in which the sexual instincts of man differ from those of other animals, that reasons drawn from analogy have but little force.

The same rule applies to the gratification of sexual desires as to that of all other instincts of the body, —a moderate indulgence makes them a source of health and pleasure, but excessive indulgence a source of disease and aversion. The use of the sexual organs appeals to the strongest passions of the body. [Many a young couple have had their beauty destroyed, the bloom and freshness of youth withered, and their health ruined by excessive sexual indulgence. The effect is usually the most severe upon the husband, yet the wife is by no means exempt from evil consequences. She becomes weak, nervous and excitable, her eyes are dull and listless, her countenance has a sallow and jaded appearance, and in some cases we have seen traces of that indescribable expression which characterizes the public courtesan. In addition to this it often produces leucorrhœa, and inflammation, and displacements of the womb, with all their attendant train of evils.]

Sexual excess is also the grave of domestic affection. It quickly destroys the ardor of first love and

makes the husband and wife indifferent to each other's presence and society. It renders husbands cross, morose and tyrannical, and wives fretful, irritable and peevish.

In regard to what is the proper amount of indulgence, it is difficult to lay down any precise rule. Much will depend upon the age, vigor and occupation of the parties. What would be moderation in one instance might be excess in another. The great danger, however, lies in excess. We rarely need encouragement in the gratification of any desire, but rather restraint. Doctor Acton, an eminent physician of London, thinks that taking the healthy men as he finds them in that city, sexual congress ought not to take place more frequently than once in seven or ten days ; it is better, however, that gratification should be regulated by the vigor and natural demands of the system, rather than by any tally of days or weeks.

It is especially important that as persons advance in years, they should lessen the frequency with which they indulge in sexual pleasures. Many a man breaks down prematurely from over-indulgence of the passions. It is proverbial that old men who marry young wives are very likely to break down and die within one or two years afterward. The reason of this fact is easily understood, and it should be a warning to all as they approach the age of forty-five or fifty to moderate very materially the amount of their sexual indulgence.

There are times in which sexual connection should be entirely suspended ; as during menstruation , when the wife is recovering from sickness, or is suffering from any uterine disease, which is attended with hemorrhage, or which makes connection painful. Under any of these circumstances the excitement attending connection is likely to be very detrimental to the health of the wife.

THE SLEEPING APARTMENT AND BED.

The usual custom of husband and wife occupying the same bed is no doubt under ordinary circumstances the best. During the day they are usually most of the time separated from each other, engaged in their different pursuits, so that there is more need that they should enjoy each other's society during the night. By so doing they will secure a closer feeling of companionship and affection for each other.

When there is a discrepancy of thirty or forty years in the age of the husband and wife, separate beds are advisable ; for it is well known to be injurious to the health of a young person to sleep with one who is advanced in years. So, also, if on account of disease or any other cause it is desirable that the sexual relations between the husband and wife should be suspended, separate sleeping apartments should be used ; for otherwise, however good the intentions, they will rarely be carried out.

The sleeping room should be large and well ventilated. One-third of the time is passed in bed, and it is, therefore, of great importance that it should be

spent in such a manner as will most conduce to health. If you sleep in a small, close room, where you must breathe the air over two or three times before morning, you wake up weak, languid, unrefreshed, with a bad tasting mouth, and often with a headache. No sleeping-room for two persons to occupy should be less than twelve feet square, and even when of that size it is better that a window should be lowered to admit fresh air during the night.

A hair or wool mattress makes a much more healthful bed than feathers. It is immaterial so far as the health is concerned whether the mattress is placed upon the slats, so as to make a hard bed, or upon some species of springs. No more bedding should be used than is just sufficient to keep the body comfortably warm.

CHAPTER XXIV.

REPRODUCTION.

EVERY thing that lives has implanted within it the elements of decay and death. The very exercise of the vital powers is inseparably connected with their waste and gradual destruction. "Every living substance has a definite term of life, through which it passes by the operation of an invariable law, and which, at some regularly appointed time, comes to an end. The plant germinates, grows, blossoms, and bears fruit, then withers and decays. The animal is born, nourished, and brought to maturity, after which it retrogrades and dies. The very commencement of existence, by leading through its successive changes, conducts at last to its own termination."

"But while individual organisms are thus constantly perishing and disappearing from the stage, the particular kind, or species, remains in existence, apparently without any important change in the character or appearance of the organized forms belonging to it. The horse and the ox, the oak and

the pine, the different kinds of wild and domesticated animals, even the different races of man himself, have remained without any essential alteration ever since the earliest historical epochs. Yet during this period innumerable individuals belonging to each species or race, must have lived through their natural term and successively passed out of existence."* The wonderful and almost miraculous manner in which the different species are thus preserved and sustained will form the subject of our inquiry in this chapter.

DEVELOPMENT OF CELLS.

All animals and plants begin their existence in a minute cell, called the germ-cell. Many of these are so very small that one million can be contained in a single drop of water. In the development of this germ-cell, it first divides into two cells; these two cells subdivide into four; these four again subdivide into eight, and thus they go on constantly multiplying or reproducing themselves. Many of the lowest order of animals never pass beyond this simple cell-developing condition. They absorb their nourishment from surrounding substances, just as the sponge absorbs the fluid in which it is placed, and they reproduce themselves by a simple subdivision. Each cell is in a certain sense a separate individual, and has the power of multiplying itself.

In these lower types of animal life we perceive, therefore, that every part of the animal is endowed with the power of reproduction; but in all the higher

* Dalton.

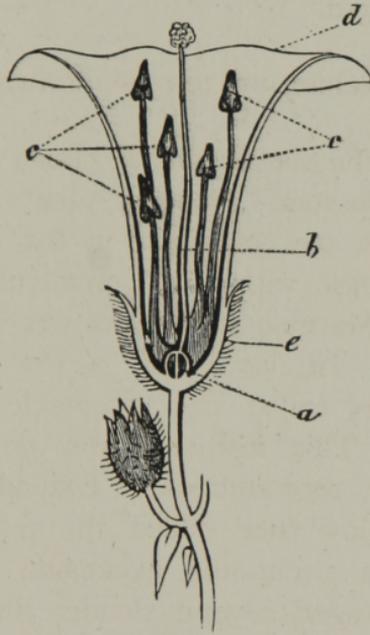
orders, of both plants and animals, only certain portions of the body have this power,—those parts known as the organs of reproduction. These furnish two elements or principles,—one known as the male and the other as the female principle ; and in order that a plant or animal may reproduce its kind, it is necessary, in all cases, that these two elements should be united.

REPRODUCTION OF PLANTS.

The reproductive organs of plants consist of the flower, or blossom. In most plants the male and female organs are contained in the same blossom. This is the case with the *Convolvulus Purpureus*, or common Morning Glory, shown in the accompanying cut. In the centre is the female organ of generation, called the receptacle, or vegetable womb. (*a.*) This furnishes the germ or female principle of reproduction. Extending up from this is a hollow tube called the pistil, (*b.*) which terminates in a cup-like expansion. Around the pistil are arranged several slender filaments known as stamens, and upon the top of these are the anthers, or male organs of the flower. (*c.*) Around these is a circle or crown of beautiful leaves, called the corolla, (*d.*) and around this still a smaller sheath of green leaves, called the calyx. (*e.*) The calyx and corolla give beauty to the flower, and also serve to protect the delicate structures which they enclose, but they are not essential to its reproduction.

The anthers when arrived at maturity, discharge a fine, organic dust, called pollen, which is the male principle of reproduction. This fine dust is caught upon the extremity of the pistil and penetrates downward through its tissues, until it reaches the vegetable womb and comes in contact with the female

FIG. 8.



SECTION OF MORNING GLORY.

principle or germ. The germ thus fecundated, the process of generation is accomplished. The pistil, anthers and corolla, wither and fall off, while the germ increases rapidly in size and changes in form and texture until it ripens into the mature fruit or seed. It is then ready to be separated from the par-

ent stem, and if placed in the proper soil, will germinate and produce a new plant similar to the old.

In the case we have described, the male and female organs are situated in the same flower ; but in some instances there are separate male and female flowers upon the same plant. This is the case with Indian corn, where the pollen from the tassel or male flower floats through the air and unites with the silk or female flower. You see, therefore, how it is that different varieties of corn may mix when planted side by side. The pollen from the tassels of one variety finds its way to the silk of the other variety, and thus produces a species of vegetable amalgamation.

In some instances the male and female flowers are situated upon different plants, one plant bearing only male blossoms, and another bearing only female blossoms. This is the case with the palm tree of the tropical climates, and of the willow and poplar of our own country. Sometimes the pollen has to float many rods through the air in order to unite with the female flower.

ANIMAL REPRODUCTION.

In the reproduction of animals, we find essentially the same principles holding true as in the reproduction of plants. In some of the lowest orders of animals, the male and female organs are found to co-exist in the same individual. This is the case with the tape-worm, the snail, the oyster, and many other of the lower animals ; so that these animals are often said to be hermaphrodite, or of double sex.

In all the higher animals, however, the two sets of generative organs are located in separate individuals, and the species are consequently divided into two sexes, male and female. The functions of the female is to furnish the female germ or egg, while the male furnishes the principle which is to vivify or give life to the egg. The only condition necessary for reproduction, is that these two principles should be brought together under circumstances favorable to their development. These circumstances vary considerably in different species of animals. We will first describe some of the simpler forms, as it will better enable us to understand human reproduction.

REPRODUCTION OF FISH.

At certain seasons of the year the female fish resorts to some quiet part of the stream, away from the swift current, where she deposits her eggs. The male fish, directed by instinct, seeks out the same locality and deposits the semen, or sperm, upon the eggs. The eggs thus impregnated, absorb nourishment from the surrounding water, and in the course of from sixteen to twenty days, they are developed into little fish. A pair of fish will often in this manner reproduce thousands of their kind in a single season.

REPRODUCTION OF BIRDS.

The reproduction of the different varieties of the feathered tribe, is also accomplished by means of eggs, which are developed outside of the body; but it differs from the reproduction of fish in that the

egg is impregnated during its formation within the generative organs, instead of after it leaves the body. These eggs are also large in size, because there must be stored in them, not only the germ of the future bird, but also the nourishment upon which it must subsist during its life within the shell.

REPRODUCTION OF QUADRUPEDS.

The reproduction of the higher order of animals, differs from that of fish and the feathered tribe in one important particular,—the eggs are retained within the generative organs of the female during the formation and development of the offspring. This renders reproduction far more difficult and complicated among the higher than among the lower animals.

It is also worthy of notice that reproduction is much less prolific as we advance to the higher order of animals. Fish and fowls multiply themselves each year by tens and hundreds; many kinds of quadrupeds give birth to several young each year; but man, standing at the head of the animal kingdom, is the least fruitful of all.

HUMAN REPRODUCTION.

The reproduction of man, like that of the lower animals which we have described, is effected by means of an ovum, or egg. We have already explained (Chap. 3,) the manner in which the egg is formed within the ovary, taken into the Fallopian tube and carried to the womb. When it reaches the

womb it has exhausted its own resources of development, and it soon passes into the vagina and is discharged from the body.

HOW IMPREGNATION TAKES PLACE.

In order that the egg may develop into a living being, it must have imparted to it the vivifying principle furnished by the male. The manner in which this reaches the egg demands a word of explanation; for the prevailing opinions upon this subject are very erroneous.

The male fluid, or semen, is a whitish, creamy substance, which to the naked eye presents nothing unusual in appearance. When, however, it is viewed through the microscope, we see floating through it great numbers of minute cells, called spermatozoa, to each of which is attached a slender filament, or tail. If we examine the semen in its recent state, these little tails are constantly in motion, propelling the cells from place to place. These germ-cells, as you would readily suspect, are the essential part of the semen. There are hundreds of these in a single drop, and each one contains the essential element of human life. They are not, as some have supposed, animals, but simply moving cells. They, however, possess a species of vitality which enables them under favorable circumstances, to retain their life and activity for several hours; yet, like the egg of the female, they have not within themselves any power of growth or development.

Impregnation is accomplished by the union of one of the spermatozoa with the egg furnished by the ovary. This union usually takes place during the passage of the egg along the Fallopian tube, but occasionally it occurs upon the surface of the ovary, or within the cavity of the womb. But we have seen that the cavity of the womb is only large enough to admit a common sized knitting-needle. How, then, are these germ-cells to find their way into the womb and Fallopian tube, where they can meet the egg? This they accomplish of their own accord, by means of the moving power which they possess. They are deposited in the act of connection within the vagina, and occasionally within the mouth of the womb. From here more or less of them work their way into the body of the womb, and finally into the Fallopian tube, where they meet the egg, when the process of impregnation is accomplished. The dormant egg has now become a living germ, and immediately begins its development into a human being.

TIME OF IMPREGNATION.

From this description it will be seen that impregnation does not take place during connection, as is generally supposed; but a sufficient time must elapse for the semen to find its way into the Fallopian tube where it can meet the egg. This will rarely require less than thirty minutes, and it may take several hours. The opinion, therefore, which is frequently entertained that the husband and wife can tell by

their own sensation when impregnation has taken place, is wholly erroneous. It is not even necessary that the wife should participate with the husband in the enjoyment of the marital embrace, although the conditions necessary for impregnation are rather more favorable when this is the case.

WHEN IMPREGNATION CAN AND WHEN IT CANNOT
TAKE PLACE.

In order that impregnation may take place, three things are necessary :--semen containing perfect germ-cells, a healthy egg, and the union of the semen and egg in the Fallopian tube, ovaries or womb. If either of these conditions is wanting, impregnation is impossible. We have seen that an egg is developed by the ovaries once in twenty-eight days ; that it enters the Fallopian tube and after remaining for a few days passes away. Hence it follows that impregnation can only occur during that part of the month that the egg is passing through the generative organs. The egg usually leaves the ovary at about the time that the woman ceases to menstruate, and occupies from five to ten days, in its passage through the generative organs. Impregnation is, therefore, most likely to occur during the first ten days after the woman ceases to menstruate. But the egg may be discharged into the Fallopian tube just before menstruation ; it may remain in the tube longer than usual ; or, again the semen may retain its vitality for a number of days ; so that impregnation may and often does occur at other times during the month.

It is probable that there are but three or four days during the month that a woman can be impregnated ; but this period may vary so greatly in different women, and also at different times in the same woman, that it is impossible to give any absolute rule which will apply to every case.

PLURAL BIRTHS.

There is usually but one egg discharged from the ovaries each month, and consequently a woman generally has but one child at a birth. Occasionally, however, an egg is discharged from each ovary, or two or more eggs are discharged from the same ovary, when, if they all become impregnated, there will be twins, triplets or even four or five children at one birth. Twins occur in about one pregnancy in every eighty, but triplets are much less frequent, while cases of four or more at a birth are so rare as to be considered curiosities.

A predisposition to plural births seems to exist in some families. It is not infrequent to find a mother and daughter, or several daughters of the same family, who have given birth to twins. It is also found that the liability to twins increases with the number of pregnancies ; and in general we may observe that plural births are more likely to occur in women who are very prolific.

Twins are not usually as healthy and rugged as other children. When there are more than two children at a birth, it is very rare for them all to live ; and

even of the twins born, fully one-half die in infancy or early childhood.

INCREASE OF POPULATION IN THE INVERSE RATIO TO
WEALTH AND REFINEMENT.

The reproduction of the species is without doubt, the most important object connected with marriage. Be ye fruitful and multiply, is the injunction both of Holy Writ and of nature, and it is alike the duty of the moralist and the scientist to encourage the propagation and increase of the human family. No greater calamity can befall any nation or race than unfruitful marriages. A distinguished English writer* claims that the cause of the decline and fall of the Roman Empire was a want of men. "The human harvest was bad." As the nation became possessed of the refinements of wealth and luxury, marriages were less fruitful until it was no longer possible to keep the army recruited from the brave old Roman stock.

The same tendency is observable in the history of all nations. When they are poor, and are struggling against hardships and privations, families increase rapidly; but when as a reward of their labor they acquire wealth, and are able to live in idleness, children become a luxury, and the families are consequently small.

This fact is even more striking when applied to the different classes of society here in our country. It is shown by extensive statistics, collected by Dr.

*Prof. Seelye.

Allen, of Lowell, Mass., that the average number of children to American families in New England, is but three or three and a-half, against an average of eight to families of a corresponding social scale a century ago. Population can barely be kept up among the cultivated classes without an average of more than three children to a family. It would seem, therefore, that the rapid increase of population in our country is mostly due to immigration, and to the more prolific families of our foreign classes.

Closely allied to this is the notable fact that large families are nearly all found among the poor, while the wealthy either have few children, or are childless. Thus it would seem that those who are least able to rear and educate their children, are the ones who, by common consent, are left to furnish the rising generation.

This arrangement, however unnatural it seems, is not without compensation. The simple habits and active labor of the poor generally give them rugged bodies so that they produce a healthy and vigorous progeny; besides, the blessings which the wealthy enjoy are so often perverted to the physical and moral ruin of their children, that there is strong reason to believe that the children of the poor and midling classes are, on the whole, better cared for than those of the rich.

PREVENTION OF CONCEPTION.

Nature has wisely associated the reproduction of the species with the highest gratification of physical

pleasure. A late distinguished president of one of our leading colleges, once asserted that were it not for this fact, the race would rapidly become extinct. However humiliating the acknowledgment, extensive observation and inquiry compel us to admit that more than half the human family owe their birth to accident, rather than to the design of their parents.

While we believe it to be the general duty of every family to contribute their full share to the rising generation, yet some cases occur where a limitation or entire prevention of offspring is desirable. There are some women with deformed pelvis to whom the birth of a child would be almost certain death. Again, some are unfortunately married, who are so tainted with consumption, or other hereditary disease, that pregnancy would greatly endanger their lives, as well as bring into the world a sickly and diseased child. It is also desirable that one pregnancy should not follow another too soon; it is better for both mother and child that from two to three years should intervene between the birth of each child. In all such instances it would seem desirable that impregnation should not occur.

There are also parents who feel that their families are already as large as they can support, and that any addition would only be robbing the bread from those whom they are already under obligations to provide for. It is useless for us to say to such, that the proper remedy is to suspend the exercise of the mar-

riage rites. Such advice would not be heeded in one case in a hundred, and we should only drive the wife to sacrifice her health, her conscience, and perhaps her life, by the terrible crime of abortion. It therefore, becomes our duty as moralists, as well as physicians, to present to our readers the information which science has revealed upon this subject.

As we have already shown, there is a considerable portion of each month, when a woman is sterile. From about ten days after the cessation of menstruation until within two days of the next period, it is not usual for a woman to become pregnant. Most women are also sterile during the time they are nursing. Many married couples with a knowledge of these facts, have been enabled to regulate the size of their families in accordance with their desires. These two periods of natural sterility offer all the opportunities for sexual indulgence which any reasonable husband ought to desire.

But many husbands are not reasonable, and will not be restrained by these natural limits. Besides these are not in all cases periods of absolute sterility, and impregnation may occur more frequently than is desirable even if connection is entirely abstained from at other times.

Are there, then, any means that may be employed which will allow of sexual gratification and yet prevent conception? Candor compels us to state at the outset that all devices for this purpose, are liable to

serious objections. Impregnation is the natural result of sexual connection, and any means made use of to thwart this purpose, opposes the most delicate and important functions of the body, and must necessarily be repulsive to the feelings, and detrimental to the health.

We are aware that there are books which teach differently. The usual course with these books is to mention the means commonly employed, with the objections to which they are liable; and then they are suddenly seized with a tender conscience, and state that there is *one* way which is both efficacious and harmless, but a conscientious regard for morality will not allow them to make it public. You will generally find, however, that their conscience does not prevent them from adding in a foot-note, or otherwise, that parties who may need the remedy, may procure it by sending them a fee of five or ten dollars. We would especially warn our readers against all such remedies, as well as against all medicines offered to the public in strict confidence, and at an exorbitant price. In most instances you will only obtain information which any physician might give you; while invariably the remedies recommended will either be useless, or highly injurious. This is a favorite field for these swindlers to operate in; for the nature of the transaction is such that they know they will not be exposed.

Nearly all the devices for avoiding conception have for their object the prevention of the semen from

passing up into the womb. The means for this purpose, which are liable to the least objection, are the use of the condom, or male shield; and of injections of warm or tepid water, immediately after connection. Neither of these remedies is a perfect preventive, nor is their frequent use free from injury to the generative organs. They are, however, in every respect preferable to the use of substances introduced into the vagina, medicated injections, incomplete connection, or any of the secret nostrums which are so extensively advertised.

We believe, however, that the better course for every married couple is, to make use of no preventive, except to limit their indulgence to the period when the wife is naturally sterile. This is the only means of avoiding conception, that is not in direct antagonism to nature, and the only means that can be employed, that will not be likely sooner or later, to inflict the punishment of ruined health and blasted hopes.

STERILITY.

Whenever, from any cause, a woman cannot become pregnant, she is said to be sterile, or barren. This has always been looked upon as a misfortune; for, however averse a woman may be to having a large family, she dislikes to feel that she is deficient in any of the functions of her sex. Besides, the families are very few who do not desire to leave some one behind to inherit their name and blood.

In families who have no children, the fault is usually assumed to be with the woman ; but this is not necessarily true. Dr. Thomas mentions two cases occurring under his own observation, where he removed the hymen, supposing it to be the cause of sterility ; but afterwards learned that the husbands were entirely impotent, and had been so ever since their marriage. Sometimes semen will appear to the naked eye to be perfectly healthy, but when viewed under the microscope we find it contains no germ-cells. Of course such semen has no life-giving power.

When the fault is with the woman, it usually arises from one of two causes :—either there are no eggs formed, or the semen cannot get access to the eggs. If there are no eggs formed, there will be no menstruation ; for menstruation is caused by the formation and discharge of the egg. Such cases are rare and are usually caused by the absence or rudimentary condition of the ovaries, Fallopian tubes or womb. They should be treated by the means already detailed for the cure of amenorrhœa, and if the menstrual functions can be established there is a reasonable hope that impregnation may take place.

The most frequent causes of sterility, is some obstruction which prevents the semen from reaching the egg. For instance, the passage of the womb may be small and contracted—barely large enough to admit a common cambric needle. In this condition the presence of a single drop of mucus will entirely

block it up, and prevent the entrance of the semen. Again, the womb may be bent upon itself as in ante-flexion or retroflexion, so that its passage will be entirely closed; or the neck of the womb may be crowded by displacements against the walls of the vagina, and thus obstruct the entrance.

Inflammation of the womb may also cause sterility. In many cases the neck of the womb is kept constantly filled with a thick tenacious discharge, which prevents the entrance of the semen; while in others the discharge from the diseased womb is so acrid as to destroy the vitality of the germ-cells contained in the semen.

Occasionally cases of sterility occur where the structure and functions of the uterine organs seem to be perfect. This is sometimes the result of a want of sexual feeling, while more frequently it is produced by causes which science has not as yet fully revealed.

FREQUENCY.—Sterility is probably rather more frequent than is generally supposed, statistics showing that about one marriage in eight is unfruitful. It is also shown that in a majority of cases, a woman who is fruitful will give birth to her first child within a year and a half of her marriage, while if three years elapse without her becoming pregnant, the chances are thirteen to one that she will remain childless. A woman, therefore, who has been married three years or more without becoming pregnant should lose

no time in adopting means calculated to remove the cause of her sterility and restore to her the full functions of her sex.

TREATMENT.—When sterility is produced by an imperfect or diseased uterus, it can often be removed by appropriate treatment. If the passage of the womb is too small, it can be enlarged by a simple operation, as already recommended for the cure of painful menstruation, resulting from the same cause. When displacement or disease of the womb exists, it should be treated in accordance with the directions already given, and with the removal of the disease we may generally expect the cure of the sterility.

Some women become pregnant with much less ease than others. In some cases the egg passes from the ovary so quickly, that there may perhaps be but a single day each month during which impregnation can take place. Hence, it often happens that women are supposed to be sterile, who, under proper circumstances might become pregnant. The time when impregnation is most likely to occur is, as we have already seen, during the first few days following the menstrual epoch; but in some instances it will not occur at this time, but will occur either during menstruation, or immediately preceding this period.

Impregnation is often prevented by too frequent sexual intercourse. In many instances women who have been supposed to be sterile, have become preg-

nant immediately upon the return of their husbands, after a separation of a few weeks or months.

We thus see that in a majority of cases, sterility is not a natural condition peculiar to certain women, but the result of a derangement of some of the uterine organs, brought on perhaps by some impropriety of dress, imprudence during menstruation, or other artificial or injurious habits. Women who do not become pregnant during the first few years of married life need not, therefore, consider their cases hopeless; for in many instances the sterility may be removed by proper management, or by suitable medical and surgical treatment.

CAN THE SEXES BE PRODUCED AT WILL?

Many theories have been propounded pretending to explain what it is in the process of generation which determines the sex of the child. Some claim that the eggs from one ovary produce male children, and from the other female; others that the sex is determined by the relative vigor of the egg furnished by the female, and the spermatozoa furnished by the male. If either of these theories were true—which is very doubtful—it would furnish no clue to the voluntary production of the sexes.

The most popular theory at the present time is that advanced by Prof. Thury, of Geneva, Switzerland. He claims that if the egg is impregnated when it first leaves the ovary, the product of conception will be female, but if at a later period, male.

In accordance with this principle, he has laid down the following rule for stock raisers: "If you wish to produce females, give the male at the first sign of heat; if you wish males give him at the end of the heat."

This rule has been put to the test by numerous stock-growers, in both this country and Europe, and so far as we have seen their reports, it has always been found to succeed. One trustworthy stock-raiser testifies that he has made twenty-nine experiments after this plan, and has not had a single failure.

In applying this rule to human reproduction it is claimed, that "Whenever intercourse has taken place in from two to six days after the cessation of the menses, girls have been produced; and whenever intercourse has taken place in from nine to twelve days after the cessation of the menses, boys have been produced," We regret to say, however, that the cases of human reproduction which have been reported do not all confirm this theory. The number of statistics is as yet too limited to form any definite conclusion; but it is to be hoped that the theory will be found to contain some germs of truth, which may be made serviceable to mankind. Any reliable facts for or against this theory, which our readers may be able to communicate to us will be thankfully received; and whatever deductions we can make from the statistics thus collected, will be given to the public at some future time.

CHAPTER XXV.

PREGNANCY.

AS soon as impregnation takes place, the egg, if in the Fallopian tube or ovary, passes to the womb. At the same time the lining membrane of the womb is thrown into ridges or folds, into one of which the egg is received. This fold then grows around the egg and forms a membranous sack, which encloses it and increases with its growth, firmly attaching it to the womb during the whole period of the development of the fœtus.

DEVELOPMENT OF THE EGG.

In the course of twelve or fifteen days after impregnation, the egg begins to show some trace of its formation into a living substance. At one month it resembles in size and appearance a maggot curled up. Traces of the eyes and mouth are visible, but the limbs have not yet made their appearance.

At two months the embryo is about the size of the little finger, and upon first inspection it resembles a young mouse much more than the tiny specimen of

humanity which it is. On closer examination, however, we are able to trace faint outlines of the human form and to distinguish the rudiments of the hands and feet.

From this time the growth of the fœtus is more rapid. At the end of three months nearly all the organs of the body are sufficiently developed to be easily recognized, and the sex of the child, now for the first time, becomes apparent.

ELEVATION OF THE WOMB.

From the third to the fourth month important changes take place in both the womb and the fœtus. Up to this time the womb has remained in the pelvic cavity in nearly its natural position. But now the womb becomes so large that there is no longer room for it in the pelvis, and it accordingly rises up in the body, producing the first enlargement of the abdomen.

NOURISHMENT OF THE FŒTUS.

During the first few weeks of the existence of the fœtus, the heart and arteries are undeveloped; it receives its nourishment by absorption through the pores of the skin and by the aid of little blood vessels that connect the womb with the embryo. But at the end of about three months, the fœtus has attained such a growth that a more abundant supply of nourishment must be provided. This is accomplished by the formation of the placenta and umbilical cord. The placenta consists of a mass of blood vessels attached to the side of the womb. The um-

bilical cord is composed of an artery and two veins which pass from the placenta to the naval of the child, connecting the placenta with the heart and arteries of the fœtus. By means of this arrangement the blood of the child all passes to the placenta and is purified by contact with the mother's blood, very much as the blood of a person is purified by passing to the lungs and coming in contact with the air.

TIME OF QUICKENING.

After the formation of the placenta and umbilical cord, the growth of the fœtus becomes more rapid, and the muscles soon acquire sufficient strength to make the movements of the child felt by its mother. This period is called the time of quickening. It usually occurs about mid-way between the fourth and fifth months, but it may take place earlier, or a few weeks later.

A popular impression often prevails, that at this time life is first imparted to the unborn child; but this is a great mistake. Life begins with the very instant of conception, but it is not until the period of quickening that the child is sufficiently strong to make its movements felt. The impression, therefore, which sometimes prevails that the death of the child before the period of quickening, is not attended with guilt, is wholly without foundation in fact.

FURTHER DEVELOPMENT OF THE FŒTUS.

At five months the fœtus will usually weigh from sixteen to twenty-four ounces; its nails are beginning

to form and its movements are more distinctly felt. The beating of the fœtal heart can now be heard by listening for it attentively. It will at this time beat from one hundred and thirty to one hundred and forty times each minute.

At six months the fœtus is so far developed that should an abortion take place, the child might be born alive, but it would probably live but a few minutes. The nails are about half formed and a little down appears upon the head.

AGE AT WHICH A CHILD MAY LIVE.

Seven months is the earliest age at which a child may be expected to live. There are a very few instances in which children a little younger have been reared ; but the majority of such cases which are reported, rest upon too poor testimony to be received with confidence. Not more than one-third of the children born at seven months are raised. A child born at eight months stands nearly as good a chance of living as one born at the full term.

During the eighth and ninth months the child increases considerably in size and in its general development. The womb rises high up in the cavity of the abdomen, and crowds upon the heart and lungs, so as to cause shortness of breath and palpitation of the heart. During the last two weeks of pregnancy the womb usually settles down, so as to partially relieve these unpleasant symptoms.

GROWTH OF THE WOMB.

During the whole development of pregnancy the size of the womb keeps pace with the growth of the foetus. The womb at first is a small organ, only three inches in length, and holds but a few drops; at the close of pregnancy it is ten or twelve inches in length and holds nearly a gallon. Its increase in weight is no less remarkable. At first it weighs less than two ounces, but during the changes of pregnancy new material is added to it, until at the time of child-birth it weighs from three to four pounds.

DURATION OF PREGNANCY.

This may be reckoned either from the last menstruation, or from the time of connection. In the first case you should reckon forty weeks, or ten lunar months from the close of the last menstrual period. If you compute from the time of connection, then add thirty-nine weeks or nine calendar months. A very convenient method is to fix the date of the last menstrual period, and add to it nine months and seven days. This reckoning in the majority of cases will not vary more than three or four days from the time of confinement.

If neither of these dates can be fixed, the best estimate will be to reckon four and a half months from the time the movements of the child are first felt. This plan is however much less reliable than the others. A woman is occasionally liable to err in reckoning from the last menstrual period; for

impregnation may occur just before the time of menstruation, when the period will pass over. In this case the woman will reckon from the previous menstruation, which occurred nearly a month before she became pregnant.

While two hundred and eighty days is the usual duration of pregnancy, yet this period is liable to considerable variation. We have already seen that children may live who are born at the end of seven months. On the other hand a woman may go over her time two, and sometimes three or more weeks. Dr. Simpson, records cases as occurring in his practice, in which the pregnancies reached three hundred and thirty-six, three hundred and thirty-two, three hundred and twenty-four and three hundred and nineteen days; and Prof. Meigs, publishes one case which reached three hundred and twenty days; but even if these statistics are correct, such instances are too rare to render their occurrence in any given case probable. The "Code Napoleon," allows a child to be considered legitimate which is born one hundred and eighty days after marriage, or within three hundred days after the death of the husband.

SYMPTOMS OF PREGNANCY.

I. *Cessation of Menstruation.*—This is usually the first indication of pregnancy. The time of the monthly sickness comes round, but menstruation does not appear, and the woman immediately concludes that she is pregnant. This symptom, although

true in the majority of cases, is yet liable to frequent exceptions. We have already seen in a previous chapter, that cessation of the menses may occur from many other causes besides pregnancy. On the other hand, cases sometimes occur where menstruation continues during a part, or the whole period of gestation. It is not unusual for young married women to have a slight show during the first two or three months after conception. Dr. Bedford relates the case of a lady he attended, in four confinements, who menstruated regularly during the whole period of each pregnancy. Some cases, more remarkable still, have been recorded, where women have menstruated during pregnancy, and at no other time. It will, therefore, be seen that while the cessation of the menses in a married woman, renders it highly probable that she is pregnant, yet the evidence is not positive.

2. *Nausea and Vomiting*, is a very constant, and often very annoying symptom of pregnancy. Occasionally it commences immediately upon the occurrence of conception, so that the woman is enabled to reckon the duration of her pregnancy from this period. Usually, however, it does not occur sooner than the fourth or fifth week, and lasts until the third or fourth month, when it disappears; but partially returns again during the eighth and ninth months.

In some women this symptom does not occur at all, while in others it continues during the whole period of gestation, and is a source of great annoy-

ance and distress. A popular impression often exists that the absence of the morning sickness is unfavorable to the health of the mother ; but there is very little evidence in favor of this belief.

3. *Enlargement of the Abdomen.*—The first enlargement of the abdomen occurs, as we have already stated, between the third and fourth months. From this time it increases rapidly in size, until the close of gestation. This symptom is, however, of very little service in determining pregnancy, except as it is taken in connection with other and more valuable signs ; for dropsy and tumors of the abdomen may produce an enlargement not easily recognized from that of pregnancy.

4. *Changes in the Breasts.*—As a general rule the breasts become somewhat larger than usual, and are the seat of a slight pain or prickling sensation. The veins of the breasts are also more distinct, the nipples become prominent and tender, while a slight secretion of milk may be present. As these same symptoms may occur with disease of the uterine organs, they are of but little value as an indication of pregnancy.

A more important symptom is the changes in the areola, or dark circle around the nipples. In the virgin this is of a rose color, but during the third month of pregnancy, it begins to enlarge and changes to a darker color which in brunettes is sometimes almost black ; while little papilla, or wart-like

substance, rise up in various parts of it. These discolorations of the areola, when once formed, do not usually go entirely away, so that they are only serviceable as a symptom of the first pregnancy.

5. *Quickening*.—This is the first certain evidence of pregnancy which occurs. The presence of the other symptoms we have enumerated, render pregnancy extremely probable; but when the mother distinctly and repeatedly feels the movements of the child, all doubt is removed. It is true instances have been recorded where a woman in her desire to become a mother, has imagined that she felt a motion which did not exist, yet such cases are too rare to materially influence the value of this symptom.

6. *Beating of the Fœtal Heart*.—This can usually be detected any time after the fifth month, by applying the ear or stethoscope over the region of the uterus, and when distinctly heard, it is positive proof of pregnancy. It can easily be distinguished from the pulsations of the mother's heart, by its rapidity,—the fœtal heart beating from one hundred and twenty-five, to one hundred and forty times in a minute.

7. *Additional Symptoms*.—Besides the more important symptoms which we have given, there are several others worthy of notice. The appetite is often abnormal and capricious. The pregnant woman has an aversion for many articles of food, which at other times she relishes, while she desires other articles which are usually distasteful to her.

An unusual secretion of saliva often exists, and frequently a woman is greatly annoyed by her constant desire to spit

A marked change often occurs in her mental condition. She is much more likely to be peevish, cross and unreasonable in her desires, than at other times. On the other hand, some women who are habitually ill-tempered, are of the best disposition when they are pregnant.

IMMUNITY FROM DISEASE DURING PREGNANCY.

As a compensation for the various unpleasant symptoms which attend the pregnant woman, pregnancy is almost entirely exempt from all acute diseases. She may be exposed to fever, cholera, or even such contagious diseases as small-pox and measles, yet she will rarely contract them. The system seems to be in such a state of physical activity that it is proof against their poisonous assaults. In some cases, even slight tubercular deposits upon the lungs have been cured by pregnancy. It is, however, an unsafe remedy; for should the recovery not be complete, the woman will suffer more from the depressing influence of childbirth, than she has gained by pregnancy. In the exceptional instances that acute diseases do occur during pregnancy, they are unusually severe.

HYGIENE OF PREGNANCY.

It is desirable during the period of pregnancy that the woman should have the benefit of the most favor-

able hygienic influences ; for her health and safety are greatly influenced by the care she takes of herself at this time. Besides, it is now generally conceded that the health, mind and disposition of the child, depend in no small degree upon the condition of the mother during pregnancy.

PURE AIR.

No person can enjoy perfect health and breathe a vitiated atmosphere ; but especially is it important that the pregnant woman should have an abundance of pure air. The demands of the system are large, and she is consequently more than usually susceptible to injurious influences. If the circumstances and strength permit, much time should be spent in the open air ; when this is impracticable the room should be well ventilated, and several times each day the doors and windows should be thrown open, that the air of the room may be completely changed. Care should of course be taken during the change not to allow the body to get chilled so as to take cold.

EXERCISE.

The kind and amount of exercise must depend very much upon the woman's strength, and her liability to a miscarriage. If she has suffered from former miscarriages she must be extremely careful and moderate in all she does, especially during that part of her pregnancy, corresponding to the time of her former miscarriage. Such violent exercise as dancing, horse-back riding, climbing, and heavy lifting, should be avoided ; but walking, riding in an

easy carriage, house-work, and the other usual avocations of ladies, may be engaged in with caution, the same as at other times.

GOING INTO SOCIETY.

We cannot too strongly protest against the somewhat common practice of a woman shutting herself up in a room and avoiding society during her pregnancy. A woman should no more be ashamed of being pregnant, than she should be ashamed of the beautiful babe which she nurses at her bosom; and it is a false idea of modesty which prompts to such a feeling. Yet many women dread pregnancy more because of the seclusion it forces upon them, than from any other circumstance connected with it. Such a course is highly detrimental to health, for at no time in her life does a woman so much need the cheerful influence and encouragement of society.

CLOTHING.

The remarks that we have made upon clothing in previous chapters, apply with even greater force to the period of pregnancy. Especially is it important at this time that the body should be dressed loosely. A very foolish and dangerous practice often exists among young wives of lacing their body, for the purpose of concealing their condition. Many instances of severe sickness, and often death, are produced in this way. The first case we ever lost in our medical practice, was that of a woman four months and a half pregnant, with puerpural convulsions, produced

by tight lacing. She had been married but a few months, and like many others, was trying to conceal her condition from her friends, when without a moment's warning, she was seized with convulsions and died in fourteen hours. The result of imprudence in dress was in this case unusually severe, but in all instances, the danger is greater than a woman can afford to risk.

SLEEP.

A woman usually desires to sleep more during pregnancy than at other times. The changes going on in the body are unusually active, and it requires more time than usual to rest the machinery and repair the waste. A pregnant woman should, therefore, be allowed to sleep as late in the morning as she desires ; and if an extra nap during the day conduces to her comfort, this also should not be denied her.

BATHING.

If a woman is accustomed to a daily, semi-weekly or weekly sponge, or towel bath, she may continue the same practice during her pregnancy ; but shower baths, and any other baths that would cause a shock to the system should be avoided. We would recommend every pregnant woman, whether accustomed to bathing or not, to wash the body with warm or tepid water, in a warm room, at least once each week.

DIET.

No special change needs to be made in the diet during pregnancy, except that it should be composed of

plain, nourishing, and wholesome food. When there is much derangement of the stomach, those articles should be selected which experience proves to agree the best.

There is often, as we have already seen, a decided change in the appetite. So far as these new desires are for food that is wholesome, they may be gratified; but when there is a craving for chalk, slate-stones, and other similar substances, it indicates a depraved appetite which should not be indulged.

The appetite directed with judgment, is usually all the guide necessary in regard to the quantity of food. The practice which sometimes prevails of making a pregnant woman "eat for two" is very reprehensible; for by over-loading the stomach digestion is deranged, and less nourishment is taken into the system, than by eating just what the appetite calls for.

GRATIFICATION OF DESIRES.

A curious superstition often exists that if a pregnant woman is denied the gratification of any desire her child will be marked with a resemblance of the forbidden object. A careful investigation of this subject proves that this superstition has little or no foundation in fact. Dr. William Hunter, of London, in an experience of two thousand cases of labor, always asked the mother as soon as the child was born if she had been disappointed in any desire, and in not a single instance was there any mark corresponding to the expectations of the mother.

While facts like these should set the mind of the pregnant woman at rest, yet we would advise that her caprices be always treated with respect, and when reasonable, gratified. They are for the most part involuntary, and if not gratified it often throws the woman into a state of anxiety and agitation, which is detrimental both to her own health and that of her unborn babe.

MOTHER'S MARKS, DEFORMITIES, ETC.

It is yet a disputed question whether mother's marks and deformities, are ever produced by impressions made upon the mother's mind during pregnancy. Some deformities, like hair-lip, supernumerary fingers and toes, &c., are sometimes hereditary in certain families; but in other instances we can discover no traces of hereditary descent. In the great majority of cases no explanation can be offered for the deformity; but in an occasional instance there is such a correspondence between the mark of the child, and a powerful mental impression of the mother, that it leaves no reasonable doubt of the relation of cause and effect.

A woman who is pregnant should, therefore, avoid seeing deformed people, and frightful or repulsive sights of every kind. If anything does occur which makes a strong impression upon her, she should not brood over it, but cast it from her mind as soon as possible; for the chances of its affecting her are probably greatly enhanced by her own expectation of evil results.

MOTHER'S INFLUENCE UPON HER CHILD.

The health of the parents at the time of conception determines in no small degree, the vigor and constitution of the child. It is therefore, not desirable that impregnation should take place when either of the parents are recovering from sickness, or are in poor health. But with the occurrence of conception the father's influence ceases, while the mother's continues during the whole of intra-uterine life. For this reason the constitution and mind of the child are usually derived more from the mother than the father. Men who have risen to eminence in life, nearly always owe their distinction to a noble and intelligent mother.

There is also little question but that the state of the mother's mind during pregnancy, has much to do in fashioning the looks, disposition and intelligence of her offspring. Not that she has the power to make it anything she wishes, but the prevailing state of her mind will leave its impress upon the child. If she is cheerful and happy, and her mind is occupied with noble thoughts and aspirations, the chances are that her child will inherit the same qualities; but if she is cross and peevish, and her thoughts do not rise above personal vanity and petty gossip, she will entail the same ignoble traits upon her offspring.

Even the personal appearance of the child may be influenced by the ideal of its mother. If her mind dwells on pictures and faces which are beautiful, her

child will partake of some of the same qualities of beauty. It may be that the admiration of the wife for the husband, gives the child a stronger resemblance to the father than it would possess from inheritance alone.

RELATION OF HUSBAND AND WIFE.

Women who have formerly suffered from miscarriage, should abstain from sexual intercourse until after the period, when the miscarriage is likely to occur. In other instances there is no objection to the usual relations being maintained between husband and wife. It should, however, be remembered that excessive sexual intercourse, is very liable to produce miscarriage, especially during the first few months of pregnancy.

DERANGEMENTS OF PREGNANCY.

Pregnancy is not a condition of disease, but as we have already shown, a state of increased physical activity. Owing partly, however, to accidental causes, and partly to the injurious habits of civilized life, it is often accompanied by certain derangements which are a source of great annoyance, and sometimes of danger.

Constipation and Diarrhœa.—Irregularity of the bowels is so frequent during pregnancy, that it should be looked upon as the rule, rather than the exception. Constipation is more common than diarrhœa, but both are a frequent cause of headache, neuralgia, and other distressing symptoms which accompany pregnancy.

When constipation exists it should be treated by the hygienic and medicinal means which we have already described in the previous chapter upon that subject.

The treatment of diarrhœa will depend somewhat upon its cause. If it follows constipation, or is the result of improper food, it is best treated by a dose of rhubarb or Epsom salts. If, on the other hand, it comes on without any apparent cause, or if it continues for some days, it should be treated by rest and astringents. Opium, in pills of one grain each, may be taken once or twice each day, or the following prescription may be used :

FORMULA 12.

Chalk Mixture,	-	-	6 ounces.
Laudanum,	-	-	1 drachm.
Tincture of Catechu,	-	-	1 drachm.
Tincture of Kino,	-	-	1 drachm.

Dose, one tablespoonful two or three times each day.

Nausea and Vomiting.—This, as we have already seen, is an almost constant accompaniment of the early months of pregnancy. It is not ordinarily a source of sufficient annoyance to require attention ; but occasionally the vomiting is so severe as to seriously interfere with the nutrition of the body. In such instances means should be taken to relieve this symptom. The effect of different articles of food should be tried, and the diet confined to those which

agree best. Sometimes it is better to take a little food at frequent intervals, rather than eat three full meals each day. In some instances the morning sickness may be avoided by eating the breakfast before rising from the bed. Swallowing lumps of ice will often relieve the sickness at the stomach.

If medicinal agents are required the effect of one or two Seidlitz powders each day may be tried. The following prescription we have frequently found of great service:

FORMULA 13.

Oxalate of Cereum,	-	-	30 grains.
Extract of Gentian,	-	-	20 grains.

Make into twelve pills, and take one, two or three times each day.

Bromide of Potassium has also been highly recommended. Dissolve two drachms in two ounces of cinnamon water, and take a teaspoonful two or three times each day. If derangement of the bowels exists in connection with the nausea and vomiting, attention to the condition of the bowels will often greatly relieve the trouble with the stomach.

Salivation.—We have already alluded to salivation as a frequent symptom of pregnancy. Occasionally the secretion of saliva is so excessive as to become a source of great annoyance. It may generally be relieved by the frequent use of a laxative of Rochelle or Epsom Salts. Gargling the mouth with alum water is also beneficial.

Toothache.—This is often a distressing accompaniment of pregnancy. In most instances a decayed tooth will be found to be the source of the trouble. If the woman is extremely sensitive, or if she is liable to miscarry, she will incur some risk in having the tooth disturbed; but otherwise, the filling or removal of the offending tooth, is the easiest way to cure the difficulty. The best application to a diseased tooth is to take a drop of creosote or oil of cloves, add to it a quarter of a grain of morphine, place it upon a bit of cotton and introduce carefully into the cavity of the tooth. Should this fail to ease the pain, relief must be sought in hot fomentations to the cheek, and the internal use of anodynes.

Fainting.—During the whole of pregnancy women are more liable to fainting spells than at other times; but they occur most frequently about the period of quickening. They need not occasion any alarm either to the patient or her attendants, for they indicate no disease or danger. The treatment of a fainting person ought, however, to be understood by every individual, as serious consequences may arise from mismanagement. The first and most important thing to be done is to lay the woman down with her head lower than her body. A person faints because there is too little blood in the brain; yet nearly every one will insist upon propping up the head, thus preventing as far as possible the return of the blood. After putting the body in position loosen the clothing around the neck and waist, admit

plenty of fresh air, sprinkle cold water in the face, and if convenient, apply hartshorn or camphor to the nose. This treatment will quickly restore the person to consciousness and strength.

ABORTION.

By abortion is meant the premature expulsion of the foetus from the womb. If it occurs before the end of the sixth month it is termed miscarriage; if after this time, premature labor.

This is a subject of great importance, not only to mothers, but to society at large; for the loss of life from this source is so great as to exercise a material influence upon the increase of population. From the statistics collected by Dr. Whitehead, it appears that over one-third of the married women who reach the age of thirty, have suffered from one or more abortions, while one-sixth of all the pregnancies that occur terminate prematurely. At our present birth rate in the United States, this would amount to nearly two hundred thousand each year who perish from premature delivery.

CAUSES.—The condition of the mother's health exercises an important influence in the production of abortion. Women who are sickly, and especially those who suffer from such constitutional diseases as scrofula and syphilis; those who have enfeebled their constitution by injurious modes of dress; those who are very fleshy and those who marry at an advanced age, are very liable to a miscarriage. So, also, those

who have miscarried once, are very liable to do so at subsequent pregnancies. Any severe sickness like fever, small-pox, cholera, &c., is very likely to be followed by abortion. We have already remarked that such diseases do not often occur, but when they do happen, they are quite likely to be fatal to both mother and child.

Besides these general causes there are many special causes; such as a severe blow or fall, dancing, or excessive exertion of any kind, sexual excitement, a sudden fright, violent emotions of joy, grief or anger—in short, anything which makes a strong or sudden impression upon the system.

It should be remarked, however, that these causes are much more likely to produce an abortion in some than in others. In those who are predisposed to miscarriage, the slightest occurrence may be sufficient to bring it on; while others will endure excessive hardships and violence without any disturbance to the fœtus.

Another somewhat frequent cause of abortion is the death of the fœtus. This may occur from disease, a blow, fright, and a variety of other causes. Symptoms of abortion usually come on very soon after the child dies, but occasionally two or three weeks will elapse. The death of the fœtus may be suspected when the mother ceases for some days to feel its movements; but the only sure indication, is the absence of the beating of the fœtal heart.

SYMPTOMS.—These may be summed up in two words — *pain* and *hemorrhage*. The pain which indicates a threatened abortion, is not constant, but intermittent and paroxysmal, like the pain of labor. It is usually felt in the region of the uterus, but may extend to the back and loins.

Pains often occur in the lower part of the body during pregnancy, from derangement of the bowels and other causes, which have no relation to the condition of the uterus. These can usually be distinguished from the symptoms preceding abortion, by the character of the pains, and by their not being accompanied with hemorrhage.

So, also, hemorrhage is not a sure indication of abortion. Some women, as we have already seen, naturally menstruate during pregnancy; while others may have disease of the vagina, or neck of the womb, which will cause hemorrhage. The occurrence of either pain or hemorrhage during pregnancy, is always to be looked upon with apprehension, and unless certain that it originates from some other source than the pregnant uterus, it is safest to treat it as though it were due to a threatened abortion.

TREATMENT.—When a pregnant woman is taken with the symptoms of abortion she should immediately take to her bed and remain perfectly quiet. This is of first importance, and without it other remedies are of little avail. The room should also be kept quiet and moderately cool, the covering of the

bed should be light, and she should drink freely of cool and acidulated drinks, like lemonade ; or the following preparation of sulphuric acid :—

FORMULA 14.

Dilute Sulphuric Acid,	-	2 drachms.
Water,	- - - -	$\frac{1}{2}$ pint.

Sweeten to the taste. Dose, one or two table-spoonfuls every half hour.

The pain may be relieved by injections of thirty drops of laudanum, as recommended for painful menstruation, on page 195 ; or by one grain pills of opium, taken every six hours ; while the hemorrhage should be controlled by the use of cold applications, after the manner already described in the treatment of menorrhagia.

In most instances these directions faithfully carried out will succeed in preventing an abortion ; sometimes, even when the loss of blood is very great, the woman will still carry her child to the full term of pregnancy. If, however, the pains increase in frequency, and the hemorrhage becomes more profuse in spite of the treatment, there is no longer any hope of preventing the escape of the foetus, and a physician should be summoned as soon as possible.

While awaiting the arrival of the physician, the directions which we have already given for controlling the pain and hemorrhage should be continued. If at any time, either before or after the womb has expelled the foetus, the loss of blood should be so

great as to endanger the life of the woman, not a moment's time should be lost, but the vagina should be filled with a tampon of cotton as directed on page 203.

Many women consider an abortion a slight affair, and accordingly, in the course of two or three days they get upon their feet and perhaps resume their ordinary duties. This is a great mistake. Sickness and uterine diseases are more frequently produced by abortion than by labor at full term, for the reason that the latter is usually followed by a period of repose, while the former is not. In either instance the womb is enlarged much beyond its natural dimensions, and it requires time for it to return to its normal size.

After an abortion occurring even as early as the sixth or eighth week of pregnancy, no woman who values her future health should stand upon her feet in less than one or two weeks, nor should she engage in her ordinary duties sooner than four or five weeks. A few days or weeks saved at this time is often procured at the expense of months and years of future suffering.

CRIMINAL ABORTION.

This part of our subject we would gladly pass over in silence were it not that the magnitude of the evil is so great, that every feeling of philanthropy and morality calls upon us to speak of it in its true light. If this evil were principally resorted to for the pur-

pose of covering up the fruits of licentiousness, and shielding from open disgrace the victims of dishonored virtue, there might perhaps be a faint apology for silence; but with shame for the wives and mothers of our land, we are compelled to state that they are the chief offenders. This statement may seem strange to the ears of many a devoted Christian wife and mother, but to the physician, who is a general receiver of family secrets, it is a well known fact.

It would be impossible to estimate the number of abortions annually produced in this country, though there can be no question but that they would be counted by thousands. There is scarcely a village of four or five thousand inhabitants, which has not one or more professional abortionists, many of whom count their victims each year by scores and hundreds.

It is now generally conceded by all who are informed upon the subject, that intentional abortion is, to all intents and purposes, murder. A child is as much a living being while within the womb, as after it is born. All the functions of its body, except breathing, are as perfectly performed in the one case as in the other. Some have tried to make the distinction, that before the time of quickening the child has no life, and therefore, there is no sin in its destruction; but we have already shown that the time of quickening, is simply the period when the child attains sufficient strength to make its move-

ments felt by its mother. The development of the child is a steady process of growth, from the moment of conception, until the full stature of manhood is attained, and there is every reason to believe that life begins with the first union of the male and female germ-cells.

This fact has been recognized by law-givers and legislators in nearly every age and country; and they have accordingly made intentional abortion a crime, and all who are accessory to it, punishable with imprisonment, and in some instances, with death. The laws of a few States discriminate between a child that is *quick* and *not quick*, but this distinction is now acknowledged by all scientific men to be without foundation; and no doubt our law-givers will soon change the statutes accordingly.

Let it then be distinctly understood that the person who intentionally produces an abortion, whether by the use of medicines, instruments, or any other means, is in the sight of man a criminal, and in the sight of God a murderer; and the mother and friends who assent to the act are accomplices in the guilt. In the light of these facts we appeal to parents:—are you willing to incur the responsibility of this deed? are you willing to appear before the bar of God, a destroyer of your own flesh and blood?

We might adduce as a reason against intentional abortion, the great risk to the mother's life and health: if she cares not for her moral obligation in the mat-

ter, a sufficient regard for her own welfare should deter her from the terrible act ; but the other and stronger considerations are all that any true woman will need.

Society at large also has a duty in this matter. The united interests of humanity and Christianity demand that this crime should be discountenanced in every possible way. Any person who will employ a known abortionist in his family, or any physician who will counsel with one in practice, thereby lends his influence to this nefarious practice, and helps to give respectability to the perpetrators of this terrible crime.

CHAPTER XXVI.

CHILDBIRTH.

WHEN the fœtus in the womb has sufficiently developed to enable it to maintain a separate existence, the birth of the child takes place. This may occur, as we have already seen, as early as the seventh month, although the usual time is nine months, or about forty weeks.

CAUSES.—There has been much speculation as to the exciting cause of labor, but no satisfactory explanation has ever been given. We know that when the apple or peach is ripe it falls from the tree; so, also, when the child is ready for an independent existence, it is born; but the reason in either case is a mystery which science has not revealed.

The expulsion of the child is principally caused by the contraction of the womb. As we have already seen, the womb is greatly increased in size during pregnancy, until it becomes a large and powerful organ. It might with propriety be called a hollow muscle, for it is composed almost entirely of muscu-

lar fibers. In the act of labor these fibers contract upon the child, and thus gradually expel it from the body.

PREPARATION FOR CONFINEMENT.

As the period of confinement approaches, there are certain preparations which the mother should make, both for herself and for the little stranger whose advent is expected.

The only articles needed by the mother in addition to her ordinary wardrobe, are two bandages, fourteen or sixteen inches wide, and long enough to go around the body; and a piece of rubber cloth or oil silk, three or four feet square, to place under the sheet as a protection for the bed. The bandages may be gored and fitted to the form; or they may consist of a straight piece of cloth, according to the preference of the physician who is to attend the case. If fitted to the form it should be done during the fourth month of pregnancy; for at this time the abdomen is of about the same size as immediately after delivery.

LIST OF ARTICLES FOR THE CHILD.

The following list will be found to contain all that is needed for the child. It can be enlarged or somewhat diminished, according to the taste and means of the mother:

Three flannel bands, six inches wide and one-half of a yard long.

Six chemises, made whole in front and buttoned on the shoulders.

Six pina-blankets, made of flannel with muslin bodies. These should be one breadth and a-half wide and one yard long, and should be left open the whole length in front.

Four flannel skirts.

Four cotton skirts

Five slips.

Three dresses.

Four night-slips.

Four dozen linen diapers.

One dozen bibs.

One flannel blanket, to throw over the child's shoulders.

Three sacques, crocheted of split zephyr.

One cloak. An excellent material for the cloak is white corduroy ; it is warm, and will wash without injury.

The mother should also provide two papers of pins—large and small sizes ; a pair of blunt pointed scissors, for cutting the navel cord ; a piece of soft linen and a stout string for dressing the navel ; a bottle of sweet oil, and a piece of Castile or honey soap.

All the clothing should be unstarched, and the dresses and slips should be made high in the neck and with long sleeves.

It is desirable that as much of the preparation as possible, should be made before the seventh month, so that if labor takes place sooner than is expected, the mother may not be unprepared. A complete suit of clothing, together with the mother's band and all the articles needed in washing and dressing the child, should be selected beforehand and put in some convenient place by themselves, where they may be found without delay when needed.

TRAINING THE NIPPLES.

Many young mothers suffer a great amount of annoyance, because the nipples are so small that the child cannot easily get hold of them, or so tender that nursing is attended with severe pain. This difficulty can in nearly all cases be avoided by proper precautions. During the last months of pregnancy the nipples should be toughened, by gently rubbing them and drawing them out with the fingers several times each day. If these manipulations make them tender, they may be washed once or twice each day with a solution of alum.

ATTENTION TO THE BOWELS.

As the period of confinement approaches, it is important that the bowels should be kept loose. If

this cannot be done by regulating the diet, injections of warm water, or some mild laxative medicine, should be employed.

SYMPTOMS OF LABOR.

A few days before the commencement of labor, the womb usually settles down in the abdomen, so as to greatly relieve the pressure and shortness of breath, which characterizes the last few weeks of pregnancy. The motions of the child also become less distinct, or cease altogether. If the neck of the womb is now examined, it will be found more or less open, so that the finger can be readily introduced into the womb, against the membrane that covers the child. There may also be a bad feeling in the region of the uterus, with an occasional pain in the back or thighs.

In many instances, however, these symptoms will not be observed, but the first indication of labor will be the occurrence of the labor-pains. These pains are so peculiar in their character, that they are readily recognized; they are intermittent—that is, they come on at intervals. At first fifteen or twenty minutes may intervene between the pains, but as the labor advances the intervals shorten down to two or three minutes. Labor-pains usually commence in the back, and pass forward into the thighs. At the commencement of confinement, the pains are of a grinding character; but afterwards they change to a “bearing down” pain. By placing the hand over

the abdomen during a pain, the womb can be felt to contract under the hand. These peculiarities will serve to distinguish the true labor-pain, from the false pains which are liable to occur during the last weeks of pregnancy.

The occurrence of a bloody discharge from the vagina, and the breaking of the bag of waters, are also indications that labor is about to commence. They are not, however, reliable signs; for they are often absent, and when present it is sometimes several days before labor takes place. When they occur in connection with the labor-pain, it is additional evidence that labor has commenced.

THE PHYSICIAN.

As soon as active labor-pains set in, a physician should be summoned. In many instances it will be several hours before his services will be needed; but it is better for him to be too early than too late.

We would in all cases advise that an educated and competent physician should be employed, rather than that the woman should trust herself to an uneducated, although experienced nurse. If the labor should be, in all respects, natural, the nurse may get along very well; but if it should be difficult, or protracted, the physician's services and counsel are needed; and it is much better that he should attend the case from the first, than that he should be called in after the attempts of others have failed, when it is perhaps too late for his skill to be of any service.

It is in many respects desirable that women should attend to this branch of professional work, and if they are properly qualified and educated physicians, it may safely be entrusted to their hands; but an ignorant and unqualified woman is no more to be respected as a physician, than a man of the same false pretensions.

LABOR.

In some instances a physician cannot be procured, or he may be tardy in reaching his patient; we will therefore give briefly the directions to be pursued in the absence of the physician.

During the early stages of labor the woman may assume any position which she chooses. "She may walk about, and occupy herself with the preparations for the coming infant, or other casual matters. The pains may be borne in a sitting or standing position as may seem most easy. No voluntary efforts or straining should at this time be permitted. The more freedom we allow, of course in moderation, to the patient during this stage, the less fatigue she will feel during the succeeding stages of labor."*

When the pains become frequent and severe, and of a "bearing down" character, the woman will be more comfortable to remain in bed. She now has a desire to assist each pain with strong expulsive efforts. This is an indication of nature that help is

* W. Tyler Smith.

needed, and it should be encouraged. The expulsive efforts can often be made easier and more efficient, by the patient taking hold of the hands of an assistant, or of a towel fastened to the foot of the bed.

As the child's head approaches the vulva, the pains increase in severity and frequency, until the external parts become sufficiently soft and relaxed for the head to escape. The whole child may be born during one pain, or the pain may cease with the birth of the head. In this case it will return again in four or five minutes, when the body of the child will escape from the vulva.

As soon as the head of the child is born, its face should be turned away from the discharges, so that it may have a free chance to breathe. The neck should also be examined, and if it is found encircled by the cord, it should be released. The child will generally gasp and commence to breathe as soon as the cold air strikes its face. If it cries lustily, so much the better, as it insures the full expansion of its lungs.

CUTTING THE CORD.

If the child breathes freely you may proceed at once to tie and cut the cord; but otherwise, it had better be deferred a few moments, or until the cord ceases to pulsate. The cord should be tied in two places—once about two inches from the navel of the child, and again about two inches from the first. It

should then be divided with a pair of blunt pointed scissors, between the two ligatures, great care being taken not to mutilate or injure the child. The child should then be taken up very carefully, wrapped in a flannel blanket, and removed to a safe place.

ATTENTION TO THE MOTHER.

After the birth of the child the pains usually cease for ten or twenty minutes, when they again return, and the after-birth is expelled from the womb. The expulsion of the after-birth may be facilitated by drawing gently on the cord during the pains, taking care not to use force enough to break the cord. If pains do not recur within half an hour after the birth of the child, it is probable that the after-birth is already detached from the womb, and is lodged in the upper part of the vagina. In this case, the nurse should pull gently upon the cord, while the mother assists with a moderate expulsive effort of the muscles of the abdomen. If this means fail, then the hand must be introduced into the vagina, the placenta seized and gradually withdrawn. These manipulations should be performed with great care and gentleness, as serious injury might result from the use of too much force.

Should excessive hemorrhage occur, it should be treated with perfect quiet, friction over the abdomen, cold applications to the abdomen and vulva, and the internal use of twenty drops of the fluid extract of

ergot every half hour until relieved, or until two or three doses have been given.

The abdominal bandage should be applied as soon as convenient after the placenta is removed. It should be drawn under the body without the least exertion on the part of the patient, and fastened with pins, commencing at the lower border and placed about an inch apart. The bandage should come quite low down upon the hips, and should be fastened moderately tight, so as to give support to the relaxed abdominal muscles; but not tight enough to cause undue pressure upon the womb. It should be the tightest at the lower border, so as to prevent its slipping up. The bandage, if skillfully and neatly applied, may be a great comfort to the patient; but if applied with unequal pressure, and allowed to wrinkle up under the body, it will do more harm than good.

ATTENTION TO THE CHILD.

As soon as the mother has been properly cared for, the child should receive attention. It should first be annointed with sweet oil or lard, and then carefully washed with Castile, or honey soap, and warm water. The navel is next to be dressed by wrapping it up in a piece of fine, soft linen; after which the band, and other articles of clothing may be put on.

If the child does not breathe when born, efforts should at once be made to resuscitate it. If its face is purple, showing that it is congested with blood,

the cord may be cut and one or two teaspoonfuls of blood allowed to escape before it is tied. If, on the other hand, the child is pale, the cord should not be cut as long as it pulsates; and the blood that is in the cord should be stripped towards the child before it is tied.

The first thing to be done in reviving the child, is to cleanse its mouth from any mucus or other substance which it may contain. Then sprinkle the face and body with cold water; the shock which this produces will in most cases establish respiration. If this fails, artificial respiration should next be tried. Close the child's nose with your thumb and finger, apply your lips to the child's, and blow into its mouth so as to fill its lungs with air; then compress the ribs so as to expel the air, and thus alternately fill and empty the child's lungs. This should be kept up at least half an hour before the hope of reviving the child should be abandoned. During all this time the child should be kept warm by friction, while hartshorn or camphor should be applied to its nose and mouth.

WHEN THE CHILD SHOULD FIRST NURSE.

As soon as the child is dressed it should be presented to its mother to nurse. This should be done for two reasons:—first, the milk which the breast at this time contains acts as a cathartic, and clears out the black meconium which is contained in the bowels of the new-born child; and second, the excitement

of the breast by the infant, causes a contraction of the womb, thus lessening the chances of flooding. If the child will not take the breast, no other food should be given it, but in the course of three or four hours, another effort should be made to induce it to nurse.

Many nurses have a passion for fixing up a variety of unnecessary, and abominable dishes for the child, during the first few days of its existence. This is done with the idea that the child has been shut up for nine months, and is about starved ; that it wants bleaching out, and that it has a score of other ailments, which would be fatal except for their infallible doses. No such feeding should be allowed. Many more infants are killed by dosing and doctoring, than die a natural death. Nature has provided in the mother's milk, the best food and medicine that the child can have, and when this is obtainable nothing else is needed.

TREATMENT AFTER DELIVERY.

After-Pains.—For a few hours after child-birth, darting pains are very likely to occur in the region of the uterus. In most cases these will not be sufficiently severe to require attention ; if, however, they give rise to much suffering, they may be relieved by the use of some preparation of opium.

The following prescription may be used :—

FORMULA 15.

Camphor Mixture,	-	-	1 ounce.
Simple Syrup,	-	-	1 ounce.
Laudanum,	-	-	$\frac{1}{2}$ drachm.

Take one-half the above mixture, and if not relieved in one hour take the remainder.

Cleanliness.—Much of the comfort of the patient will depend upon a proper attention to cleanliness. The napkins should be changed every few hours, and the external parts washed with warm water, and dried with a soft towel. This should be done under the bedding, so as not to expose the body to draughts of air.

Diet.—For a few days, while the milk is being secreted in the breasts, the diet should consist of toast, boiled rice, oat-meal gruel, and other varieties of light food. As soon as the milk-fever is passed, the diet of the patient may be increased, and fresh meats and other hearty food allowed. The mother, after confinement, usually has a good appetite, and in most instances there is no objections to her partaking freely of any wholesome food which she may desire.

Condition of the Bowels.—An inactive state of the bowels often exists after child-birth, which requires the use of a laxative. If the bowels move of their own accord no treatment is needed, but otherwise

an injection of warm water, or a dose of castor oil or citrate of magnesia, may be taken the third or fourth day after confinement.

IMPORTANCE OF REST AFTER DELIVERY.

The first few weeks after child-birth, is a period of great importance to the health of the mother. As soon as the womb has expelled its contents, it contracts down into a hard lump, weighing three or four pounds. It now begins rapidly to waste away, and in the course of from four to six weeks it returns again to its original weight of only one and a-half or two ounces.

During this time it is necessary that the womb should be kept in its natural position, and this can only be done by the woman remaining in the recumbent position. The reason of this is at once apparent; the womb has for months been situated high up in the abdomen, and the ligaments which hold it in place, have been stretched far beyond their natural limit. The birth of the child has distended the vagina, so that now, if the woman assumes the upright position, the womb of its own weight will drop down into the vagina, and even sometimes drop out of the body.

It is, therefore, of great importance to the mother that she should be kept perfectly quiet after confinement. If she is removed from one bed to another, or if changes are made upon the bed where she lies,

they should be done without the least exertion on her part, and without her leaving the horizontal position. So, also, in evacuating the rectum and bladder a bed-pan should in all cases be used.

Many women have a pride in seeing how quickly they can get around after confinement; so the third day they put their feet upon the floor, the ninth day they take a few steps, and in two weeks they resume their usual work. The result of this course is to quickly make them confirmed invalids. How many times women have come to us complaining of back-ache, leucorrhœa, "bearing down" sensations, and the other usual symptoms of uterine disease; and we enquire, "When did this trouble begin?" They reply, from the birth of such a child. "Did you get around sooner than usual?" "O, yes, I felt real smart and could not bear to stay in bed;" or "My nurse left me and I had no one to do my work, so I got up and tried to do what I could." Remember the motto "Make haste slowly." Wait patiently four or five weeks, until nature has restored the natural condition of the uterine organs, and then you may get up and go about your work, with health improved rather than impaired, by the exercise of the functions of reproduction.

THE PAINS OF CHILD-BIRTH.

The sufferings of child-birth, and the sickness and prostration which usually follow, are no doubt much more severe among civilized nations than they should

be. The savage mother knows very little of the pangs and sufferings, which her more favored and enlightened sisters are compelled to undergo. Washington Irving, who traveled among the Indians, relates that "a squaw belonging to the company, who was pregnant, one day left the company, and the next day overtook us on her horse, with her infant in her arms, and rejoined the party." Many other instances of this kind have also been recorded, showing the slight attention paid to child-birth by those women who are reared in a state of nature.

One reason why the savage mother suffers less than the civilized, is that her nervous system is not so susceptible to pain. Cultivation and refinement greatly increase the powers of suffering, as well as those of enjoyment. But another and more important reason, is the difference in the habits of savage and civilized life. The savage mother has a much more perfect physical organization. Her body has not been cramped and misshapen by tight-fitting apparel, and every muscle and ligament of her body is toughened by vigorous exercise.

If the women of this country would reform in their habits of dress and exercise, though they might not be able to compete with the Indian mother, they would still escape much of the suffering and sickness which they now endure. They should not, however, attempt to follow the example of the Indian mother, until they adopt her mode of life, and attain her vigor of body.

CHLOROFORM.

Modern science has kept pace with the wants of modern civilization, and it is now possible to alleviate much of the sufferings of child-birth, by the use of chloroform and ether. So powerful a remedy should of course only be employed by a physician; but when properly administered it does not increase the dangers of child-birth. It is not necessary to use enough to produce complete loss of consciousness, in order to get its benefits; but chloroform may be so used, that the woman may know what is going on, and even assist the pains somewhat with her own efforts, and yet escape very much of the suffering which she would otherwise endure.

CHAPTER XXVII.

THE REARING OF INFANTS.

IT would be difficult to conceive of anything more helpless than the infant during the first few weeks of its existence. Without strength enough to raise its head, with only knowledge enough to enable it to cry when it is in distress, and to nurse when its mouth is applied to the breast, its life and health are wholly dependent upon the care it receives from its nurse and mother.

To secure for the helpless infant the protection which it needs, nature has wisely implanted in the mother, the strongest feelings which a woman can experience—that devoted love of offspring which seldom fails her, even in the agonies of death. This love sustains the mother as she watches for anxious months over the development of her tender babe, and makes her arduous labors a pleasure rather than a duty.

SHALL THE MOTHER NURSE HER OWN CHILD?

This question would, in the majority of cases, be decided in the affirmative, by the preference and af-

fections of the mother, even were there no physiological reasons in its favor. To refuse a mother the privilege of nursing her own infant, is to deny her the sweetest enjoyment of maternal affection which she can experience. Many mothers nurse their children until they are a year and a half or two years old, simply because they love to feed them from their own breast; and it is almost always with a feeling of regret that a mother consents to wean her child.

There are no doubt some women who do not experience this maternal instinct, but feel indifferent as to who nurses or feeds their children, providing they are well cared for. We are inclined to believe, however, that this class is small, and that the majority of mothers who decline to nurse their own offspring, do so not because they love their children less, but because they love fashion and freedom from care more.

But there are strong physiological reasons why a mother should nurse her own child. If the mother is well, it is better for her health; for the womb does not return to its normal condition after confinement as readily in women who do not nurse. There is a strong sympathy existing between the breasts and womb, so that the excitement of the breasts by nursing stimulates the womb and hastens its contraction. The womb should also have a period of repose after confinement; but if the mother does not nurse her child, this is prevented by the return of menstruation in a few weeks.

The mother's milk is also the most natural and healthful food for the child. The mortality of children during the first year of life is, under the most favorable circumstances, large; but it is vastly greater among those brought up by hand, than among those who nurse. The statistics of the foundling hospitals of Paris, where the infants are fed upon artificial food, show that 50.3 per cent., or more than one-half the children admitted, die in infancy. At the foundling hospitals in New York, the mortality was even greater, but of late wet-nurses have been employed, and the death-rate has been much decreased. The mortality of artificially fed children, is no doubt greater in the cities than in the country; but in either case it is much greater than among children fed in the manner provided for by nature. There are instances which we shall presently consider, when a mother should not nurse her child, but those mothers who can nurse their own children, and yet deliberately refuse to, are as guilty of hazarding the life of their children, as though they should send them into a locality infested with cholera or small-pox.

SORE NIPPLES.

This is a frequent source of pain and annoyance to mothers, especially with their first children. It is usually produced by too frequent nursing, by the manipulations used in drawing out the nipple when it is too flat, and by neglecting to wipe the nipple after the

child has nursed. Frequently it is a difficult disease to cure, owing to the fact that every time the child nurses, the sores are torn open afresh.

One of the best applications we have used for sore nipples, is a wash composed of one ounce of glycerine and one drachm of tannin. After using it, the nipple should be washed with Castile soap before the child is again applied to the breast. A strong solution of borax-water or alum-water will also frequently be found beneficial.

Besides the applications of these remedies, it is important that the nipple should be protected from injury by wearing a nipple-shield, and that it should be kept clean by washing with Castile soap, and carefully wiping after each application of the child to the breast. If a child does not readily nurse through the nipple-shield, first fill it with warm milk, and place it upon the breast, when the child will usually take hold of it with readiness.

When the nipples have been hardened by proper training before confinement, as we have suggested in a previous chapter, there is rarely any difficulty attending nursing. If the nipples become so sore as to entirely prevent nursing, or if the breasts become hot and inflamed, a physician should at once be consulted, or it may terminate in abscess of the breast.

EXCESSIVE SECRETION OF MILK.

In some instances milk will be secreted much more freely than the wants of the infant demand. This

causes the breasts to become hard and painful, and requires either that the child should be over-fed, or that the excess of milk should be drawn off in some other manner. The over-feeding of the infant causes a great amount of unnecessary irritation of the stomach, vomiting and colic; while the excessive loss of milk by the mother tends to impair her health and strength.

If the quantity of milk is not much in excess, it will probably regulate itself by the time the child is three or four weeks old. In the meantime the mother can lessen the amount somewhat by diminishing her supply of drink, and nursing her infant only at long intervals. If the breasts become hard and distended, they should be relieved by pressing out the milk with the thumb and finger, rather than by nursing or by using a breast-pump.

Should the over-abundance of milk continue longer than the first few weeks, it may be necessary to resort to other means for controlling it. For this purpose cloths wrung out of cold water, or weak camphor may be applied to the breasts; or if preferred, a liniment may be used upon the breasts, composed of one part of camphor and four parts of sweet oil. At the same time the tincture of iron may be taken three times a day after eating, in doses of ten or fifteen drops, diluted with a tablespoonful of water. These directions faithfully followed, will rarely fail to reduce the secretion of milk, all that is desired.

DEFICIENT SECRETION OF MILK.

This is a more frequent trouble than over-secretion of milk, and one which is more difficult to remedy. It occurs more frequently in the city than in the country, owing to the more artificial habits, and frailer constitutions of city women. It may be produced by a want of sufficient nourishment, eating rich and unwholesome food, or by over-feeding and gluttony.

The treatment must be the reverse of that recommended for over-secretion of milk. The diet should be plain, nutritious and abundant; while water, milk, oat-meal gruel, fennel and caraway tea, should be freely taken. Weak tea may also be allowed, but coffee should not be used. The infant should be frequently applied to the breast, as the act of nursing tends to excite the milk-glands.

A remedy in great repute in many places, for the purpose of increasing the flow of milk, is a poultice made of the powdered leaves of the castor oil plant. When this cannot be obtained, cloths wrung out of hot water may be applied to the breasts for fifteen or twenty minutes, after which they may be annointed with castor oil. This should be repeated after nursing several times each day.

INCONTINENCE OF MILK.

Frequently the mother is greatly annoyed by the almost constant flow of milk from her breasts. This

is sometimes owing to an excessive secretion of milk, and sometimes to a deficiency in the contractile power of the mouth of the milk-ducts.

In most instances this difficulty will pass away of its own accord in a few weeks, as soon as the woman is about the house and regains her strength. If any treatment is necessary, the breasts may be washed with a strong solution of alum, borax or oak-bark, several times each day, and a tonic of iron, and some bitter bark administered internally. (See Formulæ 6 and 7, page 142.)

RULES FOR NURSING.

Regularity.—The health of an infant depends, to a great extent, upon its being fed with regularity. Many young mothers for want of knowledge or decision on this point, have sickly and crying children. During the first six or eight weeks, a child should be fed about once in two hours, after which the interval should be gradually lengthened, so that by the time the child is a year old, it shall not eat oftener than once in three or four hours. It is not necessary to be perfectly exact about the time; when the child is awake during most of the interval, it may be fed fifteen or twenty minutes sooner than the time; but if it enjoys a long nap, the time of feeding may be extended to two hours and a half or three hours. During the night an infant ought not to be fed more than once or twice.

Diet.—No change need be made in the mother's diet, except that she should avoid rich and unwholesome food. If cabbage, vinegar, beans, or any other article, seems to affect her milk so that it disagrees with her child, then the offending article must be omitted; but usually any wholesome food may be used.

Exercise.—The nursing woman needs to exercise freely, in order to keep up the tone of her health; but she should avoid any violent exertion which might heat the blood. If, from any cause, the blood becomes heated, the milk should be drawn off before nursing, or the child will almost surely suffer from colic.

Excitement.—Everything should also be avoided, which would be likely to excite the mother or cause a severe shock to the system. A severe fright or a fit of anger often so affects the mother's milk as to cause severe sickness in the child, and cases are on record where it has resulted in death. By waiting until the excitement passes away and the mind becomes calm, the child can again be put to the breast without risk to its health.

Sleep.—The mother who nurses her child, needs an abundance of sleep. As she will necessarily be awake somewhat during the night with her infant, she should spend more than her usual time in bed.

It is also better that the infant should not sleep in bed with its mother. Besides the no small risk of its

being overlaid and smothered, the infant will sleep much better alone in its crib, than when it is disturbed by every motion of its mother. It is also more likely to keep well covered up by itself, than when in bed with an older person. When the child wakens during the night, it can be put in bed with its mother and nursed to sleep, and then again returned to the crib.

WHEN A MOTHER SHOULD NOT NURSE HER CHILD.

While it should be considered a privilege for every mother to nurse her own child, yet there are some instances when this becomes impossible or undesirable. A mother may be consumptive, scrofulous or of such delicate health, that she cannot stand the tax upon her system which nursing would require. If a mother's health begins to decline while she is nursing, and is not restored by tonics and good hygienic treatment, or if she is taken with severe nursing sore-mouth, her child must be weaned. Occasionally also, a child will be so poorly nourished on its mother's milk, as to make a change desirable. In all such instances some other provision must be made for the nourishment of the child.

WET-NURSES.

When a mother cannot nurse her own child, the best substitute is the employment of a wet-nurse. The wet-nurse should always be a woman of good health, and free from any hereditary taint or disease. An

examination by an honest and competent physician is the only means of knowing the physical fitness of a nurse. In addition to this, she should be a woman of cleanly habits, good principles, pleasant disposition and an intelligent mind; for she will necessarily be almost a companion for the mother for several months. It is also desirable that her own child should be about the same age as that for which she performs the duties of foster mother.

The mother ought to nurse her infant for the first few days, even when a wet-nurse is to be employed; for there are peculiar properties about the milk first contained in the breast after confinement, which are especially adapted to the wants of the new-born infant. If it becomes necessary at any time to change the nurse, it is best for obvious reasons, that the old nurse should not be informed of her dismissal until her successor is secured.

ARTIFICIAL FEEDING OF INFANTS.

The difficulty and expense of procuring wet nurses precludes their general employment; so that in most cases, children who are not nursed by their own mother's must be brought up on artificial food. It therefore becomes a matter of great importance, to understand how to provide the best substitutes for the mother's milk.

The following table shows the composition of woman's milk, and also that of the lower animals most frequently employed as a substitute:—

Milk.	Specific Gravity.	1000 parts contain—		The solid constituents are composed of—			
		Fluids.	Solids.	Sugar.	Butter.	Casein.	Incom- bustible salts.
In Woman.	1033	889	111	44	27	39	1.38
“ the Cow.	1033	864	136	38	36	55	6.64
“ “ Ass.	1035	890	110	50	19	36	5.24
“ “ Goat.	1033	845	155	37	57	55	6.18
“ “ Ewe.	1041	832	168	39	54	70	7.16

It will be seen that the milk of the ass resembles more nearly the composition of human milk than any other given in the table. It is chiefly deficient in butter; but by the addition of a little sweet cream, it makes the best substitute we have for the mother's milk. The difficulty, however, of obtaining this milk precludes its use in the great majority of cases.

Next in value is cow's milk. This is deficient in sugar, while it is too rich in casein and butter. These differences may be corrected, to a great extent, by diluting the milk with an equal amount of water and sweetening it with loaf sugar, adding an even teaspoonful of sugar to half a teacupful of milk. After the milk has been reduced with water, there will be a slight deficiency of butter; but this can be remedied by taking the upper half of the milk which will contain rather more than the normal proportion of cream.

During the first month, the milk should be diluted somewhat more than we have indicated ; and then as the child gets older, the proportion of milk may be gradually increased ; when the child is a year old, the milk will only need sweetening without dilution.

It is always best to use the milk of the same cow each time, as there is considerable difference in the richness and quality of the milk of different cows. If the milk of one cow does not agree with the child, change and try another cow, and it will very likely do better.

During the winter, and occasionally during the summer, cow's milk is likely to be slightly acid. To detect this, purchase some blue litmus-paper at the drug store, and introduce a small piece into the milk. If it retains its blue color, the milk is all right ; but if it turns to a redish tint the milk is slightly acid, and enough lime-water should be added to it to change its acid nature.

The milk should be warmed to about the same temperature as that drawn from the mother's breast, which is from 90° to 95° Fahrenheit. To do this accurately, a thermometer should be used. If in any instance it is necessary to test the milk with the hand, use the back of the hand rather than the palm, as it is more sensitive to heat and cold.

Great care should be exercised to always prepare the milk alike, and to scald the rubber and bottle, and keep them scrupulously clean. These are

matters which the mother herself should attend to, unless she is favored with an unusually careful and trusty nurse.

If the child thrives well on cow's milk, no other substitute should be employed ; but if after being used for several weeks, the child does not seem to do well, then other articles should be tried for at least two or three meals each day. The substances most in use are oatmeal, sago, farina and arrowroot. Either of these may be prepared after the following receipt :

1 tablespoonful oatmeal, wet up with with cold water.

1 cup boiling water.

1 cup fresh milk.

2 tablespoonfuls white sugar.

A small pinch of salt.

Add the salt to the boiling water, and then stir in the oatmeal and boil for twenty minutes, stirring constantly. Then add the milk and sugar, and boil ten minutes longer.

Sago, farina, or arrowroot, may be substituted for oatmeal in the above receipt. The proportion of milk may also be varied according to the age and wants of the infant. In preparing food of any kind for infants it should always be thoroughly cooked.

When a mother nurses her own child, and does not have milk enough for it, either of the substitutes

we have given may be fed to the child, once or twice each day. In any case when it becomes necessary to feed a child that usually nurses, the food should be prepared in the same manner, and with equal care as though the child was being wholly reared upon artificial food.

DERANGEMENTS OF INFANCY.

Vomiting.—This is the most frequent trouble of the early months of infancy. It is no more natural for a child to vomit than for an adult ; but the stomach of a child is so much more sensitive that it is made to vomit from slighter causes.

A popular impression often prevails that an infant is not healthy unless it vomits. This probably arises from the fact that over-feeding is one of the most frequent causes of vomiting, and the mother who over-feeds her infant is pretty sure to have an abundance of milk for it. A child will, therefore, frequently thrive in spite of its vomiting, because it is well nourished.

Vomiting may also be produced by improper and unwholesome food, by trotting and tossing the child soon after eating, by teething, and by almost every disease or derangement from which the child may suffer.

The treatment of vomiting must consist principally in seeking for and removing the cause. If the vomiting is very bad, take all food away from the child for several hours and give its stomach rest.

Then try a teaspoonful of ice-water. If this is retained then try a little barley-water ; then barley-water with one-fourth milk ; or it may be put to the breast and allowed to nurse a very little ; but it may require twenty-four or forty-eight hours before its regular diet can be resumed.

Colic.—This also is a very frequent affection of infancy, and one which nearly always indicates some error in the child's diet. If the child nurses, the mother has probably over-fed it, or has committed some indiscretion in her own diet or exercise ; if brought up on artificial food, something is wrong with its preparation or quality.

A favorite prescription for colic is two or three drops of peppermint essence, taken in a little warm, sweetened water. Another good receipt is to take three or four kernels of pepper, pour on them a little boiling water, and when sufficiently cool, sweeten, and give the water to the child. These remedies are safe, and are usually sufficient to relieve an attack of colic.

If anything more is needed, paregoric is the remedy usually employed. In giving this, great care must be exercised ; for children are much more sensitive to it than adults. The size of the dose should be regulated by the age of the child as follows :—For a child three days old, three drops ; one week old, five drops ; one month old ; seven drops, one year old, ten drops. It should always be dropped with great

care, and not guessed at, and the dose should never be repeated in less than eight or twelve hours. The medicine will be of more uniform strength if you buy that which is prepared by your druggist, and sold by the ounce, than if you buy that which is put up in fancy bottles. It should never be given to a child that has disease of the brain, but for the relief of colic or diarrhoea, it may be used with perfect safety in accordance with the directions we have given.

Constipation.—It is natural for a child during the first year of its life to have about two passages from the bowels each day ; when they move less frequently than this, means should be taken to increase their action.

The best remedy we have ever employed for this purpose is unrefined, or brown sugar. If the child is fed, its milk may be sweetened with the brown sugar ; but if it nurses, the sugar may be given to the child dissolved in a little water. A little experience will enable the mother to tell how much of the sugar is needed each day. In case the sugar should not succeed, a little piece of Graham or corn-bread given to the child each day, will often keep the bowels regular.

Another simple, but very efficient remedy we first learned of an old nurse, but have since recommended it many times with success. Take a piece of Castile soap two inches long, and about the size of the little finger, and whittle it to a point at one end ; moisten this and introduce it into the rectum about three-

fourths of its length. This will lubricate the passage, and at the same time induce the child to make a straining effort, which will result in an immediate passage of the bowels. With the means we have indicated at your command, you will rarely or never be obliged to give a child physic.

Diarrhœa.—This is more frequent, and usually more troublesome, than constipation. When not very severe it may usually be controlled by giving a teaspoonful of chalk-mixture, two or three times each day. This preparation can be procured of any druggist, and is a safe and valuable remedy for home use.

Paregoric may also be used to control diarrhœa, given in accordance with the directions we have already laid down; but we cannot advise the continued use of paregoric, except under the directions of a physician. If a child is taken with severe diarrhœa, a physician should at once be summoned, and the case placed entirely in his hands

Teething.—The average age for children to cut their first teeth is about six months; but some begin earlier than this, while others have no teeth until after they are a year old. There are twenty of the first or milk-teeth, and they usually all make their appearance by the time the child is two and a half years old.

When the gums are sore and inflamed from the pressure of a tooth, which is about to make its

appearance, the child is generally more restless and fretful than at other times. It should accordingly receive more care, but it does not need dosing with medicine. The bowels are also more than usually loose, but unless there is actual diarrhœa, they should not be interfered with. Teething is only a natural process, and if the child receives proper care and is not poisoned with medicines, this time is not particularly more dangerous than other periods of its life.

WEANING.

The usual time for weaning a child is when it is a year old ; but this period should be varied somewhat with the condition of the mother's health, and the season of the year. If the mother has an abundance of milk, and nursing does not impair her health, she may with advantage nurse her child until it is fifteen or eighteen months old ; but if she is kept weak and debilitated by lactation, she may wean her child any time after it is eight months old ; or even sooner, if her health is likely to fail. Mothers should, however, avoid weaning their children during, or immediately preceding the hot weather of summer, when bowel-troubles are likely to prevail.

The process of weaning should always be gradual. The child may begin to receive artificial food when it is six months old. A little milk diluted with water, sweetened and warmed, may be given the child once or twice each day ; or oat-meal, sago, &c., may be used,

prepared as we have already directed. The amount of such food that the child should receive, will depend upon the supply of the mother's milk.

As the time for weaning approaches, the amount of spoon-victuals should be increased, and the amount of nursing diminished. In this way the secretion of milk will be gradually dried up, until the child can finally be entirely removed from the breast, without any serious discomfort to either mother or child.

Some mothers, after weaning their children, allow them to feed wholly upon solid food. This should not be done ; for the child's stomach is not prepared for so great a change. Until the child is eighteen or twenty months old, the principal part of its food should be in the liquid form. It is early enough to give solid food when the child has teeth with which he can properly chew and masticate it.

GENERAL MANAGEMENT OF INFANTS.

A frequent mistake in the care of infants is the practice of dosing them with medicine every time they manifest the slightest indisposition. Almost any old lady thinks she is abundantly competent to give medicine to a child, although she might not presume to treat an adult. Much greater skill is needed to doctor a child than an adult. An infant cannot tell its feelings like an older person, so that it is much more difficult to ascertain the nature of its complaint ; besides, a wrong remedy or an over-dose of medicine would be much more likely to prove fatal.

We would particularly caution parents against all the various patent medicines advertised for children. It is bad enough to be constantly dosing a child with catnip, saffron, and camomile blows ; but these will not be likely to do any greater injury than to derange its stomach ; and they are harmless compared with the various "Soothing Syrups," "Quieting Syrups" &c., which are "designed especially for children teething." As the period of teething covers about two years of the infant's life, there is hardly a week but that the medicine is in requisition. These syrups, so far as we have had opportunity to test them, all contain opium in some form. Besides the immediate danger from them by an over-dose, their frequent use is sure to derange the digestion and impair the nutrition of the child.

If your child is well do not dose it ; if it is sick, unless you are *certain* what to do for it, try no experiments but send for a skillful and well informed physician. It is better to give no medicine to a child, but to care for it well and trust to nature, rather than give remedies without understanding their effects. In most instances the child will recover without medicine, and in any event, it is far safer than to doctor by guess.

No portion of life requires such delicate discrimination and care in its managements as that of infancy. The web of life is then held by a tender thread. A slight imprudence or exposure, improper clothing, an indigestionable meal, a wrong or useless

dose of medicine, is often sufficient to snap the slender tie. The great majority of children who die in infancy, die from mismanagement. How important then that the mother should be properly qualified for the responsible duty which she has taken upon herself!

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