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Dulp. H

ON

DISEASES

PECULIAR TO WOMEN,

INCLUDING

DISPLACEMENTS OF THE UTERUS.

BY

HUGH L. HODGE, M. D.,

PROFESSOR OF OBSTETRICS AND DISEASES OF WOMEN AND CHILDREN IN THE UNIVERSITY OF PENNSYLVANIA.

"NULLIUS ADDICTUS JURARE IN VERBA MAGISTRI."

WITH ORIGINAL ILLUSTRATIONS.

PHILADELPHIA:
BLANCHARD AND LEA.
1860.

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PHILADELPHIA:
COLLINS, PRINTER.

TO THE

ALUMNI

OF THE

UNIVERSITY OF PENNSYLVANIA.

PREFACE.

THIS work, prepared at the request of many of my pupils, presents the results of my observations and reflections on the diseases peculiar to women. These diseases may be traced to the effects of Irritation and of Sedation in the different tissues and organs of the economy, especially of the uterine system. The causes of such disturbances are exceedingly diversified; but, so much depends on Displacements of the Uterus, that it was thought advisable to devote a separate part to their consideration, especially as the consequences and treatment of such accidents are still the subjects of much professional discussion.

The illustrations are from the skilful and experienced pencil of Mr. Baxter, to whom I feel greatly indebted for these beautiful specimens of his art. They are based upon preparations in my museum, and upon the information derived from my daily experience in the treatment of uterine diseases. The drawings represent the organs

of one-half their natural size. They have been arranged and lettered upon the supposition of the patient being recumbent, on the back. By turning the book, the relative position of the tissues and organs in the erect posture can be perceived.

PHILADELPHIA, November, 1860.

To CHARLES D. MEIGS, M. D.,

PROFESSOR OF OBSTETRICS AND DISEASES OF WOMEN AND CHILDREN IN THE JEFFERSON MEDICAL COLLEGE.

DEAR DOCTOR:—

I embrace the first public opportunity of acknowledging the affectionate and complimentary letter, prefixed to your work on the Diseases of Women. Be assured that I fully reciprocate your kind feelings. It could not be otherwise, as we were indeed instructed by the same Alma Mater, and have toiled together for upwards of forty years in the arduous and responsible duties of our profession. The chain of our friendship has never been broken, or even sullied. You politely urged me to make a "*sign*" for posterity; I have at last ventured to make one—in the form of the work now sent to you. I could not, dear Doctor, write as you have done, not having your peculiar spirit; and I may, perhaps, fall under the lash of your criticism upon our fathers in medicine, whose "dulness and jargon" you assign as a reason why they are not more studied and appreciated. I have at least, however, followed your example of writing, *currente calamo*, in my own manner—simple and dull it may be—but with a sincere desire to contribute the results of my observations and reflections towards the improvement of medicine. I know well that our productions—each characteristic of its author—differ exceedingly in theory

and in practice; but, nevertheless, the student who examines each book may discover the truth more clearly, and be prepared to render such truth more efficient. The very opposition, which may be perceived in the views of experienced men in the profession, is often beneficial—*ex collisione scintilla.* Should this be the result, we shall both rejoice. Truth is our object—that truth which is practical, and which will increase the efficiency of our beloved science in alleviating the sufferings of our fellow-beings. *Principia non homines* is our motto.

That you, dear friend, may be long spared in health and strength, to carry on your philanthropic labors, is the prayer of

Yours, most truly and respectfully,

HUGH L. HODGE.

November 1, 1860.

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ON

DISEASES

PECULIAR TO WOMEN.

PART I.

DISEASES OF IRRITATION.

CHAPTER I.

NERVOUS IRRITATION AND ITS CONSEQUENCES.

THE neurotic diseases of women have always excited the interest of the medical profession. Their frequency, their variety, their obscurity, and their obstinacy (hard to be overcome and strongly disposed to return), have forced them on the attention of the profession. The sex and character of the sufferers, the pain, the spasms, the convulsions, and the numerous mental and corporeal disturbances involving the happiness, the usefulness of women, and, not unfrequently, engendering much suffering for a long series of years, rendering death preferable to life, have all greatly enhanced the devotion of medical men to this class of diseases; although they are seldom fatal in their results, and, after the lapse of time and the change of state or circumstances, may spontaneously disappear.

Their frequency and the degree of suffering increase with the progress of society. The cultivation of the mental powers, of the sentiments and passions, the advance of civilization, the refine-

ments, the indulgences, the luxuries, even the character of social intercourse, and the objects of business and pleasure, all serve to augment the number and aggravate the severity of nervous diseases. Modern physicians have spent, necessarily, much talent and labor in determining the pathology and therapeutics of these obscure complaints, with a degree of success, it is painful to record, by no means in proportion to the ability, the anxieties, and the industry expended in the effort. At present, it will be unnecessary to examine the results of all that has been done, or to point out the mistakes that have been made by teachers and authors. Suffice it to say, that the want of perfect success is not, as too frequently allowed even by medical men, "an opprobrium medicorum." Far too much of the best talent and learning of an intelligent and cultivated profession have been sedulously devoted to this subject, to sanction any such imputation. Much has been done, especially by way of preparation for more important practical results; and the favored man, who shall indicate any decided mode of remedial relief to the distressing and painful affections of the female sex, must gratefully acknowledge his indebtedness to his learned and diligent predecessors in their labors for science and humanity. The want of success, therefore, is referable, not to the wants of effort, but to the intrinsic difficulties of all complaints connected with living bodies, especially of those affecting the subtle, intangible, almost inconceivable functions of the cerebro-spinal nervous system; which involves alike the operations of mind and body, and constitutes the grand medium of communication between the spiritual and corporeal nature of man.

References to numerous systematic works on the diseases of women will reveal to the industrious student what has been accomplished, and what suggestions have been made as to the nature and treatment of their complaints. I have no desire either to present a summary of the labors of others, or to give a critical review of their opinions and practice. My only object is to record, while incidentally alluding to what others have advanced, my own opinions and practice, the result mainly of clinical observations made during a laborious practice of many years; nearly thirty of which have been spent as a public teacher on obstetrics and diseases of women and children. My success in the treatment of these diseases has been so encouraging, that I cannot but hope a

mite may thus be contributed to the scientific character and practical utility of our beloved profession.

DEFINITIONS AND ILLUSTRATIONS.—Under the denomination of the "*irritable diseases*" of women are included those which, more or less directly, involve the cerebro-spinal nervous system. Of course they are very numerous and diversified; but nevertheless, they so often, indeed so generally, depend on some local irritation, that their apparently varied, complicated and mysterious character will be, in some degree, dissipated by a close analysis of their phenomena, and their treatment be rendered simpler and more efficient.

Language has proved to be very deficient, in expressing the ideas of medical men on the physiological and pathological states of living tissues. Hence, words are employed, more or less, in a metaphorical sense. The word "*action*," vital action, is constantly, in the minds of many, associated with contraction; and yet how seldom is contraction visible or demonstrable in many states of the tissues and organs where the word is constantly employed; for example, the action of the eye in seeing, of the ear in hearing, of the brain in its perceptions, volitions, &c. The word "*irritation*" is almost constantly employed, and yet very seldom in a definite sense, or with any precise meaning. All this is, in a great degree, unavoidable from the imperfection of our knowledge as well as from the paucity of language. Hence, in order that I may be better understood, I will point out the meanings that will be attached to the technical words employed.

By the "*irritability*" of tissues is simply meant a capability of receiving impressions from surrounding agents, and thus producing phenomena, and is only to be observed when these tissues are alive. It is the "capability of being acted upon." It, of course, belongs to everything that has life; to plants as well as animals; to the organic molecular cell as truly as to the most complicated and perfect structure.

The agents which excite or disturb the irritability of the tissues are termed "*irritants*." Those which depress or diminish its intensity are called "*sedatives*." An irritant, acting on the irritability of a part, produces an "*irritation*." A sedative causes

a state of "*sedation.*" The one is an exaltation, the other a diminution of vital excitements.

It has been proposed to apply the words "*excitability,*" "*excitants,*" and "*excitation*" or "*excitement,*" to the healthy state of the economy; and "*irritability,*" "*irritants,*" and "*irritation,*" to its morbid condition. The suggestion is excellent, but the habitual language of the profession will hardly render it practicable. These expressions have long been used as synonyms, each being applied to the physiological as well as to the pathological states of the living body. Still, it should be remembered that the one is more appropriate to the healthy, and the other to the morbid state. An irritation, therefore, is strictly a morbid excitement.

IRRITABILITY.—The degree of excitability or irritability varies in all animated nature, being very low in plants, and very exalted, comparatively, in animals. It is different in the various species of the *vegetable* kingdom; hence some plants, in which irritability is often evinced in a marked degree, have been termed "irritable plants." In the *animal* kingdom, also, it varies, being often in the lower forms as imperceptible as it usually is in the vegetable: but the susceptibility to impressions is generally much greater; and becomes more developed as the organization, and, of course, the functions become more complicated. Hence in *man*, the head of this animal creation, the susceptibility to impressions is intense and productive of the most wonderful phenomena, both in health and disease.

In the human race, the excitability varies at the *different periods of life.* Infants are proverbially sensitive. Every one perceives how easily a child is excited by light and by sound. And the physician has abundant proof of this fact in the study of the causes of its diseases and the effects of remedial agents; for instance, a gastric irritation, hardly to be complained of by an adult, will produce rapid and often dangerous convulsions in an infant. This susceptibility diminishes in the progress of life, and often almost disappears in the torpor and listlessness of advanced years.

Sex modifies irritability in a remarkable manner. Women, compared with men, are impressible and sensitive. This is true of their organic, but especially of their animal life. The action of their heart and arteries is rapid, their secretions and

excretions are usually abundant and very readily increased or diminished. They generate animal heat rapidly; and this function, connected with the ever varying fluctuations of the circulation, is also easily disturbed in the various portions of the economy. Hence arise sudden determinations of blood to the head, with the development of sensations of heat, as in the phenomena of blushing, crying; and, at the same time, a corresponding diminution of excitement, a sedation, in other tissues or organs, as in the hands and feet. The sensibility and versatility of the organs of *animal* life are most remarkable in the female sex. Their sensations are all delicate and acute, making powerful impressions on the "sensorium commune," with a corresponding influence on the muscular system, dependent, as all know, on the nervous system. Hence arises the ready disturbance of the heart, stomach, bowels, uterus, &c., from certain cerebral excitements; hence the rapidity and delicacy of their muscular movements, giving rise to the beauty and grace which shed a charm over the motions of woman. The same susceptibility of the cerebro-spinal nervous system, particularly of the brain, its centre, is wonderfully manifested in all the mental and moral peculiarities of the female sex. Hence quickness of perception, rapidity of thought, brilliancy of the imagination, susceptibility to what is pleasant or disagreeable, to what is joyous or grievous, strong affections and passions, versatility of character, mental and moral, are characteristic of woman. All this is fully confirmed, to the most casual observer, by contemplating her pathological state. Her organic actions are readily disturbed by slight impressions from without or from within; while her animal life is the sport of almost every external or internal impression of a decided character. Hence pains, subsultus tendinum, twitchings of the muscles, cramps, spasms, convulsions, as well as an infinite variety of morbid sensations, are exceedingly frequent among females, as compared with males. Hence, also, the predisposition to delirium, insanity, and to various perversions of the intellectual and moral powers, so numerous and so remarkable, that the most acute metaphysician or theologian, as well as the most talented and experienced physician, cannot decide what is voluntary or involuntary, what is physical or spiritual, or where moral responsibility ceases, and insanity begins.

Women, therefore, are "*nervous;*" that is, more impressible than men. They are much more so, during the period of their menstrual life, say from fifteen to forty-five, than after this has terminated. Their susceptibilities diminish after the "change" has occurred; and their character, mental and moral, then somewhat approximates that of their male companion. Their diseases, therefore, are all modified by this nervous temperament, and often are purely "*neurotic*," that is, irritations of the cerebro-spinal nervous system, involving the functions of organic life in so trifling or secondary a manner, that these last demand few or no attentions in practice.

One great object of the present work is to maintain that, in many cases, the independence of nervous diseases is complete; and also that, when complications exist demanding therapeutical assistance, the neurotic affection is often of primary and essential importance, and demands the chief attention of the practitioner.

The remark must be made, although apparently unnecessary, that these neurotic complaints are *physical;* they are, in every way, as much real diseases as those of organic life. They are irritations of the medullary matter of the brain, of the spinal cord, and of their radiations, the nerves; as truly as organic diseases, inflammations, fevers, &c., are irritations of the heart, arteries, capillaries, and organic cells. Since, therefore, the cerebrum is the organ of the mind, as well as of the body, and mental and moral causes may give origin to nervous diseases, and since remedies of an intellectual and moral character contribute to recovery in nervous affections; it is unscientific, as well as unjust and cruel, to maintain that such diseases are mental or moral, a perversion of the "intellect or the heart," that they are "imaginary," a "mere notion," that the patient is "affected," wishes to be "interesting," to attract "attention," "has a bad temper," and that she would recover "if she made the effort," "if she were forced to work," and such other uncharitable suggestions. Let it be remembered, that the business of the physician is with the physical being: and, although he is often driven to the domains of the mental and of the moral philosopher, to detect the causes, or to furnish the remedial agents of nervous diseases, yet he should be slow to admit that his agonized patient suffers from the state of her mind rather than of her body, or to report to

friends and relations that his would-be patient is well, when her consciousness tells her that she is sick. More correct mental, as well as physical science, was exhibited by a distinguished theologian, who declared that cases of religious melancholy were, by him, always transferred to the physician.

Irritability varies in *every tissue and organ of the economy:* in some it affords but trifling evidences of its existence, as in tendons, ligaments, cartilages, bones, &c.; in others, as in the cutaneous, muscular, serous, and mucous membranes, it is easily demonstrable to the eye, and in the nervous system, the intensity of its manifestations is often excessive. Hence it results, that the phenomena of irritation must vary, more or less, in every tissue and organ. An excitant, acting on the excitability of a tissue or organ, causes an excitement, which is an increased activity of its peculiar vital phenomena, its actions, its functions. A man resolves to run a race; the mental resolve excites his brain, spinal marrow, motor nerves, and muscles. This action, in turn, excites his heart, arteries, capillaries, indeed, his whole circulation. We have no visible indication of the excitement of the brain and its immediate dependents, under the stimulus of the will; yet we know by the reflex influences on other tissues, that it is in a state of excitement. We say, that cerebral and nervous excitements are known by the changes which occur in their functions, and in those of their dependencies. The nerves and the muscles become excited, by reason of the previous excitation of the brain.

The manifestation of excitement in the muscles is, however, evident. Excitement in this tissue is sensibly manifested by contraction; which, therefore, is the evidence of the excitability or irritability of a muscular fibre. Hence an irritant, or abnormal excitant, produces irregular, and often painful contractions of the muscles, as exhibited in cramps, spasms, clonic and tonic convulsive movements. All these, therefore, are evidences of muscular irritation, the results of irritants acting on the irritability of the muscles, and are due to the peculiar organization and functions of this distinct tissue. It would be altogether useless to say, as was formerly done, that muscles had a peculiar vital property to be termed *contractility.* This would be merely multiplying words, as no new idea is advanced, and would seem to intimate that contractility differed from irritability in a muscular tissue, which it

does not. It is still more objectionable to substitute the word contractility for irritability as a universal vital property; for, in very many cases of irritation, no contraction can be demonstrated. In running a race, for example, the circulation is excited. The language now to be employed to indicate the excitement of its organs is, an increased contraction and dilatation of the heart, arteries, and capillaries. So, also, when the circulation is abnormally stimulated, as in inflammations and fevers; we say that an irritation of these tissues exists manifested by the same phenomena of contraction and dilatation, one or both. So of all the tissues; the phenomena resulting from an excitant or an irritant acting on their irritability, are the evidences of the state of excitement or irritation thereby induced. This is true everywhere in the organic life, as in disorders of nutrition, secretion, and excretion; and so, also, in the animal life, as in disturbances of sensation, perception, and other phenomena interesting the nervous system. This is a general principle, a universal law, however various in its manifestations. It is either an organic or animal irritation, the result of an irritant acting on the irritability of the tissues of organic or animal life. Here, also, great confusion has been excited by the introduction of the word "*sensibility*," when the nervous system is involved. It has been used because, in many cases of nervous irritation, sensation is excited; and it is maintained that sensibility is a peculiar vital property of the nervous system, as contractility of the muscular, not observing that it also is but one mode of manifesting nervous irritation, and, probably, by no means the most frequent. All the varieties of muscular contraction, in health and disease, are usually excited, not only without pain, but very often without any degree of sensation or even consciousness on the part of the patient; yet they all evince excitement or irritation of the nerves of which the muscles are the organs, or the agents. It therefore avoids confusion to say, that sensibility in the cerebro-spinal system is a synonyme with irritability of this medullary tissue. Hence, nervous irritation may be manifested by sensation, internal or external, of whatever type or character; by muscular contraction, as in motion or in subsultus tendinum, spasms, convulsions; and also by the disturbance of the mental powers, of "the senses," and indirectly of the functions of organic life. This language is more important, as the word sensibility has been ap-

plied, by some, to the *ganglionic* system of nerves, and, of course, also to organic actions; where it is not only irrelevant, but causes wrong ideas, as in such cases there is strictly no sensation, indeed no consciousness of any kind.

To indicate more clearly the precise mode in which the words irritability and irritation will be hereafter employed, and to exhibit its importance, one or two illustrations may be given.

When a *muscular fibre* is inflamed, and when it contracts, we often say it is muscular irritation, in the one case as well as in the other; but this is not precise language, indeed it is incorrect, and would lead to improper and often very erroneous pathological and therapeutical results. Simple contraction is merely an evidence of muscular irritation. But the muscular, in common with every other tissue of the body, is the subject of organic life. It has, therefore, its circulation, its nutrition, and is liable to the diseases of organic life, such as inflammation. If, then, contraction of an inflamed muscle ensues, as it frequently will, our language should be, that muscular irritation has been excited by inflammation, which is an organic irritation. Hence, also, such inflammations may produce muscular contractions, both painful and spasmodic, in all the neighboring muscles, while no inflammation has been propagated to them from the tissue originally inflamed. The practical deduction from this is evident; the indications for treatment in the one case of inflamed muscular fibre—*organic irritation*—will be diverse from that of pure spasmodic action—*nervous irritation*. The remedies for the one will be essentially antiphlogistic; for the other, antispasmodic. Neither need this pathological view be at all modified, because inflammation involving particularly the organic life of a muscular fibre will often, and indeed very generally, disturb the functions of the muscles, causing contraction, spasms, &c. In such complications we may, simultaneously, employ both classes of remedial agents.

In *affections of the brain*, this confused use of the word irritation is still more frequent. Cerebral irritation exists, say from moral causes; confusion of ideas, wandering of thoughts, disturbed sensations, spasmodic actions, even convulsions may ensue: this is true cerebral irritation; that is, irritation of the cerebrum as an organ, as a medullary mass, the centre of the nervous system, and also as the instrument of the mind. To employ the same expres-

sion, in cases of acute inflammation of the brain, is very common; but manifestly erroneous in theory and in practice. Cerebritis is an irritation of the organic life of the brain, of its bloodvessels, and other organic tissues; and not of medullary nervous matter. Sometimes, as after wounds of the brain, inflammation exists, with few or no evidences of functional disturbance, but generally the functions are disturbed; in which case there is, of course, cerebral or nervous irritation superadded to inflammatory or organic irritation of the tissues. In this case, the chief indication is to subdue the organic, which is the cause of the animal or nervous irritation.

We shall have constant reference to this distinction, and to its importance as respects the *affections of the uterus*. It is sufficient at present to allude to what every one will grant at once: the vast difference between uterine irritation as it exists in parturition, and in cases of metritis; in other words, between irritation of the uterus as the subject of animal life, and irritation of this organ as the subject of organic life. How different is the treatment for labor and that for inflammation!

Congestion.—More precise meaning should be attached also to the word "*congestion*," so intimately associated with all our pathological speculations. From its etymology, the word indicates that there is an unusual quantity of blood in a tissue or an organ; this is its proper meaning. Experience, however, shows that the unnatural fulness of the vessels of a part depends on different, and sometimes, opposing causes. Hence, there are different kinds of congestions or "*engorgements*." The older pathologists were very correct in distinguishing between active and passive congestion; between the active determination of blood to a part, and the stagnation or arrest of blood in a part. The acute or active congestion is generally arterial; the slow or passive congestion more frequently venous.

Passive.—The latter, *passive* congestion, has, perhaps, been too much overlooked by the modern pathologist. It is seen in varicose enlargement of the veins; in cases of partial or complete obstruction of the larger veins; in the condition of the circulation on exposure to cold; in cases of gangrene; in asphyxia; in the cold stage of fevers, &c. In all such cases the blood is not actively driven to, or drawn into the tissue; but is delayed in its

progress through a part. The consequences are various, and depend on the causes, their power, the continuance of their influence, and the tissues or organs involved. If congestion continues, more or less effusion of watery or sanguineous fluid ensues, with a subsequent partial or total suspension of the functions of the tissue or organ.

Active.—As regards the other form, or *active* congestion, there are, at least, two varieties, organic and nervous, which, although apparently allied, are evidently distinct in their causes, nature, and results.

"Ubi irritatio ibi affluxus," is an aphorism as true as it is trite, and thence arises *organic congestion*, or congestion from organic irritation, as in inflammation. A local irritation, involving the organic actions, is followed sooner or later, in living tissues, by an enlargement of the bloodvessels, and an increase in the quantity of fluid, until inflammation be fully developed. This is active inflammatory congestion, as excited by any mechanical or chemical irritant. The consequences of inflammatory congestion are well known, in the swelling, the heat, often the redness, the pain, the effusions of peculiar fluids; and, if continued, in the alteration of tissues, and their ultimate destruction by ulceration, gangrene, and sphacelus. It should not be forgotten that inflammatory irritation, if persistent, is a disorganizing and destructive process, and even in its chronic varieties, followed by alteration of tissues, ulcerations, &c.

The second variety of active congestion ought to be carefully distinguished from the above, and should be termed *simple congestion*, or congestion from nervous irritation. Every one is familiar with the frequent determinations of blood to particular tissues or organs in health, under the influence of nervous excitement; for example, in blushing, flushes of heat, crying; in the erections of the penis and nipple; in the salivary and mammary glands; in the head and brain from excitements from mental and moral causes; in the uterus previous to menstruation; indeed in all the organs, under their normal excitants, when new or increased demands are made on their powers. In all such instances, there is evidently excitation and a consequent active determination of blood to a part, not only without injury, but generally productive of good, in furnishing the material for the performance of the re-

spective functions of the tissues. Such congestions usually disappear spontaneously, with or without increased secretions. In the erectile tissues, the excitation disappearing, the fulness of the vessels subsides rapidly. Generally, however, the secretion becomes abundant, as in the shedding of tears, the flow of saliva from the mouth, that of milk from the breast, of bile from the liver, of the menses from the uterus. We say, therefore, that such normal excitements and congestions are relieved partly by the disappearance of the excitants, but chiefly by a free secretion. All, however, is normal, physiological, and healthy. Founded on this normal state, there is an *abnormal* state, which has alway attracted the attention of the clinical observer; but the marks of distinction are either so indefinite, or so difficult to be drawn, between it and inflammatory irritation, that the views, and of course the language of pathologists have differed exceedingly. Their ideas have been expressed under various phrases, such as congestion, engorgement, apoplectic state, acute inflammation, subacute inflammation, mild inflammation, chronic or obscure inflammation. And these conditions have been very universally regarded, if not as actually inflammatory, as very liable to terminate in inflammation, with all its destructive consequences, ulceration, disorganization, &c. Hence the practice, founded on these views, has almost always been antiphlogistic. Experience would indicate that, however similar, there is a real fundamental distinction to be drawn between inflammatory and simple congestion. We have examples of the latter in most of these cases, so constantly referred to by authors, under the name of apoplexy of the brain and lungs; engorgements or congestions of the lungs, liver, spleen, bowels, uterus, &c. This is precisely analogous to the physiological congestions already mentioned, except that the one is normal and the other abnormal. Usually this form of active congestion occurs suddenly, unexpectedly, and often approaches slowly, insidiously; it sometimes disappears rapidly, but more frequently gradually diminishes, as the irritation subsides. The consequences of this congestion are sometimes moderate, and may continue for a long time without serious mischief, but are often terrible and fatal; yet in all cases they are very different from those of inflammation. This variety in the results depends mainly

on the importance of the organ involved, as well as on the activity and intensity of the nervous irritation and congestion.

Congestions of the brain, in infants and adults, afford good illustrations of this form of "simple congestion." If a child is tormented with gastric irritation, sudden determination to the brain, convulsions, &c., will often follow. A man, stimulated by his angry passions, has an attack of apoplexy, from which he may completely recover; but sometimes his recovery is tedious and imperfect, and, occasionally, death speedily ensues. In all such cases there is more or less disturbance or suspension of cerebral functions and influence; thence the loss of consciousness, or the confusion of mental powers, the convulsed or paralytic condition of the voluntary and sometimes even of the involuntary muscles; hence the stertorous breathing, and the consequent congestions of the lungs, heart, and other organs. In the *post-mortem* examination no evidences of inflammatory action are visible; not unfrequently the anatomist reports all the tissues in a normal condition; generally, however, the veins are distended, and more or less effusion of serous fluid is found in the cavity of the arachnoid membrane and in the ventricles, but particularly in the subarachnoid space and in the cellular tissue of the pia mater. Occasionally red globules are commingled with the serum, and in bad cases pure blood is effused on the surface, in the cavities or substance of the brain.

Effusion, therefore, if the congestion be severe or long-continued, may be regarded as the natural consequence of simple congestion, with a corresponding interruption or suspension of the functions of the organ involved. In moderate cases, the turgescence disappears without any, or, at least, trifling effusion, and the organ recovers its powers on the subsidence of the irritation.

Where secretory surfaces exist, as in the bronchial, hepatic, and uterine tissues, an abundant *secretion* of their natural fluids ensues, and, as in normal excitements, to the relief of the engorged vessels. Hence the free secretion of mucus in the lungs, or of bile in the liver, or of the menstrual fluid in the uterus, will relieve moderate congestions of their respective organs. In severe cases of engorgement pure blood is sometimes effused, as in hæmoptysis, hæmatemesis, hæmorrhagia uteri, and so in other exposed surfaces.

When the distension of the vascular tissue of an organ is for a long time kept up, from the persistence of the cause, it sometimes becomes a stimulus to the organic actions, so that the nutritive functions are more actively developed; the organ grows in size, is "hypertrophied," without any real alteration in the character of its tissues. Hence "*hypertrophy*" is an occasional consequent of chronic nervous congestion, and may remain permanent, but may disappear under favorable circumstances, when the cause is removed. Hence, we have one cause of hypertrophy of the heart, spleen, liver, uterus, testes, &c., in which there is none of that effusion of lymph, that indurated condition or disorganized state of the tissues, which are the consequences of phlogosis. Simple hypertrophy seldom interferes, materially, with the functions of the enlarged organ. The uterus, during gestation, may be considered as the physiological type of the uterus in a state of chronic congestion.

Whether the degree of organic excitement may, in cases of acute simple congestion, ever become so intense as to excite *inflammation*, is, and must be, a disputable point, as so many other causes of irritation are often operative. My own opinion is, that simple congestion is never the cause of inflammation. Inflammation is not one of its sequelæ. Facts on this point will be hereafter adduced.

Another very important question, and, indeed, not less so than this pathological inquiry, is as to the *cause* of simple congestion or engorgement. Here two errors seem to exist in practice. Physicians have seldom either thought of or investigated the essential, or (to use the good but neglected name of the older pathologists) "the proximate cause" of sudden determinations of blood to tissues or organs. The remote causes are often noticed, attended to, and relieved with manifest advantage; but few investigations or inquiries are made as to the proximate or immediate cause. For example, dentition or gastric irritation, in a child, is frequently followed by congestion of the brain and convulsions. But these remote causes, as every one knows, often exist, and even severely, without convulsions. In the instances stated, the irritation is propagated to the brain; it is this irritation that causes the flow of blood to the part, and necessarily precedes it, "ubi irritatio, ibi affluxus." The immediate and consequent congestion is so dan-

gerous, that it has often occupied all attention to the neglect of that condition or state of the organ which preceded the congestion. How common is it to read, even in works of the most scientific and practical men, of congestion of an organ as being the disease, "ipse morbus;" and the assertion made, if the congestion be relieved the patient will necessarily recover. They examine not as to the present state of the cerebral mass, or whether that state of the organ, which certainly did exist, still continues. Hence, because they find evidences of congestion returning with wonderful rapidity, they persevere in their remedies, until the strength, health, or even the powers of the constitution succumb. A lady from the West once informed me that she was bled almost every day for three months, "ad deliquium animi," for a congestive headache, and became perfectly anæmic, and without permanent relief.

The second practical error is to confound inflammation with simple congestion, by attributing the latter as well as the former to simple organic irritation; but as the congestions differ as to their phenomena, nature, and results, they must have different causes. Experience proves, also, that the treatment, although to some extent analogous, must often be very different.

Nervous Irritation.—Nevertheless, however clearly it may be demonstrated, that there must be a peculiar cause of these apoplectic congestions, not to be confounded with other causes, and however important in practice the distinction; yet it is impossible to form accurate ideas, and, of course, to convey them in words, of these vital states or conditions. Perhaps the expression "*nervous*" or "*animal* irritation," that is, an irritation of certain portions of the cerebro-spinal nervous system at its centres, or its ramifications, may be ventured upon; though it may be difficult to explain all acute or chronic congestions by reference to the cerebro-spinal centres and ramifications. It seems, however, to be a general truth, that, as organic irritation causes inflammatory congestion, so nervous irritation causes simple congestion. To illustrate this principle several examples may be given, as the distinction is important and has been neglected.

Mental and moral affections excite the brain, and powerful passions, as anger, irritate this organ; not as the subject of organic life, but as the subject of animal life, as a medullary mass. This excitement or irritation often appears and disappears without any

appreciable disturbance of the circulation. This, therefore, is "nervous irritation." In this case it is manifested by the exercise or disturbance of the mental faculties, by the expression of the eyes, face, or by corresponding words, motions, &c. No one can doubt, in such a state, the existence of cerebral excitement, although we can form no definite idea of its nature. We are as ignorant of all the ever-varying, inscrutable, inconceivable changes of this wonderful organ of mind and body, as we are of life itself. As we employ the word *life* to express a distinction between a living and a dead being, so we employ the word *nervous excitement, or irritation*, to express the distinction between the quiescent and the active condition of the cerebral tissue. We explain nothing, we simply express a fact. We assert, also, by this expression that it is not an organic irritation, not an irritation of the vegetable life of the brain, of its bloodvessels, its secretions, its nutrition, but an irritation of its animal life. This nervous irritation being continued or enhanced, involves, in some way, the circulation; the blood rushes to the organ with the phenomena and consequences already detailed. We have, therefore, the mental passion as an irritant, producing a nervous irritation of longer or shorter duration, then acute congestion. Without the irritation of the mass, there would have been no congestion. The congestion, therefore, strictly is not the disease, which is the irritation, and the afflux of fluids is merely a symptom, however dangerous or fatal this symptom may prove. A scientific treatment, therefore, is not completed by removing the congestion, but demands that attention be paid to the primary state, to the real disease. Innumerable examples from the history of cerebral affections indicate the truth of this statement. Nervous irritation, confessedly, exists in nervous headaches with, as well as without, congestion. It precedes, therefore, the congestions which occur in infantile convulsions, from whatever cause; as well as in epilepsy, in hysteric and apoplectic convulsions, &c.

Similar examples occur in laryngismus, in pertussis, in asthma, in angina pectoris, and in all the varieties of gout in the head, heart, lungs, stomach and bowels. In all affections of the spinal marrow and nerves, it is accompanied usually with more or less pain, spasm, and cramp, and followed sometimes by congestion, which, when it is present, is not essential, but of a secondary character,

however mischievous. Hereafter, these principles will be applied to all the varieties of uterine affections and their consequences.

The correctness of these principles is not invalidated by the fact that, in many cases of post-mortem examinations, signs of inflammation are detected in the congested tissues. It is a sufficient answer to say, that usually, such inflammatory spots are not to be found, and, therefore, the acute congestion may not only exist, but be so violent as to cause death by itself without any inflammation. Inflammation has nothing to do, necessarily, with congestions of this type. When it exists it is as a complication, or as an exciting or aggravating cause of the nervous irritation.

Some decided marks of distinction may now be drawn between *inflammatory and simple congestions*. The inflammatory form is a disease essentially of the ganglionic nervous system of organic life. It arises from an irritant acting on the organic irritability; and causes, therefore, an organic irritation, which is more or less speedily followed by a congestion, first and chiefly of the capillary vessels, and subsequently of the larger vessels. It begins at spots or points where the irritation exists most intensely, although diffused to other parts; and is followed, if the cause continue, by morbid secretions, alteration and destruction of tissues.

The simple congestion is an affection of the cerebro-spinal nervous system, of the organs of animal life. It is caused by peculiar irritants, acting on the animal irritability, producing therefore animal irritation. This peculiar state of irritation of the cerebral system is not always followed by congestion; terrible indications of its existence are often observed without any, at least appreciable, evidences of congestion. Even when congestion is present, it is so moderate and so secondary, that it is often neglected in therapeutics. When congestion does occur, it moves with wonderful rapidity, involving at once large as well as small vessels, the whole of an organ as speedily as a part, the adjacent tissues as well as those immediately concerned. How rapidly will a transient thought mantle the face, neck and breast of a modest young woman with a scarlet blush! How suddenly will a cerebral irritation be sometimes followed by an apoplectic congestion, convulsions, and death! How instantaneously will the thought of a beloved infant send the arterial current to the lachrymal gland and its appendages, for the effusion of tears of joy or sorrow; or

to the mammary tissues, for the production of food for a dependent babe. Such congestions are so rapid, that in common language we speak of a rush of blood, of an afflux, or sudden determination, of engorgement, &c.

Great as these congestions may be, profuse as are the secretions or the effusions which may follow; still the discharges are not morbid in their character, and we observe no disorganization. The integrity of the organ remains perfect, unless some mechanical injury ensues from the effusion. A compression or laceration of the brain, for instance, may, of course, result, when blood is poured into its substance or cavities. In all these respects, the distinctions are positive, and bear most decidedly, as will be hereafter seen, upon the indications for treatment, and on the choice of therapeutical agents.

Although much has been already said of the distinction between organic and nervous irritation, perhaps a few words more may be demanded for illustration of a neglected and abstruse investigation.

What is "*neuralgia?*" It is, as its name imports, a variety of nervous irritation—in common parlance, pain; a morbid sensation of a painful character in a spinal or cerebral nerve; an irritation of a "*sensory* nerve," "a nerve of sensation." This comprehends the whole idea. No other meaning ought to be attached to it. But, in the minds of many, neuralgia is associated almost invariably with inflammation. With them, pain in a part is a synonyme with inflammation. No mistake is more frequent than this in pathology, none more erroneous, and few perhaps more injurious in practice. It is needless to multiply examples of pain without inflammation; every one has experienced pain in the ulnar side of the hand and little finger from a slight blow on the ulnar nerve at the elbow; while neuralgia of the face, eyes, ears, and of the brain, stomach, bowels, and uterus, is the daily observation of every practitioner. True it is, inflammation causes pain in very many instances, and is a common symptom of some modifications of organic irritation, when the irritation extends to the cerebral nerves, which thus become involved; but there is no necessary connection between pain and inflammation. It may appear strong language, but pain in inflammation is an accident. The essential phenomena of inflammation, its progress, its results, may all be observed where no pain, sometimes no sensation, actually exists. Often have large

abscesses been discovered, after death, in the brain, lungs, liver, kidneys, &c., where no suffering had ever been complained of during life. In inflammations of the cellular tissue, tendons, ligaments, of the mucous membranes, &c., no pain is experienced, except in complicated cases. And in chronic inflammations, pain is generally absent.

As inflammation, therefore, may exist without nervous irritation, so neuralgia may often exist without organic irritation—a principle of fundamental importance. It is not invalidated by the fact that neuralgia is frequently the consequence of inflammation. With this every one is familiar. A diseased tooth causes neuralgia of the facial nerves; a wounded or inflamed nerve in any part of the body excites the most painful neuralgic symptoms towards its sentient extremities; cerebritis and myelitis often excite agonizing irritations of the nerves and muscles of the trunk and extremities. In all such instances neuralgia is a nervous irritation superadded to that of inflammatory irritation, and indicating, necessarily, that the nerves are directly or indirectly involved in the disease.

Let it be remarked, also, that the nervous irritation in cases of neuritis is propagated not merely to the sentient extremity of the nerve affected, but often in the opposite direction, along the trunk, to the centres; hence spinal and cerebral irritations are often produced. Many examples might be adduced, and some will hereafter be presented. Moreover, the irritation, thus carried to the spinal marrow or the brain, is often deflected or reflected from these centres to other nerves, even in distant parts of the economy. Neuritis, or even simple irritation, of the sciatic nerve may thus be "perceived" by the spinal marrow or brain, and then it may be reflected to the nerves of the upper extremities of the trunk, and even of the viscera. It is as great a pathological error, therefore, to consider the brain or the spinal cord the seat of disease merely because they are sensitive or painful, as to imagine the disease is in the fingers or toes because the patient complains of pain in those extreme portions of the limb. The surgeons have long been familiar with this principle, as in cases of pain in the knee in "coxalgia" or "coxitis;" and it is a principle of universal application.

Nervous irritation in a *motor* nerve is manifested by "spasms,"

"cramps," "clonic and tonic convulsions." The muscles are the instruments of the cerebro-spinal system, and are excited in health or irritated in disease by the ever-varying conditions of the nerve-centres. A spasm is an inordinate, irregular action of the muscular fibres; it is seen both in the voluntary muscles in the form of subsultus tendinum, cramps, spasms, &c., and in the involuntary muscles, as in laryngismus, palpitations of the heart, gastrodynia, colics, &c. When the cerebro-spinal centres are involved, these spasmodic actions, influencing large portions of the muscular system, are termed clonic or tonic convulsions; hence we speak of hysteric, epileptic, and tetanic convulsions. In all such cases of spasms and convulsions, pain is very rare; but in other cases, termed rigidities or cramps, where there is a tonic contraction of the muscles, there is often severe pain, for now, the nerves appear to be involved. All these are the various manifestations of nervous irritation, existing by itself, or complicated with acute or passive congestions, or with organic or inflammatory irritation.

We have examples of simple nervous irritation of motor nerves in the spasms and convulsive movements in pure cases of the risus sardonicus, of laryngismus, of croup, of pertussis, of asthma, of many cases of palpitatio cordis, of chorea, &c. In other instances, these spasms are complicated with irritation of the nerves of sensation, as, in the stomach as gastrodynia, in the intestines as colic, in the uterus as dysmenorrhœa.

The more general spasms of the muscles can usually be traced to the spinal or cerebral centres. In the former case, there are, often, but few symptoms of congestion; in the latter, occasionally there is no congestion, but often the most intense symptoms of passive or active congestion are present. In chorea, hysteria, and especially in hysteric convulsions, few evidences of congestion of the spinal cord or brain are observed; but in apoplectic, puerperal, and tetanic convulsions the indications of congestion are very decided: yet in all, nervous irritation precedes, and probably constitutes, the essential character of the disease. In cerebritis and myelitis, spasms, cramps, and convulsions appear, as already remarked, among the important symptoms of the internal disease, the essential characteristic of which, in these cases, is inflammation or *organic* irritation.

But nervous irritation is not only manifested by decided pain,

or by spasms and convulsions, but by an innumerable variety of *morbid feelings and sensations*, frequently of trifling importance, but often of such a distressing, horrible character, that severe pain, or even death itself would be preferred. In health the exercise of our senses, the indulgence of our tastes and even of our passions, in a moderate degree, is pleasant and exhilarating, through the medium of nerves conveying the impressions received to the sensorium commune; but in disease, whether local or general, of the sensitive apparatus, the impressions are disagreeable, and may be tormenting, though not always painful. How often is light distressing to the eye, and sound to the ear, under the influence of nervous excitement! How often is the sense of smell and taste perverted; so, as in a case now under my notice, the perfume of the rose is fetid, and of the honeysuckle, positively disagreeable! In disease, patients often complain—of a sensation of opening and shutting of the bones of the head; of coldness, or of heat, when the body is in a directly opposite condition, perhaps insisting that a cold bath is demanded, when the pulse has failed and the surface of the body covered with the cold sweat of death; of a feeling, as if the head, the heart, or the whole body was immensely enlarged; of palpitations of the heart when there is no disturbance of the organ; of suspension of its functions when its action is perfect; of sensations of oppression about the præcordia; of a feeling of sinking, of exhaustion ("a die-away feeling"), as if suffocation or death must immediately ensue; of great languor when there is an apparent abundance of strength. Besides, there are various other internal distresses, which are inexpressible, and not to be conceived of by those who have not suffered in like manner; and of which some general idea is given by such expressions as uncomfortable, "malaise," miserable, wretched, nervous, low spirits, distress, agony. Sometimes the condition is absolutely intolerable, and causes syncope, catalepsy, and convulsions, to the temporary relief of the unhappy sufferer.

These morbid sensations and irritations are as truly physical evils, as organic irritations from the puncture of a thorn or a lancet, from an inflammation or a fever. It is not imaginary, a mere notion, a phantom, conjured up for effect, to interest friends, to excite sympathy or alarm. Nor is it bad temper, nor a

wilful indisposition, but genuine evidence of nervous disturbance. And however ignorant of it the physician or attendant may be, there is a cause, an irritant, somewhere, producing irritation. The symptoms, therefore, are referable not to the mind or the heart, but to the physical being. These varieties of nervous irritation, these morbid sensations, are often chiefly evinced in the altered state of the morale of the patient; because the mind depends for its healthy exercise on the normal state of the brain, its instrument. If the instrument be out of tune, discordant notes will ensue. Many patients are unamiable, cross, passionate, low spirited, melancholic, simply from some corporeal irritation. A little medical treatment will often dissipate these "vapors," and restore peace and happiness far more readily than moral suasion. Of course, every one is aware of the opposing fact, that moral causes will produce physical disturbances. Mind affects the body through the medium of the brain and its dependencies. States of the mind will cause nervous irritation or sedation, and, of course, active or passive congestions, whence arise interruptions of the functions of organs to even a fatal extent. Anger may produce apoplexy. A man may die of a "broken heart."

It is this action and reaction between body and mind, and mind and body, through their common medium, the cerebral mass, which continually meets the physician in his daily visits, either as cause or effect, complicating the symptoms and often demanding all his therapeutic efforts. Attention should, of course, be paid to the spiritual as well as to the physical being. The moral treatment is often as important as the physical, and in all cases, facilitates the recovery from corporeal diseases.

Again, nervous excitement or irritation should not be confounded with *vital power or strength*. The difference between them is very obvious, but not unfrequently neglected in practice; and the mistake is not, always, easily avoided. Excitement of a tissue or organ is a manifestation of its power; but the excitement may be very great when the power is trifling, or the power may be very great when the excitement is nearly or altogether suspended. A strong man, asleep, has great power, though not in exercise. A

weak man, stimulated by anger or alcohol, will manifest great excitement; but he wants power, and soon sinks exhausted.

Vital power may be defined, as the capability of living tissues, not only to act, but to endure action; not only to resist, but to resist long; a capability of resisting or enduring, as well as of acting. The degree of power is not easily estimated; and of course it is ever varying. In the weak, power is soon exhausted by a given excitement; the same degree of excitement may be, for a long time, borne by one of a good constitution. To exhaust the strong man, the excitement must be increased, it must be inordinate. Under *such* excitements, congestions, effusions, and even death may soon result. Excitement, irritation, action, therefore, exhaust power. The greater the excitement, *cæteris paribus*, the sooner power is exhausted. Debility, a mere diminution of vital strength, collapse or prostration, a failure of the *vis vitæ*, may ensue, therefore, either from the degree of excitation, or from the want of power. A severe irritation causes collapse in the strong, but the same collapse occurs from a mild excitement in the feeble.

These expressions, thus defined, are in accordance with common language in, and out of, the profession; and, of course, with the usual observation, experience and reflection of all men. The man of pure science may insist that the language is too general, that it is not definite, and that no precise idea is conveyed. He would speak, therefore, of various kinds of "*vital force*," of "*formative power*," of "*organic force*," of "*dynamic power*," of the "*nervous excitor*" and "*motor*" forces, and of "*muscular contractility*."

But is our real knowledge increased by this multiplicity of words? Every part of the body is alive; has its irritability, is capable of receiving impressions, and of manifesting this irritability in its own way; it has its own excitations, its own actions, its own functions; each part can endure its own excitements for a longer or shorter time, in proportion to its vital strength, but debility or prostration may sooner or later occur. Although each tissue has its own manifestations of vitality and its own functions, yet the nature of power is everywhere the same, modified, in its results, by the tissue or organ concerned. A skilful musician may be regarded as manifesting the same ability; whether he "discourses sweet sounds" through the medium of the violin,

the flute, the harp, or the full-toned organ. These ideas are capable of indefinite illustration in all parts of the economy, in the organs of the cerebro-spinal system, as well as in those of the organic life, represented, as it is supposed to be, by the ganglionic system of nerves. Constant excitement exhausts power. A diminution of excitement, rest (partial or complete), is demanded for recuperation, for the renewal of power. This is especially evident in the brain and its dependencies; but is true even of the heart and its accessories, with all their complicated and never-ceasing involuntary functions.

This distinction, between vital power and excitement, is observed in the *cerebro-spinal nervous system.* Under the inordinate stimulus of anger, fear, and other passions, the brain becomes so excited, as to reflect its excitations on the muscles of the face, extremities, and, indeed, on all the muscular system. Violent efforts ensue, and wonderful energy is manifested; but it cannot be kept up for any great length of time. The exertions gradually diminish, and finally cease; or, if the cause continue, syncope or even death may ensue. The horse, as well as the dog of the hunter, often falls before the prize is won; they sink exhausted, or die. What better language expresses this known fact, than to say, their power is exhausted, their forces are expended, by the violent efforts of the organs of animal life. A horse or a dog, of relatively great strength, will endure, for a long time, the unusual effort; those comparatively weak, soon succumb. An excitation of portions of the nervous system will be endured for a long time, if the general system is not much involved; nevertheless, the continued excitement of any set of muscles, or of an organ, is followed by fatigue, exhaustion, it may be by paralysis, or a complete failure of "nerve force," that is, of vital power manifested through the medium of the nerves. Paralysis of the upper and lower extremities, of the nerve of the eye, or that of the ear, is often brought on by over-excitation.

The same distinction, between strength and action, is also observed in *the organs of organic life.* Every physician speaks of a failure of power, of collapse, of prostration, and of debility in protracted cases of fever. Tonics, stimuli, natural and artificial, are employed; but often in vain, the patient continues to sink and dies. One soon perishes, another struggles for a long time,

a third may *react*, and may survive. All this language has respect to the organic force. In all fevers patients complain of great *sensations* of weakness, exhaustion, from the disturbance of the nervous system; but their organic powers are often great, and the irritations so severe that evacuants are demanded. Under the excitement, therefore, of the heart, arteries, capillaries, &c., collapse may ensue, power may fail, debility and exhaustion may follow.

So, also, any *portion* of the animal economy may suffer in the same manner. What is true of the whole system is equally true of any portion of the organic tissues, however evident, or however imperceptible, may be the development of its functions. "*The action is often too great for its power*," is a Hunterian maxim, which no surgeon neglects in his practice, whatever may be his theoretical views. In phlegmonous inflammation of an intense character, if gangrene and sphacelus occur, it is precisely at that point where the inflammation is most violent, and is surrounded by zones, exhibiting the different degrees of inflammatory action, as the ulcerative, the suppurative, the lymphatic or adhesive, and the serous. This fact of every-day observation is most frequently and most appropriately expressed by the language that, excitement has been too great, the strength of the part has failed, sphacelus or death has ensued. Precisely as collapse takes place in fever, collapse and gangrene occur in inflammation. Power, or the capability of exciting and keeping up action, fails, from the violence or the persistence of the excitement. Hence, those tissues which have comparatively least vital power, are the first to perish: as cellular tissue, ligaments, tendons, cartilages. While the skin, muscles, arteries, veins, and nerves, will often maintain their integrity in the midst of a sloughing abscess. The sloughing of cellular tissues is, almost universally, much more extensive than that of the skin which covers it; tendons usually slough all the way up to the muscles with which they are connected; the sloughing of a bone, "necrosis," occurs higher up than that of the soft parts. All these are facts of difficult explanation, should we venture to analyze them very minutely; but the general truth is evident, the lower the vitality and the less perfect the organization, the more feeble the manifestation of organic functions, the sooner and the more extensive will be the collapse.

The same truth is exemplified, also, by the fact that gangrene occurs more readily in the old than in the young, in the intemperate than the temperate, in the patient debilitated by famine or fever, than in the healthy and strong.

This general principle is not invalidated by the assertion often made, that collapse results because congestion occurs, the blood becoming stagnant in the veins, lungs, heart, &c., or in the small vessels. But this slow circulation, this stagnation, is part of the dying process, of the state of collapse, of gangrene, and is due to the loss of power in the circulatory tissues. The intensity of the vascular excitement, and the rapid movement of the blood, continue until the power of the general or local circulation diminishes; then the blood moves with less rapidity, its momentum diminishes, the organic actions fail, and death ensues.

Action, that is, excitement or irritation, ought not, therefore, to be confounded with power. It is certainly a manifestation of power, as there can be no action where there is no power to act; but the action may be intense when the strength is feeble, as in the habitual drunkard under the influence of a strong alcoholic stimulus, and as in the old man with a high fever. The practitioner makes often a fatal mistake, who resorts to his nauseating remedies in the case of the intemperate and aged, as he would in the healthy and the young; or perseveres in a low diet and bleeding, in an exhausted patient, because a local inflammation, even in an important organ, exists. The disease may be cured, but the patient dies; or, what is more frequently the case, the disease continues, and the patient's constitution is broken down and irreparably injured.

The reverse is of course true, there may be moderate action where there is great power, as during sleep, and during the torpidity from cold or a narcotic poison. In such cases stimuli may be demanded to excite more action, but if they be too freely used, the reaction is often inordinate, and even fatal. The gangrene from heat applied to frosted limbs is a familiar example of this, as well as the dangerous apoplectic congestions which result under similar circumstances, after universal torpor from cold.

A most important principle, involved in these distinctions between power and action, is, that the *irritability of a part is inversely as its strength.* The greater the power, *cæteris paribus*,

the less the excitability; the weaker the part, the greater the excitability. This, of course, applies to each tissue in reference to its own actions and powers, and not comparatively as it relates to other tissues. We cannot, for example, say that the cellular tissue, because its organic life is comparatively feeble, is therefore more excitable than the skin, with its abundant supply of blood-vessels and nerves. This principle is applicable both to the animal and to the organic life. A strong man is said to have "no nerves"—that is, it requires powerful impressions to disturb his mental and physical susceptibilities. In comparison, a woman is "nervous," "all nerve"—that is, impressible, sensitive. Minor causes will disturb her mind and body; powerful impressions will produce great agitations of her mental and moral being, and of all the tissues under the domain of the cerebro-spinal system. Hence laughing, crying, screaming, delirium, syncope, insensibility, asthmatic breathing, palpitations of the heart, subsultus tendinum, spasms, cramps, and convulsions are more common among women than among men. Let the strong man, however, be weakened in any way—by bleeding, diarrhœa, fever; or by the want of food, of rest, of sleep; or by over-exertion, long-continued fatigue—and he also will become "nervous." His mind becomes excitable, and his body keenly susceptible to every impression. As he regains his strength, his irritability diminishes, and he is less sensitive, less impressible.

To this general principle there is perhaps no *positive*, but many *apparent*, exceptions. Many persons are very nervous even when in perfect health and strength. It is their peculiarity; they are of a nervous temperament. Some, also, may become nervous from a variety of persistent causes—as continued anxiety of mind, constant pain, &c.—yet their strength remains good. Nevertheless, if such individuals become weak, the nervous symptoms become more intense. This principle explains what degree of truth there is in the popular belief, that nervous diseases are caused by indolence and self-indulgence, and will disappear if the mind and the body can be stimulated to action. "They can be worked off." This is, indeed, often a practical truth, but also a corollary from the principle stated, and is of great importance if properly and judiciously applied. Yet it should be remembered that much

suffering and mischief have resulted from over-exertion of nervous patients, as well as from timidity and self-indulgence.

ANÆMIA.—Nervous, hysterical persons are often very pallid, emaciated, "bloodless," so called—that is, their blood is very light-colored, there is a deficiency of the red globules of the blood. There is "*anæmia*," so called. Hence, in the minds of most practitioners, there is an association of anæmia with nervous complaints, so intimate that the former has been regarded as the cause of the latter; and the impression is made that if the anæmia be cured, the nervous excitement will disappear. This conclusion is too sweeping, and will not be confirmed by experience. The connection between nervous irritability and anæmia is not that of cause and effect, but that of a common consequence of the same cause—debility. When there is a loss of power, there is increased irritability, "nervousness." When there is a loss of power in the brain and spinal marrow, the organic life suffers, chiefly from the consequent deprivation of fresh air and exercise; hence the want of appetite and weakened powers of digestion, of hæmatosis, of nutrition; and thence, of course, anæmia. If strength can be given by iron, fresh air, exercise, &c., the nervousness and also the anæmia will be relieved.

That there is no absolute or necessary connection between the anæmia and nervousness, as cause and effect, is also proved by several undeniable facts. The important one is, that all females are comparatively nervous, even with excellent organic actions, rich blood, free capillary circulation, rosy complexion, and an abundance of animal heat continually generated. Their temperament is nervous. In some cases, by no means few in number, this is wonderfully true. Every one, of any experience, must have known women, who were of the most robust appearance, with excellent appetite and digestion, an abundant supply of blood of the purest character, with all their functions in an admirable condition, being strong and feeling strong, and yet were excessively nervous, excitable, and irritable. The least cause, mental or physical, will disturb their sensations or perceptions, and induce the worse forms of hysteria. Some of the most terrible forms of hysteric convulsions, and of catalepsy, which I have met with, have been in the most healthy individuals, as regards their vegetable life. They look well, but feel supremely wretched. Few, sometimes

not even their physician, sympathize with them. They are regarded as imaginative, or even as deceitful beings. The reverse of the picture is often equally true—anæmia existing to a very great degree with few or no special manifestations of nervous irritability. In men, especially, this is often the case, as in many cases of exhaustion from dyspepsia, diarrhœa, hemorrhages, and chronic diseases. In women this is, of course, not so frequent, owing to their natural temperament; yet often, in the delicate, pallid, emaciated woman, you will discover few symptoms of nervous irritation, and you will hear the declaration, "Doctor, I have never been nervous."

The plethoric and the strong, therefore, may be very excitable, the anæmic and the feeble may be with difficulty disturbed, owing to natural or acquired peculiarities; yet the general declaration is true, that as strength is diminished, irritability increases; and the reverse, that with the increase of strength there is a diminution of irritability. There is no necessary connection between nervous excitability and anæmia, although they are often conjoined.

GENERAL CONCLUSIONS.

We have thus presented a general idea of neurotic or hysterical diseases. Precise meanings have been attached to many words in common use; and terms, constantly used in medical language, but usually without sufficient precision, have been defined and explained as they will hereafter be employed in these pages.

The hysterical, or the neurotic diseases of women, are therefore states of irritation of the cerebro-spinal nervous system in whole or in part. They are very evanescent when the cause is transitory, as in nervous affections from moral causes, such as fear, anger, anxiety, joy, grief; or from physical causes, as from indigestion, flatulence, &c.: but very persistent in all cases where the cause remains operative, and will then often defy the best directed remedial agents for months and years. Hence the indomitable character of various nervous or neuralgic diseases; the cause is persistent, perhaps it has not been detected, or cannot be removed. Tonics, nutritious diet, exercise, travelling, as well as antispasmodics, narcotics, and stimuli, prove useless, or perhaps worse than

useless, and at best are but temporary palliations. The symptoms will return, often with increased vehemence. The location of the cause may be in any tissue or organ of the body. Wherever the irritability or sensibility of a part is disturbed, thence, as from a focus, may radiate nervous excitements. They are usually perceived in the nerves involved, first at the point irritated; then, if sufficiently severe, in the sentient extremities of such nerves, or in the reverse direction towards their origin in the spinal marrow or the brain, and thence again by reflex influences in any tissues of the economy; thus causing a disturbance of the functions of such tissues or organs, so far as these functions are dependent on nervous influences. In other words, "nervous irritations" of the brain and spinal axis, and of their dependencies, may, and often do, arise from any local irritation. It is often of small consequence what may be the character of such local irritation; whether it be simply nervous or inflammatory, sympathetic nervous irritations may result in different and often in very distant portions of the animal economy.

Odontalgia and otalgia often excite neuralgic pains and spasms of the nerves and muscles of the face and neck, and sometimes severe headaches, and other cerebral disturbances. Often croup, asthma, and palpitations of the heart, as well as gastrodynia and colics, are excited by indigestion; and by the same cause headaches, delirium, and convulsions, are very frequently induced. Hysteric convulsions and epileptic spasms, as well as the more dangerous tetanic affections, are constantly excited by the presence of a thorn in the flesh, by a local, painful inflammation, or other organic irritations. The proof seems positive to the medical philosopher, not merely that such nervous disturbances follow local irritations, but that they disappear almost instantaneously on the removal of such affections, while they remain obstinate under the best general treatment if the local irritation be allowed to continue. The continuity of tissue, and the wonderful unity of the nervous system, together with the inconceivable rapidity by which impressions are transmitted in health from the circumference to the centres, and from the centres to the circumference, afford a most satisfactory explanation of the transmission of such morbid irritations, and of their reflex influence to distant parts, or to the whole of the cerebro-spinal apparatus.

A complete history of nervous diseases would involve, therefore, an account, if it were possible, of the innumerable causes, whether intellectual, moral, or physical, which may disturb the sentient system. The nervous and cerebral symptoms being, after all, not strictly the disease, but the *indices*—as they are the results of the primary impressions of the local irritation. Such a task would be endless, and in a great degree fruitless. My object is far more humble and limited. It is to illustrate the general truths already enunciated, by a detailed account of those nervous disturbances which are excited, or kept up by the uterus and its appendages when in a state of morbid irritation, and hence to deduce the proper pathology and therapeutics of irritable diseases in women.

The general principles applicable to all the variety of neurotic complaints will, it is trusted, be thus evolved and elucidated, inasmuch as no organ of the body has so constant and direct an intercommunion with the nervous system, as the uterus; and inasmuch, also, as the peculiar physiological and pathological character of the female sex is most intimately and indissolubly connected with this organ and its appendages.

CHAPTER II.

IRRITABLE UTERUS.

WHAT idea is to be associated with the expression, "an irritable uterus?" No other than that the organ is more sensitive—more easily excited—than when in a healthy state. It is no longer in a normal condition, but in an abnormal, unhealthy, diseased state. This diseased condition has reference, let it be observed, not to its circulatory system, and, of course, not to its organic life, but to its nervous system, its animal life. It is a state not of organic irritation, but of nervous irritation. In simple uncomplicated cases, the alteration of the sensibility is the only indication of its existence. There is necessarily no turgescence of the organ, no congestion, active or passive, no inflammation, and, of course, no alteration of structure in an irritable uterus, even after the lapse of years. Congestions and inflammations, when found, are complications, sometimes the result of the nervous excitement of the organ, but frequently adventitious and secondary, or accidental.

In a normal state the uterus, although abundantly supplied with nerves, and capable of being readily excited, has very little sensibility. It can be pressed upon and pushed in various directions, almost without the consciousness of the woman; but, from various causes, this quiescent condition of its animal life may be disturbed. Its vitality is exalted, it becomes more excitable; slight impressions cause sensation, pain, even severe pain, spasms, cramps, and other evidences of nervous irritation, of morbid excitement. It has passed from a healthy to an unhealthy state, as regards its nervous system; it is morbidly sensitive; it is "irritable." This state is a simple exaltation of a natural vital property, sensibility, and constitutes a nervous irritability beyond its normal or healthy standard. The organic actions, everything relating to the circulation, nutrition, growth, alteration of structure, &c., are not necessarily affected, and very often not in any

appreciable degree disturbed, even after the lapse of years, though many painful and distressing symptoms may have unremittingly existed.

This is no novel employment of the word "irritable," but is in accordance with the common language of physicians, whatever opinions they may have adopted on medical subjects. Every one is familiar with its use in physiology, especially since the time of Haller. Irritability has often been regarded as the only vital property of organized tissues, and by most writers as having respect merely to organic life; while many have restricted it to particular tissues, and some even to a single tissue, maintaining that there is no irritability without contraction. Modern pathologists have been driven to its use, in speculating on the morbid states of the tissues—however indefinite and irregular may have been their employment of the word. We are, perhaps, chiefly indebted to Mr. Brodie for its introduction into pathology. In his admirable work on the diseases of joints, he specified many cases of very painful affections, in which observation and experience proved that there was no inflammatory action, and no disorganization of tissue. "A morbid condition," he says, "which may be regarded as a local hysteric affection." This hysteric or nervous state, he described as existing not only in joints, but in various other tissues, particularly in the female mammæ; hence we have read of "irritable joints," "irritable mammæ," &c. Sir Astley Cooper authorizes the same use of the word, and speaks of "irritation" as distinct from inflammation. To Dr. Gooch we are, however, chiefly indebted for the exact definition of this word, and its application to uterine pathology, in his most admirable essay on "Irritable Uterus." He designates it as a "painful and tender state of this organ—neither attended by nor tending to produce change in its structure." In some cases, after the lapse of ten years of suffering, no alteration of structure could be detected by him. The disease, he says, is very obstinate, and very slightly under the influence of remedial agents; but nevertheless, in time, patients often perfectly recover, although relapses are very apt to occur from the slightest cause. Dr. Dewees, of this University, deserves notice, in this connection, as having fixed the attention of the American profession on this complaint in an excellent essay; although he, like most pathologists, wandered from the

simple idea of an irritable, to that of an inflamed organ. He unfortunately intimates that it is analogous to a "sort of inflammatory state:" and still more unfortunately, both he and Dr. Gooch, and, indeed, nearly all physicians, have practically, if not theoretically, adhered to the same idea; pursuing, more or less decidedly, the antiphlogistic treatment, in opposition to that which experience as well as a more correct pathology would indicate.

Supposed Difficulty of Treatment.—Notwithstanding the light which has been thrown upon pathology by the discoveries of the anatomist and the chemist, by laborious, minute, and careful observation at the bedside of the patient, and by the results of post-mortem examinations; yet during the last few years very slight advance has been made, theoretically or practically, over the doctrines of the late Dr. Gooch, in his excellent monograph already referred to. Most practitioners have been forced to confess, that irritable uterus is "very obstinate and intractable," and that "no disease is so liable to relapse;" although "in time," years of suffering having passed away, "in most cases, a perfect recovery may be expected." Hence diseases of women, especially those implicating the uterine system, have been regarded as having something mysterious or peculiar in their nature, and so difficult to manage, as to deter many from their investigation, and to excite in the minds of all, a doubt, whether such diseases can be readily and successfully treated. Discrepancies of opinion, among pathologists and practitioners, have therefore been exceedingly great upon this subject; and it is mortifying, to the lover of medical science, to notice these diversities of sentiment in the various periodicals; and the discussions—not always in the best temper—to which they have given origin, in the most learned bodies of Europe and America. These modifications of views, influencing more or less the practice of physicians, have given origin to various expressions used to designate the morbid state of the patient; and thus, far too often has attention been riveted on organs, as primarily and essentially diseased, which are remote from the real source of mischief. Very often have diseases of the uterus been referred to the ovaries, to the kidneys, to the liver, heart, lungs, spinal marrow, and even to the brain!

Neuralgia, Hysteralgia, &c.—The idea of an irritable organ has been embodied under the names of neuralgia, tic douloureux, a

neuralgic state; hence we read of odontalgia, otalgia, cephalalgia, spinalgia, hysteralgia, &c. To these expressions, there is no objection when reference is made to nervous irritation as accompanied by pain: but they do not embrace those innumerable varieties of nervous irritation, in which there is no pain whatever; neither do they answer as a substitute for the word "irritable" or "excitable," which has reference to the quiescent condition of the tissue, to its capability of being readily excited, when no actual excitement or irritation is present. It is irritable, but it may not be irritated, or excited; it is in a passive, not an active state. There is no neuralgia, no nervous irritation, when the irritant, the exciting cause, is absent. If an irritant, sometimes even the most trifling, be applied, nervous irritation in some form is excited; occasionally as pain, then, and then only to be termed neuralgia. This self-evident distinction between irritability and neuralgia is of great importance. A patient will often exclaim, "I am perfectly well this morning, do permit me to rise from my couch." If permission is granted, pain, spasms, even convulsions, may be the consequence. In this case, the patient, at rest, has not a morbid sensation, yet her nervous system is in a state of great excitability; the least motion produces irritation, nervous excitement.

Irritable Diseases really Physical Ailments.—Many of these irritable states of the cerebro-spinal nervous system are so peculiar, so intimately involved with the mental and moral affections (whose manifestations, be it remembered, are through the medium of the brain as their instrument), and, at the same time, so compatible with the integrity, and even perfect development of the organic functions, that superficial pathologists have no faith in their existence. With such and with many, very many, out of the profession, hysteria is an idea, "*et præterea nihil*," a notion; it is mental, not physical. Even when evidently associated with the uterus, and accompanied by pain, it is said to arise from timidity, from the remembrance of past evils, and is termed a "pseudo-prolapsus." In the opinion of such pathologists, these patients, instead of being forced to keep the recumbent position month after month, and year after year, could, if they pleased, walk miles with impunity.

Perhaps it may be asserted, that many of the leading authori-

ties of the day, do not acknowledge the distinction now drawn between irritable diseases and those of the vascular system; and do not recognize the great differences in theory and practice, between the disturbances of the animal and the organic actions. Hence, general nervous affections are always associated in their minds with congestion or inflammatory states of the brain, or spinal marrow: and all these local affections of the uterus are noticed and treated under the names of congestion or engorgement; of inflammation, acute or chronic; of rheumatic or gouty irritations; of sub-inflammations of the neck or body of the uterus; of the os tincæ; of the lining membrane of the cavity of the neck; of the vagina; of the bladder; of the urethra; of the rectum; of the ovaries, &c. No nervous irritation is regarded as an original affection, but always as the result of organic disturbance. However, the actual separate existence of purely nervous diseases, and the importance of distinguishing between nervous and vascular affections, between nervous and inflammatory complaints, are daily becoming more and more realized by physicians and surgeons; so that diseases formerly indomitable, under every variety of a decided antiphlogistic treatment, readily disappear when treated as nervous, irritable, or neuralgic affections. Medical men are now continually speaking of irritable stomach, bowels, larynx, lungs, heart, bladder, and urethra, as well as of irritable joints, mammæ, muscles, brain, and nerves. There are few practitioners who have not met with cases of irritable condition of the eyes, often as an original affection, and sometimes as the result (here, as in other cases) of inflammatory complaints; and which for days, months, and years, have incapacitated the patient from the ordinary duties of life, yet, to the best observers, manifesting no symptoms of congestion or inflammation. This is a state in which evacuant remedies rather aggravate than relieve, and will often continue for years without apparent change; and then disappear gradually, or suddenly, leaving no vestige of its power, or existence, no alteration of structure and no imperfection of vision.

Irritable affections, "nervous irritations," have, therefore, a veritable existence; they have a local habitation; they are physical, not moral disturbances; real, not imaginary diseases. They demand attention by physical as well as by moral means, and

should, therefore, receive unremitting attention; although a late writer has considered them as the "scape-goat of modern pathologists."

All Pain is Nervous.—As a corollary from the above observations it may be stated that pain is not necessarily connected, as before mentioned, either with nervous or inflammatory diseases. There may be a vast degree of nervous distress; of miserable, wretched, indescribable, and tormenting sensations; of spasms and convulsions; without any pain whatever. So, also, every practitioner is aware that inflammations, sometimes even the acute variety, may exist in almost all the tissues of the body (nerves, perhaps, excepted), with little or no pain. Often inflammations of the viscera, heart, lungs, liver, and kidneys, of all the mucous membranes, of the subcutaneous tissue, and even of the serous and muscular tissues, have existed and progressed to suppuration, ulceration, and gangrene, without their existence being indicated to the patient by any painful sensations. Pain is not necessary to inflammatory action; it is not essential, it is accidental. Moreover, pain is far more common and more severe in nervous than in inflammatory diseases. He who is experiencing severe odontalgia, otalgia, cephalalgia, or the agonizing sufferings of some forms of neuralgia of the extremities, or of gastrodynia, colics, and other spasmodic diseases, would willingly exchange them for the pains of phlegmonous or febrile affections. The truth is, that all pain is nervous, it is neuralgic, an irritation of the nerves of sensation; and, therefore, it never occurs as a symptom of disease unless the nerves of sensation be involved, directly or indirectly, in the part diseased. Nearly all diseases may exist without pain, and severe suffering is comparatively rare in the most destructive and fatal forms of morbid excitement.

These observations are strictly applicable to all the varieties of morbid affections in women, but especially to irritations of their pelvic viscera. Hence, they are often great sufferers, martyrs to agonizing pain, and may be tormented, even for years, with neuralgic and spasmodic affections, without serious injury to their organic actions or to their lives. Proofs of this will appear in a review of the symptoms, progress, and consequences of irritable uterus.

CHAPTER III.

LOCAL SYMPTOMS OF IRRITABLE UTERUS.

THE *local symptoms* embrace, not only those that depend directly on the uterus, but also those that involve, more or less, all the viscera and the surrounding tissues (as the muscles, nerves, &c.) of the pelvis.

PAIN AND DISTRESSING SENSATIONS.

Among the local symptoms, *pain* is by far the most frequent; and often, to the patient, the only indication of disorder. Usually it is felt in the upper portion of the sacral region, occasionally in the hypogastrium directly above the pubis, sometimes in the pubis. Ladies often speak of the pain in the "side," by which they generally mean the region of the abdominal canal, through which passes the round ligament ("ligamentum rotundum"). It is a singular fact, that this pain is seldom felt by the same patient upon both sides, but almost always on one side only, even when it continues for a series of years. Often it is felt higher up, in the region of the cæcum or of the sigmoid curve of the colon. It is not always constant, but depends on various exciting causes; nevertheless it is manifested in the same individual, generally in the same place. Many patients refer the suffering to the interior of the body, to the womb directly; some, who think themselves wise, to the neck of the uterus, to the vagina, the rectum, the vulva, or the bladder. Often it is felt in one or both hips, sometimes as if in the joint itself. Perhaps the pain is usually experienced, not in one point only, but in several at the same time, as in labor; extending from the back completely around to the groins, the hypogastric region, and down the thighs. It is often very trifling, sometimes very severe and agonizing, preventing

all comfort while in motion, and often continues even when the sufferer is at rest in the recumbent position.

The *kind* of pain varies indefinitely; and various expressions are employed to give an idea of its character. Perhaps most frequently, it is described as a dull, aching, weary feeling in the back, with more or less of a sense of pressure, weight, dead feeling, heaviness, fatigue, or debility. Not unfrequently, in the abdomen, it is a sore pain, a sharp needle-like or lancinating pain. With some, it is mere soreness; and in very many, after the acute character has subsided, soreness remains often so great that the weight of the bedclothes becomes troublesome. In the hips and down the limbs, there is often the same weary and dull pain with a sense of fatigue and an inability to move; but sometimes it is sharp, neuralgic, "toothache-like," and occasionally excites spasmodic and painful action of the muscles of the hips, thighs, &c. The sensations are often *pulsatile*, resembling those preceding or accompanying the suppurative stage of inflammation. This beating, "strumming," vibrating pain is referred to the womb, vagina, bladder, rectum, &c., and is often very tormenting. A *burning* sensation, or feelings of moderate or severe degrees of heat, are not uncommon in the vagina, the vulva, urethra, sometimes in the sacral or the hypogastric regions, over the whole lower part of the abdomen, and extending to all the anterior portions of the thighs. This is very distressing, and sometimes so severe that patients have declared the burning could not be greater were they to stand perfectly exposed before a hot fire, or if coals of fire were placed within them.

In addition to pain, and very frequently when there is no pain whatever, there are numerous *sensations more or less distressing*, indicating an irritable state of the uterus and the adjacent organs. Some of these are very common, as sensations of weakness, debility, languor, often with feelings of fulness, pressure, weight; a "bearing-down" sensation in the back, abdomen, thighs, in the lower part of the pelvis, in the bladder, vagina, rectum; an "open feeling," as if there was no support, and all the pelvic contents must escape, or as if the patient would "fall in pieces" when in the erect position; a sense of pressure on the rectum, as if the bowels must be moved, or simulating the fulness and weight of hæmorrhoidal tumors. A great sensation of distress, of pros-

tration, often exists after the bowels have been moved. Similar troubles are also experienced about the neck of the bladder, and the urethra, especially at its orifice, with frequent, sometimes almost constant, inclination to urinate, and then a burning, scalding sensation. There is often an indomitable disposition to micturate, even continuing for half an hour or an hour without intermission, only a few drops of urine, perfectly natural in its character, being voided. These and other symptoms of dysuria are sometimes so great, that violent, agonizing pain and spasms of the bladder ensue, as in the worst forms of cystitis; yet no stone, no gravel, no morbid secretions from the bladder or the kidneys, can be detected.

This uneasiness and distress at the orifice of the urethra, or throughout its course, with more or less sensations of heat and fulness, is often confounded with the symptoms of inflammatory action.

These miserable feelings are often extended to the sphincters of the bladder, vagina, and the rectum, with sensations of painful contractions or spasms, including even the muscular coats of the vagina or rectum, and the levatores ani muscles.

Distress and pain are often evidently connected with the pudic and obturator nerves, and with all the complicated sacro-ischiatic plexuses. These may be comprehended under the general head of "sacral irritation," to which reference will hereafter be frequently made in this work, when treating of displacement of the uterus, with which all these complaints are intimately connected.

These miserable sensations vary exceedingly in different cases. In some they are so trifling that the patients will hardly acknowledge the existence of any disease; in others so severe that life has no charms—death is regarded as a blessing, and the only refuge from persisting and inevitable agony.

Aggravated by Motion.—In decided cases of irritable uterus, however, patients are often very comfortable as long as no exciting cause is present. Hence, when perfectly at rest, they can hardly realize that they have any trouble whatever; but the least mental or corporeal excitement will disturb the sensibilities, and too surely indicate the locality and the nature of their complaints. The mere erect position usually induces pain or distress, and every attempt to walk is followed by great suffering. In others the patients can walk moderate distances, but afterwards suffer

for hours, or even days. Generally, after walking, pain is experienced. Nothing troubles such individuals so much as ascending hills, stairs, or attempting to lift weights. The fact is, that any and all muscular exertion induces pain; as such exertion can hardly be made without interesting, more or less, the abdominal muscles and diaphragm, so that *pressure* is made, by means of the superincumbent viscera, directly on the uterus: and, in its irritable state, the least pressure is felt. Hence any exertion, even of the upper extremities, in holding a book, in sewing, in combing the hair, is intolerable. Few patients can bear to stand erect; all can walk more readily than they can stand still. To stoop low is very difficult; even slightly bending the body forward, as over a table, is annoying.

In the sitting posture, it is an effort to keep the body erect; a forward inclination is usually preferred. The continuance of this position for any length of time is followed by feelings of languor, lassitude, and by aching, and painful sensations. At the moment of sitting down, in some cases, there is at once a darting pain, or pain soon follows this act; so that patients have often to sit on a ring-pillow, or on one of their feet adroitly twisted underneath them. This doubtless arises from pain being felt, when the perineum is pressed upward against the tender, sensitive uterus.

Sneezing, coughing and vomiting are often intolerable; even a deep inspiration, the distension of the abdomen (of the stomach and bowels, but especially of the cæcum and of the sigmoid portion of the colon) by food, fæces, or gas, are sources of discomfort, and even of positive pain. The natural effort to empty the bladder often induces pain, when it is not perceived at other times; or aggravates the terrible dysuria that so frequently exists with irritable uterus. The pain of defecation, already noticed, is exceedingly enhanced by the bearing-down efforts which costiveness, and the sensations of fulness, pressure, and weight in the sacral region, so often excite. The mere pressure of masses of fæces, collected in the rectum, excites pain; and this is terribly aggravated by their transit under the influence of the muscular action of the rectum and the straining efforts of the abdominal muscles. So great is the suffering induced, that such efforts are sometimes unbearable; the feculent matter is retained until forced out by purgative medicines, or removed by the surgeon. Often

have patients declared, that martyrdom would be preferable to such agony. In some cases of prolonged constipation, the process of defecation simulates a tedious and severe case of parturition. For similar reasons, enemata, even of water or mucilage, are most distressing; suffering being excited by even a small quantity of fluid thrown into the rectum. In many cases, even where no pain is experienced, there follows a great sense of weakness and exhaustion after defecation, and often a feeling of uneasiness, or tenesmus, as if the rectum was still unemptied. These sensations of distress and of pain in the rectum are oftentimes transmitted to the posterior perineum, the regions of the coccyx and sacrum, and thence down the thighs.

In these irritable states of the uterus, vagina, &c., where the least pressure excites pain, coition becomes a source of great suffering, and is sometimes actually intolerable. The pain at the vulva is often excessive, although sometimes pain is not experienced until the uterus is touched. This is often a source of not only physical, but great mental and moral distress. Pregnancy is not apt to occur; when it does ensue, the organic and other changes, in the uterus, not unfrequently produce a favorable revolution: but, very generally, the irritability of the womb causes much suffering during the whole period. Sometimes contractile pains and abortions result; or, if gestation continues, the slightest motion of the fœtus in utero becomes truly annoying. Parturition is more severe, the after-pains are more common and more intense. These pains are occasionally so persistent, and accompanied with so much soreness on pressure, and on motion, as to simulate very exactly the phenomena of peritonitis or other varieties of puerperal inflammations. After delivery, frequently, all the symptoms of irritable uterus are re-excited, in full force, on the patient's return to her usual avocations. In other cases, complete recoveries are effected by the revolutions induced by pregnancy and lactation.

Aggravated by Menstruation.—Of course, the symptoms of irritable uterus are aggravated by any and every cause, mental, moral, or physical, which directly or indirectly stimulates the uterus or its appendages. Menstruation, therefore, usually aggravates the phenomena, sometimes to an intense degree.

Simple Dysmenorrhœa.—The normal nervous excitement of

these periodical returns becomes inordinate, abnormal, and excessive, constituting that morbid state known as *Dysmenorrhœa.* Irritability of the uterus is, very universally, the predisposing cause or condition of painful or difficult menstruation; and, of course, dysmenorrhœa is strictly a symptom of irritable uterus. This is the *simple* uncomplicated form of dysmenorrhœa, often called "nervous" or "neuralgic." Of course, if, in addition to this natural periodic excitement, other causes be operative (such as exposure to cold, gouty, or rheumatic irritations, passions and affections of the mind, sympathetic irritations of other organs, &c.), the sufferings of the patient will be more or less aggravated.

Few subjects have excited more discrepancy of opinion and discordant views, than that of the pathology of dysmenorrhœa. That it is essentially a neuralgic and spasmodic affection, depending on a morbid sensitive state of the tissues involved, is, I think, the logical deduction from all the phenomena previous to, during the time of, and subsequent to, the menstrual period. They are evidences of nervous, not of inflammatory irritation.

The premonitory symptoms are those merely of irritable uterus. The sensations of fulness and weight, the bearing-down sensations felt at the vulva, the perineum, the rectum, and the coccyx, the frequent inclination to urinate, the fulness at the hypogastric region, the pain in the "small of the back," down the limbs, in the hips, around to the iliac and hypogastric regions, are all of the same type. At the period, these symptoms of pain and distress become much aggravated, and often intense; the irritation extends from the nerves to the muscles, hence the spasmodic pains, violent cramps, of the uterus, of the vagina, and of the sphincters. These spasmodic affections are often of the most severe character, usually occurring in paroxysms, for hours, or even for days; and sometimes, although then more moderately, during the whole period. They simulate the pains and agony of labor; and they are equally, if not more agonizing, for they are more protracted, and the intervals are less decided; sometimes, indeed, the pain is almost continuous. Usually, after the first twelve or twenty-four hours, when the secretion of the menses is fully established, the pain and spasms moderate, or cease. Frequently, two or three days elapse before the poor woman returns to her usual state; and often the suffering is so severe and so prolonged, that the whole

interval does not afford her sufficient time for recruiting her prostrate energies. The succeeding catamenial period brings renewed neuralgia and spasms; and so on, even for successive years, depriving the sufferer of all social and intellectual happiness. Her life is a life of suffering, and her joys, if any, must come from things moral and things spiritual. In very many cases, however, there is not much pain during the interval; the patient is ill for her day, or days, and then feels comfortable and happy for another twenty-five or seven days. The whole character of the symptoms now detailed (the suddenness of their occurrence, their severity, their spasmodic and paroxysmal character, their periodicity, their continued recurrence month after month, even year after year, in patients often otherwise healthy, and in no cases dangerous or fatal), indicates nervous, not organic, irritation.

This view is confirmed by the general or sympathetic symptoms, as also by vaginal examinations, by the *touch*, or by the *speculum*.

In severe cases of irritable uterus, all vaginal examinations become excessively trying, especially when made by the speculum. In a few instances, local spasms and general convulsions have been excited. The introduction of the finger causes pain, even when unguents have been freely employed, and the operation most tenderly performed. The suffering is greatest when pressure is made at the anterior margin of the vagina, especially near the orifice of the urethra. If the finger be pressed upon the posterior edge of the vagina, the sensibility is less disturbed, and the entrance of the finger more easily accomplished. The sensitiveness, along the course of the vagina, varies exceedingly. In many cases, the whole passage becomes excessively irritable, so that the least motion of the finger gives great pain, and excites spasmodic contractions, not only of the sphincters of the vagina and rectum, but of the whole length of the vagina; so that a finger or pessary is firmly embraced, rendering the removal of the one or the other exceedingly painful. Generally, however, a vaginal examination does not give rise to much irritation; the finger can be slowly moved from side to side, without much, if any, uneasiness to the patient. If carried anteriorly, the cystic irritation is often distressing, and a disposition to urinate excited. Pressure against the rectum is also uncomfortable to the patient.

As soon, however, as the least pressure is made against the uterus, a severe, darting pain is felt; few patients bear it without an exclamation, and a shrinking from the contact. It has been debated as to what part of the uterus is most sensitive. Doubtless this varies exceedingly; although the os and the cervix may be considered as usually the most excitable, yet few, who have made extensive and careful examinations, but will allow that probably every part of the uterus may be involved. Hence, when pressure with the finger is made on the anterior surface of the neck and body of the uterus, pain and uneasiness are excited not only in the bladder, but also in the uterus. So, also, the sides of this organ are often very irritable; and, especially in cases of retroverted uterus, we frequently discover how exquisitely sensitive is the whole posterior portion. Patients will not tolerate, without great complaint, any pressure of the finger, or by means of pessaries, against this surface, in cases of posterior displacement of the fundus. If an examination *per rectum* be made in such cases, the agony becomes still more intense. The finger, pressing on the anterior surface of the rectum, and thus against the posterior surface of the uterus, as it rests on the bowel, excites a neuralgic irritation of such severity, that few patients can endure it for more than an instant. Direct pressure can hardly be made on the fundus of the uterus, protected as it is, anteriorly, by the tent-like expansion of the abdominal muscles, and by the mass of small intestines. But if there be any enlargement of the organ, or other circumstances exist which bring it near to the parietes of the abdomen, pain can be easily excited in the fundus, by direct pressure.

Every experiment, therefore, made in these *digital* examinations proves the sensitiveness of the whole organ, and that the posterior portions and the extremity of the neck and the os tincæ are the most susceptible of pain. The investigation *per rectum* evinces generally also a morbid tenderness of that tube, at its external orifice, and also throughout its course, as far as the finger can extend, especially anteriorly, where it is in contact with the uterus. Examinations by the "touch" not only detect the great sensibility of the tissues, but also, in a very large majority of cases, some of the various forms or degrees of uterine displacement coexisting, whether as cause or effect, or a mere accidental coincidence will be hereafter discussed. Few who are practically, as

well as theoretically, acquainted with displacements of the uterus, but will acknowledge the usual coincidence of an irritable and displaced uterus.

These are the *positive* facts gained by vaginal examination, but the *negative* information is of the greatest value. In all the uncomplicated, although severe cases of irritable uterus, where it has lasted even for years, there cannot be discovered, by this examination, any enlargement of the uterus, or its cervix. No induration, no irregularities of form, no turgescence of the cervix, no patulous condition of the os uteri, no swellings, even of the orifice of the urethra, of the vulva, vagina, or rectum, no morbid secretions, and, of course, no purulent discharges have resulted. In fact, none of the usual consequences of inflammatory action or morbid excitement exist, and no alteration of tissue can be detected. The tissues and organs feel perfectly natural as to softness, pliability, form and size, as if no morbid state had existed.

Notwithstanding all that has been written and said upon the subject, I must believe that an *ocular* examination confirms these observations. Although the use of the speculum is itself painful, and aggravates the irritation of the tissues, so that some temporary organic excitement and congestion are produced; yet in very many of these examinations, no turgescence of the mucous membrane, no swelling of the cervix uteri, no patulous condition of the os uteri, no exaltation of color, no granular or ulcerated condition of the neck, or of the lips of the organ, are to be observed.

In this opinion, namely, that no organic excitement of any consequence usually exists, I am the more convinced, inasmuch as physicians who believe congestion, or inflammation and ulceration, to be the ordinary course of the symptoms of irritable uterus, have dismissed cases as *cured* of all the congestive and inflammatory symptoms; and yet, these patients have continued to suffer, as intensely as ever, from the symptoms of irritable uterus. No permanent relief, by the antiphlogistic treatment, had been afforded. Irritable tissues, I am confident, may exist without turgescence of the bloodvessels. Irritability is a nervous, not an organic affection. Irritation of the nerves of sen-

sation and of motion may exist, and does exist, without congestion. But this is not *always* the case.

CONGESTION.

Very often *congestion* does exist, nevertheless, not as the disease, "*ipse morbus*," but as a consequence; not as a primary, but a secondary affection. It is one of the sequelæ of nervous irritation. Congestion, as a sequence of irritation of the cerebro-spinal system, must be distinguished from the congestion due to irritation of the organic system, which causes inflammation, suppuration, ulceration, disorganization, &c.

In the first chapter, the distinction, very essential as it is, has been pointed, between these apparently similar, but yet very dissimilar states of the vascular system, of a tissue or organ. It will now be merely requisite to allude to the following facts. Congestion, as connected with nervous irritability, has its physiological type in every tissue and organ of the body, and especially in what are termed erectile tissues. Also in *morbid* excitements (in nervous irritations, in other words), we may have the same congestion. In all such cases, engorgement may exist without any organic irritation, and its consequent inflammation. If, however, the engorgement be very great or long persistent in a part, then the organic actions sometimes become excited (not irritated), normally (not abnormally). This is manifested *first*, and far most frequently, by an increase of the natural secretions; *second*, in many cases of severe, and especially of sudden congestions, by effusions of blood; *third*, when such secretions or effusions do not occur, or when the relief by them is partial, if the congestion continues, the tissue or organ is more fully nourished; it becomes developed, enlarged, and "hypertrophied."

All these changes are observable in cases of irritable uterus, and should be carefully distinguished (which has seldom been done) from organic irritations and their consequences.

In tracing, therefore, the progress of the local symptoms of irritable uterus, the decided evidences of congestion of the vascular system (of the kind of congestion resulting from nervous irritation, as distinct from organic) will be noticed. They are

manifested not so much by the sense of fulness, swelling, pressure, weight, and bearing down, &c., all of which may be deceptive, as by the results of vaginal examination, and by the sequelæ of engorgement to which allusion has been made. Often, in vaginal examinations by the touch, it is evident that the neck of the uterus, although not indurated, is swollen, as at the beginning of pregnancy; the lips of the os are divergent, so as to evince a tumefaction of the reflected membrane of the vagina, as it becomes uterine. The os uteri is thus apparently, perhaps sometimes actually, more patulous than normal. In other cases there is evidently a fulness or turgescence of the whole organ, not, however, so easily detected as that of the cervix. This enlargement varies very much, even in the same patient; being, of course, greater immediately during the catamenia, after a long walk, after coition, or, indeed, any physical or moral excitation. Sometimes, therefore, when the patient is long at rest or free from excitements, this swollen condition can hardly be recognized. Not unfrequently similar tumefactions may be perceived at the orifice of the urethra, in its caruncle, in the arborescent vaginal surface under the urethra, and throughout this vulvo-uterine canal.

By the speculum, we may discover, in addition, a deeper color of the tissues. Instead of its natural pallid, and delicate pink hue, the mucous membrane of the vulva, of the vagina, of the cervix, and especially of the os tincæ, becomes of a red or scarlet and sometimes of a purplish color; precisely as the conjunctiva of the eye is seen to be red in lachrymation, or the skin in blushing and nervous flushes. Examinations at different times exhibit the fluctuating character of these congestions.

Hypertrophy.—The enlarged hypertrophied condition can be recognized by the internal assisted by the external examination through the parietes of the abdomen. The tissue of the uterus remains natural, and does not become hard, indurated, or irregular; the form of this viscus is very little altered, not even as much as in pregnancy. The womb evidently occupies more space in the pelvis, is nearer to the pubis as well as to the sacrum, while its fundus can be perceived more distinctly than usual in the hypogastric region. By "ballottement," or balancing the uterus on a finger in the vagina, when the other hand is pressed firmly

on the abdomen, the muscles thereof being in a relaxed state, a tolerably accurate idea may be formed of the size of the organ. This, however, is better effected by means of a small male catheter, a sound, or a probe ("Simpson's uterine sound"), passed carefully through the os uteri, along the neck and body, to the superior part of the cavity of the womb; and unless in cases of displacement, and of great obesity, of dropsy or other disease, the point of the instrument may be felt by the hand on the hypogastric region. With sufficient precision, the whole perpendicular diameter can thus be readily measured. In many cases of engorgement or hypertrophy this diameter is but three inches, or about six lines more than its natural length. Sometimes it measures three and a half, or four inches; but seldom more unless there be some other cause of hypertrophy than simple irritability; as when tumors are developed on the interior or exterior of the organ. Of course it is doubtful to what extent the womb may enlarge in protracted and severe cases, even of pure irritability. Personal experience will, therefore, vary; but it is satisfactory to know that it very rarely exceeds that of the uterus at the third month of gestation; and also when the cause is removed, the enlargement will gradually diminish, almost to the natural size, with perfect integrity to the functions, not only of menstruation but of gestation.

MENORRHAGIA AND HÆMORRHAGIA.—Congestions, as connected with irritability of the uterus, may be partly or entirely relieved by secretions or by actual hemorrhage. As the natural engorgement of a catamenial period is relieved by the flow of the menses, so the unnatural or excessive congestion at such times, may be moderated or relieved by inordinate menstrual evacuation, in professional language by *menorrhagia.*

This, therefore, ought to be regarded as a very common and a very important symptom of irritability of the uterus; for by the frequent recurrence of the discharge, its quantity, and its long continuance, much serious injury is often inflicted on the organic as well as the nervous system. The patient becomes very feeble, anæmic, dyspeptic, and even dropsical; while the cerebro-spinal system becomes so sensitive and irritable that the mind and body are exhausted. Routine practitioners and super-

ficial pathologists are continually regarding all this nervousness as depending on debility, on anæmia, on exhaustion of nerve power: and the whole arsenal of tonics and astringents, of condiments and stimuli, is exhausted, and resort had to "change of air," to travel by land and by water, to exercise by gestation, by walking, or on horseback, not only in vain, but often, indeed, to positive and permanent mischief. The simple truth is not perceived, not even imagined: that menorrhagia presupposes congestion, and congestion irritation; the irritation an irritant acting on the irritability of the tissue, and disturbing the normal condition of the circulation. Here, as always, irritation precedes congestion, then follows an increased discharge with all its serious consequences. The irritant, the cause, must be detected and removed in order that radical benefit may be experienced. The local irritation, and not the condition of the general system, is the cause of the congestion.

The degree of local irritation and consequent congestion is frequently so great, that the uterine discharge loses its proper secretory character. It is no longer pure menses, it becomes more or less *hemorrhagic*. Fibrin, which in the menstrual discharge can be found only in small quantities, and often cannot be detected, is now abundant, and coagula may be observed. Such large quantities of pure blood occasionally escape, as not only to weaken and exhaust, but also induce a wretched anæmic and cachectic state, which may terminate in dropsical effusions and even death. The patient dies, it is said, of debility, of exhaustion. This is indeed true; but the *cause*, unfortunately, of the effusions and the subsequent exhaustion, had not been investigated; or, rather, the effect was mistaken for the cause; debility, not irritation, being regarded as the source of the evil.

Connected with these indications of organic debility are those of nervous exhaustion. The rule seems to be almost universally true, that nervous irritability increases as the patient's organic life diminishes; or, as it may be expressed, irritability is inversely as the strength. Hence, in menorrhagia from irritable uterus, the whole system becomes morbidly sensitive; this is manifested by a horrible train of physical, mental, and moral disturbances, which render existence intolerable. Should the cause be fortunately

detected and removed, the reaction and subsequent recovery is often rapid and wonderful.

LEUCORRHŒA.—Similar observations are equally applicable to another uterine discharge, familiarly known by the word "*whites*;" or professionally, we cannot say more scientifically, by the words "*fluor albus*," "*leucorrhœa*," according as the Latin or Greek nomenclature be preferred. By these words, all discharges are included which flow from the vagina, whatever may be their character, their sources, or their causes; provided they are not of a red color. The character of these discharges varies exceedingly, according to the pathological condition of the tissues, whether congestive, inflammatory, syphilitic, or cancerous. They are very universally regarded by patients, and too often even by the profession, as the consequence of general or local debility. To designate this complaint, the woman says she has a "weakness," and desires something to strengthen her.

More correct views have been entertained of late, and local disease has been detected as giving origin to the discharge. It is situated, sometimes, at the os vaginæ, in the course of the vagina, at the os or cervix uteri, or in the cavity of the uterus itself. Hence, the distinction of great importance into *vaginal and uterine leucorrhœa;* each of which may be subdivided, perhaps advantageously, according to the special seat of the disease. Leucorrhœa, both uterine and vaginal, should be divided into *congestive* or *functional* and *inflammatory*.

Leucorrhœa so frequently resembles the products of inflammatory irritation, and actual inflammation is so often detected by ocular examinations, that the idea has been too readily embraced that all leucorrhœa is the result of *inflammation*. There may be vaginitis or endometritis with their peculiar discharges; but in many instances, certainly no traces of inflammation are to be found. Yet the discharges are often profuse and long continued, and the patient's general health is wretched. Few practitioners, therefore, have not mourned over the inefficacy of remedies for leucorrhœa. Few patients have not regarded it as one of the "*opprobria medicorum*," and have not turned aside to every variety of empirical remedies.

Functional Leucorrhœa.—Numerous facts indicate that there

exists a functional leucorrhœa, arising from congestions, sometimes transient, sometimes permanent, but not inflammatory.

Thus, as respects the vagina, the serous and mucoid discharges which occur in gestation, especially towards its termination, the abundant secretion prior to parturition, and the more moderate discharges produced by onanism, by coitus, and those so frequently observed in girls, or women of sanguineous, leuco-phlegmatic or nervous temperaments, after muscular effort or fatiguing exercise, are all evidences of this variety of discharge. They are originally physiological in their character; but may become morbid under the influences of repeated or continued sources of nervous irritation and congestion. Thus, in displacements of the uterus and vagina, such congestions often exist, causing a continual fluor albus; which is indomitable, until the cause be removed.

Functional leucorrhœa is, however, far more commonly the result of uterine than vaginal congestion. Its existence is evinced by ocular examination in cases of procidentia uteri; and in ordinary cases, by the assistance of the speculum, the fluid can be perceived issuing from the os uteri.

That very many of these discharges are functional and not inflammatory, is evident from the fact, that they are so generally connected with menstruation, and with the parturient state, especially after delivery. This is so much the case, that uterine functional leucorrhœa might be denominated white menstruation, without conveying any incorrect notion. This is proved by various facts, familiar to every practitioner.

1st. Girls, at the age of puberty, have frequently a menstrual nisus, and yet no red discharge for one or more periods. The evacuation is colorless; sometimes it is white at the beginning and termination, but red at the height of the excitement. Sometimes it is of a delicate pink color throughout. Such discharges will continue for three or four days, and then disappear for three or four weeks, returning with the usual symptoms of uterine excitement.

2d. In suppression of the catamenia, the same kind of white discharge often appears, as its substitute, for a greater or smaller portion of each month, and is more abundant at the regular period.

3d. Fluor albus often precedes and follows the regular flow of

the menses, sometimes disappearing about a week after the usual discharge ceases. In some women it merely precedes or follows the catamenia. Occasionally it appears after unusual fatigue at the periods, but not at other times.

4th. Similar discharges are apt to occur, with more or less frequency, as a continuance of or a substitute for the uterine secretion, at the period for the final cessation of the menses. Indeed, they are often prolonged for an indefinite period after the regular, full, elaborated, red discharge has entirely disappeared.

5th. It is often observed in menorrhagic patients, whether occurring in early life or at the usual period of cessation of the menses, the red discharge ceasing, the white follows, and so alternating for an indefinite period.

These are all disturbances of a physiological function; they are of an abnormal and morbid, but not inflammatory character: no evidences whatever of inflammation exist either at the time, or subsequently. The discharges are usually periodical, and are not such as result from phlogosis. During life, or after death, no evidence of alteration or destruction of tissue is presented in uncomplicated cases, even after years have marked the existence of leucorrhœa.

The inference seems unavoidable; that, in uterine leucorrhœa, an irritation is present, similar to that which exists at the menstrual nisus, and is followed by congestion and increased secretion. Leucorrhœa is, therefore, in these cases of congestion, an imperfect menstruation; the fluid is not fully elaborated. It is a white menses, constituting the "Menstruatio alba" of old authors, and certainly ought to be distinguished from all those diverse discharges the result of inflammation, cancer, &c. The source of this irritation—the irritant—must be discovered in order to relieve the leucorrhœa. If, therefore, the uterus be morbidly excitable, that is irritable, or if in a normal condition there be any unusual excitement of the organ produced, irritation ensues followed by congestion, which is often relieved, as formerly mentioned, by a menorrhagic or hemorrhagic discharge, but in more moderate cases, by a fluor albus. By means of these discharges there is a diminution of uterine irritation and congestion: but as in menorrhagia, the continued leucorrhœa debilitates; the patient complains more and more of feelings of exhaustion, and thus the

miserable nervous feelings, to which we have so frequently alluded, are enhanced.

Of course in the same patient, and still more frequently in different patients, the appearance and the *whole character of these discharges vary;* according to the states of the individual's general system, of the diminished or increased excitement of the uterus, and of the degree of congestion, but especially according as the secretion comes from the neck or cavity of the womb. We most frequently find the discharge tenacious, thick, gelatinous; and of a dull whitish, yellowish, or, greenish color, evidently the product of the peculiar tissues in the cervix, from the orifice of which it may be seen issuing. It is more seroid or mucoid, and often of a reddish tinge, when it comes from the interior of the body of the uterus. In very many instances, the character of the discharge may indicate that the simple congestion, of which we have been discoursing, is complicated with organic irritation—with inflammation; or, at times, that the local irritation is purely phlogistic, the result, not of nervous, but of organic irritation. Yet, in practice, it is always difficult to detect the beginning of inflammation. It seems impossible to trace the transitions from the normal to abnormal stages, or from one point or degree of morbid affection to another; much has been done by means of microscopic and chemical tests, but much remains to be done. The practitioner is anxiously looking for more efficient assistance from his friends and collaborators, the microscopic anatomist and the organic chemist.

Judging from the results of practice, as already intimated, I should infer that leucorrhœa is far more frequently uterine than vaginal; and, also, functional than inflammatory. This is greatly at variance with the published opinions of pathologists; but I am confirmed in my view by the success of a practice founded on this pathological principle. Indeed, I think that leucorrhœa should no longer be regarded as indomitable, an "*opprobrium medicorum.*"

Inflammatory Leucorrhœa.—This variety of Fluor Albus is merely a symptom of Vaginitis, or Endometritis; and therefore will be included under the head of Inflammation and other complications of Irritable Uterus.

Dysmenorrhœa.—The *simple, uncomplicated form of dysmenor-*

rhœa has already been noticed, in the beginning of this chapter, as a symptom of irritable uterus. It is essentially an example of nervous irritation of the uterus, manifested by pain and spasm of this organ. This, however, does not complete the pathological character of dysmenorrhœa.

Congestive Dysmenorrhœa.—In every menstrual effort there is not only the natural, normal excitement, but there is the necessary consequent turgescence of the bloodvessels, followed by a secretion of a more or less abundant, sanguineous fluid. So in difficult menstruation, the excitement is extraordinary, not always because there is any more activity in the exciting cause, which may be perfectly normal; but because the susceptibility of the tissues is preternaturally great—it is abnormal. The uterus is irritable, therefore the natural cause of menstruation is sufficient to excite irritation, often to a very great degree. But if, from any circumstances—as anxiety of mind, fatigue, disorders of the stomach, bowels, &c.—an abnormal uterine irritation is produced, there will be a still greater manifestation of suffering. In all such cases, the normal vascular excitement will be aggravated; the fulness of the bloodvessels at the catamenia will become preternatural, inordinate. This is congestion; not inflammatory, however, but founded on a physiological state, which is very analogous to apoplectic conditions of the brain as compared with its physiological states in cases of mental or moral excitement. When these catamenial irritations and engorgements are severe, we speak of "*congestive* dysmenorrhœa." By this, we mean merely an aggravation of the moderate degrees of this painful disturbance; for in all cases there is more or less congestion. The nervous symptoms are, of course, augmented by this occurrence, and often become very intense, and, apparently, alarming. Severe sympathetic disturbances of the brain, spinal marrow, stomach, and bowels often follow. These violent agitations are, however, usually of short duration, sometimes only for two or three hours. In most cases there is a diminution of suffering or excitement within at least twenty-four hours, even when more or less pain continues throughout the whole period. A free secretion from the cavity of the uterus moderates at once the engorgement and the neuralgic spasms.

Mechanical Dysmenorrhœa.—Dysmenorrhœa is frequently due to obstructions in the canal of the cervix. These obstructions are

various as to kind and degree; but may arise chiefly from the following sources, as, the presence of coagula, of inspissated mucus, of lymph, or of a membrane in the cavity of the body or neck of the uterus; of turgescence of the lining membrane, from inflammation; of thickening of the membrane, or the formation of strictures; or, finally, of a flexion of the cervix uteri, which is probably by far the most frequent cause of obstruction. To this list, may be added congenital contraction or deformity of the cervix, but this is of rare occurrence. All these give rise to spasmodic efforts of the uterus to remove the obstruction, and are well termed "*mechanical* dysmenorrhœa." These obstructions will be noticed under their appropriate heads.

In cases of congestive dysmenorrhœa, when the excitement is high, as was remarked in some cases of menorrhagia, pure blood sometimes escapes, and then *coagula* are formed, generally in the vagina, but occasionally in the uterine cavity. Particularly when the latter has taken place, the spasmodic symptoms are greatly enhanced; powerful contractions, as in labor, are excited and required for the expulsion of these coagula through the orifices and canal of the cervix; a variety of mechanical dysmenorrhœa being thus superadded to ordinary forms of congestive dysmenorrhœa. In some specimens these coagula have resembled a chestnut as to form, as if moulded by the triangular cavity of the uterus. In most instances, as discharged from the uterus, they are very thin, and membranous-like, sometimes of a triangular form, and have been often mistaken for true "membranous dysmenorrhœa." The symptoms of congestion, general and local, in some of these cases, are so urgent, that practitioners have often regarded them as purely inflammatory; and thought they were confirmed in this opinion by the appearances of these membranous shreds, which they have regarded as coagulable lymph, the product of inflammatory action.

But the character of even this form of dysmenorrhœa is transient; there is an absence of proper febrile excitement even in the worse cases; there is no appearance of purulent or other analogous discharges; there is a perfect integrity of the uterus soon after the attack, an integrity which will often be found complete after dysmenorrhœa has existed even for some twenty or thirty years, there being no thickening, no induration, no ulcera-

tion of the tissues. These observations, together with the fact that, during the intervals, the general health and strength of the patient are often excellent, without even the loss of flesh or color, confirm the opinion that dysmenorrhœa is essentially a nervous, and not an organic, disease; that the congestion, even when excessive, is not inflammatory, but the result of great nervous, not organic, irritation.

The turgescence and soreness of the mammæ, which are frequently observed in painful menstruation, constitute no argument in favor of its inflammatory character. Such developments are synchronous with uterine excitements, physiological or pathological; and are observable, therefore, not only at the age of puberty, but at every monthly period; especially after marriage, even when no conception has occurred; always during pregnancy; and very generally in all the varieties of irritable states of the uterus, as well as in cases of positive and decided inflammation. But, perhaps, this turgescence exists less frequently in inflammatory diseases; for who does not know that in acute metritis, as well as in peritonitis of the puerperal character, the excitement and congestion of the mammæ diminish and disappear, constituting a most unfavorable symptom.

The development, of the nervous and vascular tissues and actions of the mammæ, is therefore no indication that dysmenorrhœa is of an inflammatory type. Indeed, this condition of the mammæ is a beautiful, almost visual, exemplification of an irritable organ, and a type of the uterus in its states of nervous irritation.

That membranous matters have been cast off from the uterus in consequence of *inflammation*, there can be little doubt; however rare may have been such occurrences. The membrane of the uterus, like other mucous tissues, when inflamed, will discharge abundantly not merely seroid and mucoid matters, but also pus; and when the inflammation is severe, of course lymph in shreds or membranes. The inflammation usually terminates by the flow of the menses, or of leucorrhœal and purulent matters; so that lymph is very rarely detected, and never unless there be severe inflammation.

Still, there are very many difficulties, in attempting to diagnosticate the original location or the character of the adventitious membrane. A few cases will illustrate this point.

Cases.—A medical friend very lately presented me with a beautiful specimen, as he deemed it, of false membrane from the cavity of the uterus of a virgin female, suffering from nervous irritation of the genitals. The specimen, as supported in water, had a bluish pellucid appearance, like the amnion of the fœtus. It was a sac somewhat conical, about two inches long and one and a half in breadth. Once before a similar specimen, he said, had passed from the same girl, and on several occasions, shreds of a like character had been discharged per vaginam. My friend, after a few days, brought me another specimen from the same patient, which was of cylindrical form. He insisted that these membranes must have come from the uterus, although they did not appear at the catamenial period. Even when it was represented to him, that some of the specimens were altogether too large to have occupied a uterus of the normal size, his opinion was not changed. The specimens were then submitted to the examination of Dr. Joseph Leidy, who stated that the microscope exhibited the membrane to consist of epithelial scales, belonging to the mucous membrane of the vagina, and not of the uterus. The attending physician not only yielded to this corroborating testimony, but confirmed it, by discovering that these membranes never were discharged except after the injection of a solution of the nitrate of silver into the vagina; which fact explained the whole mystery. I have subsequently attended this young lady, who has had no return of similar discharges since the wash of nitrate of silver was omitted.

Several years ago, I was presented with a specimen of supposed adventitious membrane from the cavity of the uterus, by Dr. Kennedy, a practitioner in Buenos Ayres, S. A. It was of a triangular shape, measuring about three and a half inches from one angle to another; and consisted of a thick, dense, opaque membrane, rough upon the outer surface and rather smooth on the inner, forming a portion of a sac. It resembles very closely a deciduous membrane from pregnancy, as it now appears, preserved in the museum in alcohol. Dr. K. states that it was thrown off from the vagina by a woman who was exceedingly ill, with violent chill, fever, great pain, and other symptoms of inflammation; and he regarded it, therefore, as the result of severe endometritis. Two important facts would, however, seem opposed

to this idea: the one just mentioned, of its apparent identity, not with lymphatic effusions from inflamed surfaces, but with the membrana decidua; the other, its great size and development showing it could not have occupied the cavity of a uterus, unless hypertrophied from pregnancy or some other cause. A more plausible supposition is, that it was a caducous membrane, the product of conception, and that delivery had been excited by the occurrence of metritis.

Membranous Dysmenorrhœa.—In this connection I will mention the following case of what has been called membranous dysmenorrhœa.

A lady, about thirty-three years of age, very healthy in her appearance, rather fleshy, and of good color, was married twelve years ago. On her first pregnancy, she was very ill from nausea, vomiting, pain, and was confined to her bed for five months, an abortion taking place within the fourth month of gestation. Two subsequent abortions, at early periods of pregnancy, ensued at intervals of eight to twelve months. Ten years ago, after many threatenings of miscarriage, she gave birth to a living child. In 1856 she again considered herself pregnant, had a supposed abortion within the second month, but merely a membrane was observed among the discharges. In February, 1859, a similar accident occurred after six weeks of supposed pregnancy. In July following, a decided abortion ensued. In October, of the same year, there was another membranous discharge of small size, occurring after a suspension of the menses, and regarded at the time as another miscarriage. In February, 1860, she again intermitted her menses, and considered herself as pregnant. On the twentieth of February, when about six weeks, according to her calculation, had elapsed, irregular pains and discharges supervened; she became very sick, and was confined to her bed: no decided hemorrhage or menses appeared until the eleventh of March, when, with much pain and hemorrhage, a large membrane was thrown off, measuring, she tells me, at least three inches in length, and quite firm in its character. When the membrane was examined (not, however, microscopically), by her physician, it was considered by him as the product of dysmenorrhœa. Bloody and mucoid discharges continued uninterruptedly, until the beginning of April, full six weeks from their first accession on the twentieth of February. Early

in April she came under my supervision; she had all the external appearance of a very healthy woman, but complained of being very nervous and easily fatigued, with uneasy sensations in the pelvic region, a frequent desire to urinate, a sense of pressure and weight with pain in the back, and frequent nervous headaches. The uterus, upon examination, was found of a normal size, sensitive, and slightly retroverted. This displacement was relieved by a pessary, and a suitable general treatment resorted to. She then menstruated twice at regular intervals, without peculiar suffering; the discharge was natural and continued its usual period of five days. The succeeding, or third period, in June, was regular as to the time of occurrence, duration, and the character of the menses. The pain was but trifling, yet there was a discharge of a membrane, of a delicate, almost pellucid character, and very nearly of the form of the triangular cavity of the uterus; it was sacculated, and rough on the exterior surface, but smooth internally. This beautiful specimen was also submitted to Dr. Leidy, who politely sent me the following account of his examination. "The preparation submitted to my examination consists of the desquamated epithelium of the uterus entire. It has the form of the front and posterior surfaces of the cavity of the body of the uterus. The smooth surfaces of the specimen are punctated, like those of the uterine cavity ordinarily. The flocculi of the other surfaces consist of the cast off epithelia of the uterine tubular glands. It represents the first stage of a decidua."

The next menstrual period, in July, occurred without pain or the discharge of any membranous matter; but in August there was, however, some pain, and some portions of membranous matter were again seen.

From these facts, it may be inferred, that the diagnosis of membranous dysmenorrhœa is ordinarily very uncertain; at least, that great care is demanded to ascertain whether the discharge be anything more than mere portions or flakes of coagulated blood, whether it be a proper lymphatic effusion, the result of inflammation, whether it be one of the membranes of the ovum thrown off in early pregnancy, or whether it be a tissue, connected with undue menstrual excitement.

The history of the last case mentioned being received from the patient, is therefore deficient in some of its details; but, never-

theless, exhibits the practical difficulty in diagnosis. Three of these discharges were cases of reputed abortion; the fourth, which occurred last February, was at first considered also as a case of pregnancy and abortion, until the physician made a superficial examination of the membrane, and pronounced from its appearance that it was the result of dysmenorrhœa. The probability, however, is, that it was an abortion: because, the lady had gone two weeks beyond her regular monthly period; the discharge, for the first two weeks, was abnormal and irregular, watery and bloody, appearing in small quantities with occasional pains, and at times disappearing altogether; then severe pain and hemorrhage occurred, and a casting off of a membrane nearly *three* inches in length, much larger than an unimpregnated uterine cavity could contain; this was followed by sero-mucoid and sanguineous discharges for three weeks—very analogous certainly to the lochiæ after abortions; and finally, the occurrence for two successive periods of the menses in a perfectly normal manner. It is doubtful, therefore, in this case, whether there was any true menstrual membrane prior to the month of June; and even then it was thrown off without pain; at that time, no suspicions of pregnancy existed and the discharges were otherwise perfectly regular.

The nature of this membrane we leave to the investigations of the microscopist: whether it be, as Dr. Simpson supposes, the proper mucous tissue of the uterus thrown off; or a mere exfoliation or desquamation of epithelial scales, so abundantly formed as to present a membranous character; and whether the organized membrane of the uterus in pregnancy, the decidua, is of the same or similar character. We may, however, safely conclude, that neither the deciduous membrane of pregnancy nor the membrane sometimes seen in dysmenorrhœa is the result of inflammatory action; they differ from lymph in all their characteristics, and occur as physiological rather than as morbid phenomena. They seem to be the result of high degrees of nervous irritation with congestion; a kind of hypertrophy of the lining membrane of the uterus, so that epithelial cells and scales are rapidly generated and cast off, occasionally in a membranous form. The extrusion of this membrane, aggravating the pain and spasms of the uterus, constitutes another example of mechanical dysmenorrhœa.

As already detailed, irritability is the proximate or essential

cause of dysmenorrhœa. When this exists, any normal or abnormal excitant at the time of menstruation will produce immediate suffering, neuralgic or spasmodic; when severe, it is accompanied with undue congestion, which may be followed by free discharges, menstrual, hemorrhagic, or even by the formation and extrusion of membranous matters.

Reference to the modes of treatment hereafter indicated will, I think, confirm these pathological views of dysmenorrhœa; especially as women themselves, and empirics frequently resort not only to narcotics, but to powerful stimuli, even to pure brandy, at the height of the suffering and congestions of dysmenorrhœa, with impunity and even positive relief.

CHAPTER IV.

LOCAL SYMPTOMS OF IRRITABLE UTERUS—COMPLICATIONS.

ALTHOUGH the views above presented of the usual forms of irritable uterus, its character and its sequelæ (menorrhagia, leucorrhœa, and dysmenorrhœa), are *me judice*, correct; yet in practice many complications are often detected.

INFLAMMATION.

Indeed, so frequently are there present unmistakable evidences of *inflammation*, as confirmed by tactile and visual examinations, that most modern pathologists in Europe and America practically, if not theoretically, ignore the views here advocated; and have no faith in the idea of an original nervous irritation of the uterus, independent of inflammation. They maintain that no nervous irritation exists without congestion or engorgement; and that no engorgement exists without organic irritation. They have apparently no idea of any other variety of active congestion, than that connected with organic irritation. Whatever modifications of these opinions may be entertained, the practical result has been generally the same, namely, the resort to some portion of the antiphlogistic treatment for all such cases, by whatever name such modifications may be designated. Anxious to avoid the common error of rushing to the opposite extreme, I have hastened to acknowledge that irritable uterus is often complicated with more or less inflammatory action of the tissues; that inflammation is often the original disease, and irritability the secondary or consequential; that irritability is sometimes persistent and obstinate, because the local phlogosis has been overlooked; that the analysis of the symptoms is occasionally so difficult, as to frustrate even the experienced practitioner in his

endeavors to distinguish the irritability from the inflammation; and that, occasionally, the inflammation is the sole disease, with no other nervous symptoms present, than those which usually accompany analogous inflammatory disturbances, in similar tissues under like circumstances.

Symptoms.—We may anticipate some tendency to inflammatory action, where any of the usual causes of inflammation have been operative; when the patient has been exposed to sudden transitions of temperature, especially at her catamenial periods; when the symptoms occur very speedily after labor, whether premature or at term, but especially after difficult and tedious labor, and in those cases where instrumental assistance has been demanded; when there has been an employment of pessaries of an improper shape, or of corruptible materials, or where such instruments have pressed too firmly or too long on the uterine tissues; in cases of metastatic, cutaneous, rheumatic and gouty diseases; and whenever mechanical, chemical, or other irritants have disturbed the organism of the uterine tissues. Our suspicions should be much increased, if we discover decided shreds of coagulable lymph, or an admixture of purulent matter in the vaginal discharges, and especially if general febrile excitement should coexist.

These suspicions can generally be verified by examinations, with the speculum and by the touch. It should be borne in mind, however, that a very limited portion of the uterus can strictly be seen or felt. So that inflammation of the cavity, the substance, or of the exterior of the uterus, cannot be determined by the speculum, which exposes to view merely the os uteri externum and the extremity of the cervix. The uterus is, virtually, a viscus in the peritoneal cavity, surrounded by the intestines and bladder, and with merely its smallest extremity projecting into the vagina.

These inflammations of the uterus will be considered under the heads of Endometritis and Metritis. Under the former, we will include all inflammations of the mucous membrane of the body and neck of the uterus; while under the latter we will place those of the substance of the same regions.

PARTIAL ENDOMETRITIS.—In speculum examinations: if we perceive redness of a bright shade occupying portions of the cervix, or very intense at one spot and gradually diminishing from it as a centre; if this redness be observed at the lips of the os tincæ, and gradually lessens on the vaginal surface of the neck; we have reason to believe it is of an inflammatory character, and that the inflammation is seated in the mucous tissue of this portion of the neck. Care, however, must be taken to distinguish this from any accidental engorgement, due to the menstrual or sexual excitement, or to the pain or irritation arising from the pressure and distension produced by the speculum itself. The redness varies exceedingly, sometimes being but slightly exalted above the natural delicate pink tinge, and sometimes intensely crimson, as in severe cases of phlogosis elsewhere. The neck, as often seen through the speculum in these cases of inflammation, has been aptly compared to a ripe cherry.

In chronic cases the mucous tissue, particularly at the lips of the os uteri, loses its natural smooth character, becomes slightly prominent, and rough as well as red; precisely as in similar chronic inflammations of the mucous covering of the eyeball, "the tunica conjunctiva;" there by the surgeons termed "granular conjunctivitis," or a "granular condition" of the tissue from its great similarity to the appearance of the granulations of a simple healing ulcer. This "granular inflammation" of the neck of the uterus, according to my experience, is not very frequent; but by others has been reported as exceedingly common. It has been described and exhibited as "ulcers" of the uterus, and considered, either by itself or in connection with its cause, the inflammation of the membrane, as the real source of mischief and as giving origin to all those symptoms which have been, in this work, attributed to "irritable uterus." This, however, is not proper ulceration. There is an exfoliation of the epithelial scales, a development of the papillæ of the basement membrane with more or less turgescence and elevation of the inflamed surface; but there is no "solution of continuity" in the tissue, no depression, no loss of substance, no generation of new material—as in a granulating ulcer. And, when recoveries ensue, there is no cicatrix, no thickening, no contraction of the tissues, and no consequent alteration in the form of the part affected. At the os uteri,

the mucous membranes and the parts adjacent, precisely as in analogous states of the conjunctiva of the eye, return to their original normal state, and the tissues are as perfect as if they had never been inflamed. I have never seen an ulcer of the uterus, a proper "solution of continuity" of the basement membrane, *except* as the result of contusions, or wounds, or of peculiar, specific, or malignant disease. All this may be regarded, perhaps justly so, as a debate as to the meaning of the word "ulcer." But "words are things;" at least, they ought to represent things and facts correctly. The Hunterian definition of an ulcerated surface (as intimating a solution of continuity, a destruction of tissue) has been so universally and so long received by the profession, that to extend its employment to a condition of the tissues where there has been no destruction of tissue, is to confuse the minds of practitioners as well as of students, to convey incorrect ideas of the views of the writer, erroneous pathological notions, and to cause manifest and mischievous errors in practice. All these evils, and much greater, in my judgment, have resulted from the application of the word ulcer to such inflamed surfaces of the uterus. The bad influence on the mind and imagination of suffering nervous women is, by no means, the least of these evil consequences. Ulcers with them are associated with the idea of destruction, of an "eating" process, of something dangerous, intractable, malignant. And there have not been wanting those in and out of the profession, who have magnified these dangers and stimulated the excited mental sensibilities of the patient for their own selfish, sordid purposes. Empiricism and ignorance have gained a rich harvest from this apparently trifling source. Often, very often, have I examined patients who were reported by physicians and others to have ulcers where none could be detected, or to have had them where no vestige of them, no hardening, no irritation, would possibly be found.

Cases.—A lady of education and refinement travelled, at the seventh month of utero-gestation, some three hundred miles to Philadelphia, in a state of great mental excitement; because her physician had declared that she had an ulcer of the uterus. None could be detected; the tissues were normal, and she immediately returned home relieved of her imaginary destructive disease, her mind and heart rejoicing with pleasing anticipations for the future.

In another instance, a fine healthy young lady, the mother of several children, and who was then nursing a fat lovely child of six months of age, presented herself to me from a distant State, complaining of pain, a sensation of dragging, and weakness, an inability to walk, &c. She had been for some three years, even while pregnant, treated by caustics for ulceration of the cervix. By examination with the speculum, a slight redness was observed at and near the os uteri; *that*, said her husband, who had been accustomed to assist her physician in his examinations, is the ulcer, exactly as it has always appeared. I found the uterus was, however, completely retroverted; by relieving this displacement and using some astringent wash, in a few weeks my patient was free from uncomfortable feelings, could walk at pleasure, and felt perfectly well, to the astonishment of her husband and friends.

Under similar circumstances, a like result has been obtained in innumerable cases.

Partial Metritis.—When inflammation is present, we find that it often extends, especially in chronic cases, from the mucous membrane to the subjacent tissues, often involving the whole substance of the cervix uteri, but not usually the body of the womb. It is generally a case of partial or circumscribed metritis. The cervix is large; sometimes it is twice its normal thickness, or even more; not from simple turgescence or congestion, but from actual induration. It is hard, but still smooth and regular to the touch, and often sensitive. The vaginal extremity is, of course, broad, and presents a flat surface, smooth, and bounded by a thin, delicate elevation, which can be recognized as the natural exterior margin of the lips of the uterus; this surface being, however, more circular than the natural elliptical form. Hence we have what may well be termed an "eversion" of the lips of the os uteri, analogous to the eversion of the lids of the eye (ectropium) from chronic conjunctivitis, or of the lips of the mouth from inflammatory turgescence of their lining membrane and its subjacent tissues.

The condition of the os uteri, in such cases, varies, sometimes being apparently patulous, owing to the eversion of the mucous membrane; but in reality rather contracted, from the thickening and induration of the parietes of the neck. By the finger, it is

felt as a dimple towards the centre, but sometimes nearer the anterior or posterior margin, as one or other lip is most enlarged. The whole of this everted surface has a more delicate and less polished or smooth feeling, than that of the external surface of the neck. It seems to have been noticed by some, as an ulcerated surface of large size, "a large ulcer." But there is no solution of continuity. This everted surface is often irregular, and, not unfrequently, small, hard elevations can be felt at the margin of the lips, near the os uteri, or at other points; as if from the development and induration of the glands or glandular follicles of the tissue. This delicate surface is sometimes so congested that hemorrhage arises from all these vaginal examinations, and even when the patient moves about, or has an evacuation from her bladder or bowels; and occasionally while she is perfectly at rest. These symptoms sometimes, indeed, excite suspicion of a proper scirrhous or malignant affection, with which these simple inflammations ought not to be confounded.

Complete Endometritis and Metritis.—Doubtless the inflammation frequently extends along the canal of the neck to the internal os uteri, and occasionally to the cavity of the uterus. In the diagnosis of this complaint, but little assistance is to be derived from the speculum; for there are no visible signs, except the appearance of inflammation of the os uteri, and of purulent or lymphatic discharges. In addition, we may infer its existence from the general turgescence and congestion of the uterus, and from the existence of any febrile symptoms with loss of appetite and emaciation conjoined. Dr. Bennet states that a patulous condition of the internal os uteri, recognized by a probe passing readily, would indicate the presence of inflammation of the cavities. I have often known, even in young, unmarried girls, as well as in females who have borne children, the probe to pass with great facility and with little pain when there was no suspicion or evidence of inflammation. *A priori*, and from analogy with other canals, it would seem that the greater the turgescence, and the more indurated the tissues, the greater would be the contraction and the obstruction. This we know to be the case in urethritis, pharyngitis, œsophagitis, &c., and why not also in endometritis and metritis?

It is not requisite at present to trace the history and consequences of endometritis, and especially of metritis, as they are not very intimately involved in the present discussion; and as continued allusions will be made to these inflammatory affections and their consequences hereafter, especially under the head of the Causes of Irritable Uterus.

Let it however be borne in mind, that such inflammations are necessarily followed by various morbid secretions and discharges, thus constituting *Inflammatory Leucorrhœa.* It should also be remembered that, from such inflammatory actions, thickening and induration of the mucous membrane result, giving rise to strictures, and even complete obstructions of the canal of the neck.

Irritability after Inflammation.—In addition, it is a fact of great importance, that, after metritis of the cervix or the corpus uteri has subsided, the tissues often remain indurated, heavy, and enlarged. If the patient prematurely arises from her bed under these circumstances, or if she has not been quite prudent, in every respect, many of the apparent symptoms of inflammation will return, and often remain obstinate for months or years, in opposition to all the usual appliances for the amelioration of inflammatory complaints. In other words, this enlarged, indurated organ is now free from all inflammation, and is simply in a state of nervous irritation. It is an irritable uterus demanding no longer antiphlogistic remedies, but an opposite course of treatment.

Such are the leading facts, respecting the essential character of the inflammatory affections of the uterus, without tracing them to their remote consequences—fungous growths, abscesses, disorganization, gangrene, and sphacelus. With the symptoms of inflammation, will often be conjoined the pains, the burning, the pressure, the weight, the bearing down, the cramp, the spasms, and the whole tribe of wretched nervous sensations, to which allusion has already been made.

Errors in Theory and Practice.—Except in cases of acute inflammation of the uterus arising from contusions, wounds, painful and difficult labors, from exposure to cold, from rheumatism, gout, &c., where all will acknowledge that the case is purely inflammatory, and to be treated accordingly; it will often be difficult, and sometimes impossible, so fully to analyze the symptoms

as to establish a correct pathology, and, of course, the proper therapeutical indications. We allude now, chiefly, to chronic inflammations of the cervix uteri.

The natural and perhaps almost universal inference is, that such cases are purely inflammatory, thence destructive; and that ulceration and disorganization will be the result if the disease be not arrested. Therefore they are often treated by rest, by evacuants (internal and external), by revulsives, by astringents, by caustics. The more obstinate the symptoms, the more powerful the caustic tried, so that from a solution of the nitrate of silver to the actual cautery, every grade of intensity has been employed.

Is there not, even here, some radical mistake? Can it be that simple inflammation of the neck of the cervix, where there is no specific irritation, no tendency to malignancy, where the cause is no longer operative, is thus indomitable, and so difficult to arrest? Must months and years expire? will ordinary measures fail? Is there anything so peculiar in the structure of the mucous or parenchymatous tissues of the uterus as to render their inflammatory affections so obstinate, so difficult to manage?

If the appeal be made to the accoucheur, to the experienced practitioner of obstetrics; he would certainly and unhesitatingly give the negative answer to all these questions. He has become too familiar with inflammations of the vagina, of the os and cervix uteri, as the result of contusions, lacerations, and wounds received in labor; he has met too many cases of injuries sustained in cases of rupture of the os uteri, not to know that in a large majority of such patients no serious ill results, provided the general system is in a good state, and the inflammation not so intense as to endanger gangrene. So, also, when in the unimpregnated state operations have been performed, wisely or unwisely, by the knife; recoveries, so far as the mere inflammation of the tissues is concerned, are confidently anticipated.

There must be some error in theory, leading to error in practice. Judging from my own experience, the error is twofold; one arising from a want of full investigation as to the original and accessory causes; and the other, from attributing all the symptoms to inflammation, ulceration, congestion, &c., while many depend on nervous irritation simply. The acknowledged causes of inflammation of the cervix are numerous; one, however, which

operates as an accessory, if not as an original cause, has been either overlooked or undervalued. Displacements of the uterus, certainly, keep up chronic inflammations at the neck of the uterus; and yet, in practice, they are frequently overlooked, and neglected. The inquiry need not now be instituted, as to the cause of the displacement, or whether, in a given case, it occurred prior or subsequent to the phlogosed state of the cervix, and whether it is the cause or effect of such phlogosis; but being present, even when it is not the cause, it aggravates the inflammation, and often renders it persisting. The organ being congested, enlarged, and heavy, its natural supports are elongated and weakened; it, therefore, descends, becomes *prolapsed*, from its increased weight, the pressure of the superincumbent viscera, and the contraction of the abdominal muscles and diaphragm. Every effort, therefore, of the patient, not merely in walking, standing, &c., but even in turning in bed, in sneezing, coughing, urination or defecation, is productive of irritation to the inflamed tissues. The continual pressure and the constant friction of the neck of the uterus is so great, that *flexion* of the neck and alteration in the form of the os tincæ are constantly observed, even in the otherwise normal state of the parts; and must, therefore, when inflammation exists, be in all cases, even when the patient is at rest, a source of mischief to the sensitive, inflamed, and often bleeding tissues. This, in my judgment at least, is sufficient often to counteract the best directed remedies, and render a simple inflammation persistent. A cause of mischief is always present, just as a minute quantity of pus, accumulating in a fistula, prevents its healing, in opposition to the washes and caustics of the inattentive surgeon.

The second and more influential error is the not distinguishing between the symptoms due to inflammation and those due to nervous irritation; in not recognizing the existence, as already pointed out, of pure uncomplicated cases of irritable diseases. This has been a very universal error.

In practice it is often forgotten that pain, although frequently associated with inflammation, does by no means necessarily imply the existence of inflammatory disease. But if this be remembered, it will cause no surprise that the pain, the burning and pulsatile sensations, even the turgescence of the tissues often exist, as has been already detailed, from pure nervous irritation, when

there is no inflammation whatever present. Hence, in cases of chronic phlogosis, the above symptoms are not referable to the organic, as much as to the nervous irritation. And on the other hand, we know that severe and destructive inflammation may exist with very trifling pain.

May it not, therefore, be legitimately inferred, in many cases at least, where, with acknowledged symptoms of inflammation, there exists great pain in the back, abdomen, extremities, spine, head, &c., that such sufferings are the result not so much of inflammation as of nervous irritation, and that the treatment for the former, although to a certain extent necessary, so far from being adequate for the latter, may prove detrimental? The general symptoms of uterine irritation, and the results of therapeutical observation, to which reference will soon be made, confirm, I think, this logical inference.

My own experience abounds in proof of this principle. For many years patients, complaining of great suffering, have continually presented themselves to me as the subjects of inflammatory or ulcerative complaints, where no such lesions could be discovered, nor any evidence of their having existed. Again, many have come, who had been treated for phlogosis by all the variety of evacuant and revulsive remedies, by astringent lotions and caustics, with perfect success as reported by their medical attendants; the inflammation had disappeared, the ulcers had healed: nevertheless, the same miserable sensations of pain, uneasiness, debility, and wretchedness still continued. Again, in others, some inflammation of the mucous tissue still existed, and under the antiphlogistic treatment had continued persistent. Such inflammatory affections I have almost disregarded, and have employed no remedies but lotions of water, or of simple astringents, but paid immediate attention to the *nervous* irritation of the uterus with the happiest results as respects both the animal and organic disturbances. The pain and uneasiness disappear, and soon no trace of inflammation can be found.

Tractability of these Inflammations. — Such cases as these, years ago, brought my mind to the conclusion that inflammations of all mucous membranes, "*cæteris paribus*," making allowances for particular locations (the larynx, for example) and

particular functions, are the most simple and tractable of inflammatory complaints. The local symptoms are moderate, the general sympathies are but slightly disturbed, the consequences are not generally detrimental, and the treatment is not usually difficult. Compare bronchitis with pleuritis or pneumonia, gastro-enteritis with peritonitis or hepatitis, &c. So also vaginitis and endometritis are, I must believe, equally mild and manageable complaints when compared with inflammations of the substance or of the peritoneal surface of the uterus.

I go further and say, that even in those chronic inflammations of the cervix involving the whole substance of the neck, with the granular appearance of its extremity, and the everted, tense, tumid lips of the os, few symptoms exist to advertise the patient of her condition, and very often no general disturbances are excited. The patient often feels well.

The reputed intractability of these inflammations often arises from their complication with displacements, which keep up the irritation.

Case.—I have a lady now under treatment, who, for a year past, has been miserable and unable to move with comfort. She has been languid and indisposed to all kind of mental or physical effort; and complained of a constant, dull pain in the sacral region, and also above the right groin, often in the groin and down the inside of the thigh on the same side, and, especially on motion, of a severe neuralgic pain in the right hip behind the trochanter. In addition she had menorrhagia, the flow recurring every three, sometimes every two weeks; and also frequent sanguineous vaginal discharges with coagula, so that she was seldom entirely free from a regular or irregular sanguineous flow. She had not been conscious of a white discharge at any time. She had a good appetite, good digestion, regular bowels, looked well, and was quite fleshy, especially for a lady of thirty-five, the mother of several children. On vaginal examination, the neck of the uterus was found to be indurated and enlarged, at least twice its natural size; the edges of the os were separated and everted, the os rather contracted, and in several places there was so much stony induration as to suggest the idea of scirrhus, especially as the mucous surface of the os tincæ was rather prominent, partly soft, and bleeding at the slightest touch. The uterus was hard and enlarged, its longitu-

dinal diameter being some three and a half inches. The whole organ was prolapsed with a tendency to retroversion. Unmistakable signs of local inflammation were present threatening fungous disorganization, and the use of lunar caustic and of iodine was resorted to in addition to suitable emollient washes. I had no hesitation, after my second or third visit, to attempt the restoration of the womb to its natural position; so as to relieve this organ and the sacral nerves, &c., from the nervous irritation, which seemed to me superadded to those of the organic or inflammatory irritation. This was done with the happiest results; the patient was almost entirely relieved of the pelvic pains; could stand, and walk, and drive with comfort. There was also a great amelioration of the hemorrhagic symptoms, and, of course, of her nervous and mental wretchedness. She at once considered herself as comparatively well. Yet the local disease, although better, still continues after two months' perseverance in treatment, and will, doubtless, continue for weeks if not for months to come.

Upon this principle I have continually acted in analogous affections for years past, with the best possible results.

General Conclusions.—My personal experience has been derived chiefly, indeed, from the treatment of those in the upper walks of life, and in comfortable circumstances; and has been comparatively slight among the poor, or in dispensaries or hospitals, where local diseases doubtless present their worse aspects, and often simulate more directly, and are more frequently complicated with, specific or malignant irritation. Judging from what I have seen, the conclusion seems to me to be inevitable, that the great error in the practice of many is in not drawing the proper distinction between the varieties of uterine congestion, between those symptoms depending on nervous and those on organic irritation, between an irritable and an inflamed tissue, in magnifying the importance of the latter and paying little heed to the former and more common form of uterine trouble. Although more common and far more painful, yet it is less dangerous, very seldom fatal, and ultimately recoveries, especially after the grand climacteric of woman's life, may generally be anticipated.

Inflammation, nevertheless, is often the cause of nervous irrita-

tion of the uterus; and in many cases, therefore, the latter will entirely disappear under the antiphlogistic treatment, and the recovery be complete. It is contended, however, that in a great number of even such cases, recovery will be facilitated by attention to the more purely nervous symptoms; that such nervous affections in many cases demand the chief attention; that in a very large number of supposed cases of inflammation they demand primary and exclusive treatment; and, finally, that in many cases, after every evidence of inflammatory action has disappeared for weeks, months, or years, and where phlogosis had been the original complaint, the patient's urgent and distressing affections continue, and are often increased in severity from a neglect or mismanagement of *nervous irritation.*

These principles will be more and more developed in the further history of the symptoms, causes, and treatment of irritable uterus.

TUMORS AND OTHER COMPLICATIONS.

Irritable uterus may be co-existent with almost every variety of morbid action, but almost always as a sequence. It follows and accompanies, therefore, not merely inflammation, but tumors (extra, or intra-uterine), syphilitic, phagedenic, cancerous, and other morbid affections, which need not be here detailed.

CHAPTER V.

GENERAL SYMPTOMS OF IRRITABLE UTERUS.

UNDER the head of the Local Symptoms of Irritable Uterus, we have noticed all those connected with the viscera of the pelvis, and the adjacent tissues, including even the sacral nerves.

Symptoms, of course, frequently ensue in other parts of the body, which may be denominated *General Symptoms.*

By this expression is meant, in the first place, and chiefly, that one or more of the general systems or tissues of the body (the cerebro-spinal nervous system, or the vascular system of the heart, arteries, and veins) have become involved. This word *general* may be employed with sufficient accuracy, when we refer merely to the nervous, or simply to the vascular apparatus.

Secondly, we would also include, under the head of General Symptoms, what may be termed the sympathetic or reflex disturbances of particular organs; as such disturbances seem usually to arise through the medium of one or both of these general systems. By the word *reflex*, it may be understood that such sympathies are secondary, even when instantaneously perceived. Pain, for example, excited in one organ, produces spinal or cerebral irritation, primarily, but secondarily, yet often instantaneously, disturbs another organ. The irritation then is said to be *reflected* from or through the brain, or spinal marrow, to the organ thus secondarily disturbed.

Wonderful, indeed, is the connection of one portion of the body with another; one part of the vascular system with another; and one part of the nervous apparatus with every other portion! The animal economy becomes a unit, through the mutual dependence of the nervous and vascular systems upon each other.

Nevertheless, much local irritation, especially of the vascular system, may exist without any perceptible influence on other

parts; and one great object of the author is, to enforce the idea, that with great dependence there is also great independence, of the nervous system, on the actions and functions of organic life. The animal life, as centred in the brain and its appendages, has its peculiar functions, and its peculiar diseases. They are often independent, but still, often involve the circulatory system and its functions.

Local irritations of the nervous system affect other portions of that system much more frequently, and much more severely, than irritations of the vascular influence other portions of its system. As in woman, all her nervous system is wonderfully susceptible; so in her, local irritations are propagated with such a celerity and intensity, as to constitute physiologically and pathologically, the great mental, moral, and physical characteristics of her system. This remark applies so positively to uterine irritations, that it has been said, "mulier est propter uterum," a woman is what she is, on account of her uterus. The ancients, close observers as they were, denominated all such sympathetic disturbances "Hysteric," from ὑστερα, the Greek name given to the womb.

CEREBRO-SPINAL IRRITATIONS.

These general remarks, being premised, we would trace the consequences or sympathies of uterine irritation. These, as regards the cerebro-spinal system, from its continuity and mutual dependence, can, for the most part, be easily exhibited. The nerves of the uterus, coming, as they do, from the sacral plexus, but more especially from the hypogastric ganglion and plexus, and intimately connected with the sacral nerves, are traceable to the cauda equina, the spinal marrow, and the brain. *A priori*, we should suppose that the whole of this system would be simultaneously disturbed; although this is sometimes true, yet generally only particular portions seem to suffer at one time. This irritation often passes, in a manner the most inexplicable to all our present knowledge on the subject, from one portion of the spinal axis to another, or even to different parts of the brain.

Spinal Irritation.—Uterine pains are generally referred to the "small of the back," that is, to the upper portion of the sacral region; and occasionally to its lower part, or to the neighborhood of the coccyx. Very few, if any, patients refer their sensations of pain to the loins; there, weakness, in common with all the muscles of the spine, is felt, but rarely pain. The next point of reference and complaint is to the dorsal region, generally upon one or the other side of the spinal processes, and extending toward the scapulæ. The next most frequent point of spinal suffering is the upper part of the cervical region, under the base of the occiput.

This pain, in the neighborhood of the spine, differs much in its character, in the same and especially in different patients. When in the *sacral* region, it is generally a dull, heavy, aching sensation, with feelings of numbness and weariness, and of exhaustion. They are partially mitigated by pressure from the hand, from a bandage, or by lying on the back, sometimes with a hard substance, as a book, interposed between the back and the bed. Sometimes, however, there is a burning or even a pulsating pain, and often great soreness, so that the patient cannot comfortably lie on her back or bear any pressure there without complaint.

In the *dorsal region*, the sensation of pain is frequently more acute, and very often there is considerable soreness of the skin over the spinal processes. In the days when the theory of spinal irritation was so prevalent, if such spots were detected, particular morbid action, even inflammatory, was thought to be indicated at that portion of the spinal marrow. A morbid irritation of the medulla spinalis was and is even now too frequently regarded as the primary affection, instead of secondary and sympathetic.

Pain with or without soreness in the *cervical region* varies also exceedingly. Here it is often aggravated by motion, is often supplanted by various distressing sensations, and sometimes by a most annoying pulsating, throbbing feeling, giving little rest night or day.

All these symptoms constitute what is usually termed "spinal irritation," or "spinal affection."

Cerebral Irritation.—Evidences of cerebral irritation are also exceedingly common. One of the most frequent of these is pain or distress at the *top of the head*, near the junction of the

fronto-parietal and the bi-parietal sutures, in the adult, at the "opening of the head," where the anterior bregma had existed, in infancy. This pain is not usually acute, but generally dull, heavy, and distressing; sometimes it is intensely agonizing, actually intolerable, being followed by convulsions and insensibility of a longer or shorter duration. It is usually quite circumscribed, and can often be covered by the point of the finger. The ancients knew of it under the expressive distinction of the "*clavus hystericus*;" but the moderns seem to have been slow to recognize its almost universal dependence on pelvic irritation. It is hardly to be met with in the male sex, and seldom in any woman free from sacral or uterine irritation. It is often suddenly induced, and as suddenly relieved, according as the pelvic excitement is active or passive. It seems to be almost pathognomonic of uterine irritation. Pains somewhat analogous, but less intense, are occasionally felt in other parts of the head, especially towards the *occipital region*. These, perhaps, represent irritations towards the base of the brain, in the region of the medulla oblongata, &c. In the *frontal region* various pains exist. These are chiefly of the neuralgic character, severe, acute, pulsating, with more or less soreness extending to the adjoining parts, and are known by the name of nervous headaches or cephalalgias.

There is also every variety of morbid sensation, such as acute, dull, or heavy pains; great soreness of the scalp; feelings of motion as if the bones were opening and shutting; or the head feels too empty or full as if it was swollen, or enormously enlarged. These, and innumerable other sensations, are all indicative of irritation of the brain dependent very frequently on pelvic disturbance. They are examples also of morbid sensations which are actual, real, and not imaginary, the result of morbid excitement, though frequently transitory and free from danger.

Generally, these are the evidences of spinal and cerebral irritation from uterine affections. But often the head entirely escapes, not unfrequently the neck, and occasionally the dorsal region. In some instances the dorsal pain is experienced, when no uneasiness exists in the sacrum, or in the head, and when the spine is comparatively free. Most frequently, patients are conscious of a succession of pain from the sacrum to the head; sometimes as one begins, the other vanishes. The uterine irritation in

some few cases is referred to the hypogastric region, and the sacral remains unaffected. Perhaps in such cases there is less general nervous disturbance.

These pains and morbid feelings, as experience proves, are dependent on the condition of the uterus; when this organ is relieved they disappear, when the womb is disturbed they appear in a greater or less degree, with a celerity of transition often wonderful. They indicate spinal and cerebral irritation, that is, irritation of the spinal marrow and of the cerebral mass (cerebrum and cerebellum), as the centres or source of nervous influences, not as the subjects of organic life. It is nervous, not organic; animal, not vegetable life; and has reference to the disturbance of the nervous system, and not of the blood.

Languor.—One of the most common of these general symptoms in uterine affection is "weakness," so called by the patient, but better expressed by the words, languor, lassitude, inertness, or by the French word "defaillance." There is a general sense of prostration, as if it were impossible to make any exertion. Sometimes this is the case, when the local symptoms are by no means urgent, often when there is but little pain; and in a few cases where no pain whatever had been experienced, even as I have known, after some twelve or fifteen years of this disability. Under the stimulus of a strong will, of great mental or moral excitement, or even of physical stimuli, such patients can make temporary exertions; but will afterwards relapse, usually into a more decided state than ever of apparent exhaustion.

To these sufferers, the only comfortable position is the recumbent; it is an effort to sit, stand, or walk. In one case which had continued for some twelve years, walking could not be attempted, and for eight months the patient had been unable to make an effort even to feed herself; yet she had no urgent local symptoms, and no pain. In some, the same lassitude affects the mind and feelings of the patient; no interest is expressed in the usual social relations and business of life. To the patient all things are indifferent, and most objects of affection decidedly wearisome and perturbing. In most, however, there is considerable local irritation, as evinced by pain in the back, a sense of pressure, &c.

In many of these cases of general languor, the patient is appa-

rently well, and has a good appetite, digestion, circulation, and nutrition. Hence, they usually become the objects of uncharitable criticism, under the idea that a will alone is wanting to dissipate all their ailments. In very many, however, there is more or less pallor, some emaciation, conjoined with dyspeptic symptoms, and costive bowels. Professionally, such individuals are often regarded as anæmic or dyspeptic, and are treated merely by tonics, nutritious diet, exercise, &c. But usually in vain, for the symptoms of anæmia and dyspepsia are the results of, perhaps, the confinement with its concomitant evils, and not the original source of mischief, which remains unnoticed. This feeling of muscular languor or debility is generally connected with much pelvic distress, often with positive pain and the other local symptoms already mentioned.

Irritations along Particular Nerves.—These distressing sensations are felt not only in the back, hips, and in the lower part of the iliac regions, but radiate in every direction from the source of mischief in the pelvis. Occasionally they may be traced from the groin in the course of the anterior crural nerve, and are often associated with much soreness, which has been confounded with phlebitis; more frequently they follow the course of the obturator nerve on the inside of the thigh, but still oftener involve the trunk and the ramifications of the great sciatic nerve. Pain is felt in the thighs, in the "bones," the patient says, in the knees, ankles, and often in spots, as at the top of the instep, or at the heel, which can often be covered, even when severe, by the point of a finger. Sensations of numbness, "a dead feeling," a prickling, stiffness, cramp, as well as weakness often coexist, increasing the indisposition or inability to move. Very often in young girls such uneasy sensations are slightly dismissed as "growing pains," and, if severe, are treated as rheumatic, even for long periods. Many such patients have fallen under my care, who for several years had been regarded and treated as confirmed rheumatic cases, had proved intractable to the physician, and had not been relieved by resorting to travelling, warm, chalybeate, and sulphur springs.

Tracing the irritation upwards towards the spinal marrow, we find neuralgic pains in the iliac, lumbar, and hypochondriac re-

gions. The pain in the right hypochondrium, in conjunction with a similar pain in the right shoulder, has been, in innumerable cases, regarded by patients and their physicians as the sure evidence of "liver disease." I have had very many of these patients, who for years had been subjected to the whole course of evacuant and alterative treatment for chronic hepatitis. In some there had been a free use of mercury, occasionally, even to salivation; when the result of subsequent treatment proved that it was not hepatic, but uterine; not vascular, but nervous irritation.

Case.—In one unfortunate case, I remember, this treatment had been adopted in a young lady at the age of eighteen, and was persevered in, at intervals, until she was thirty. Death occurred when she was thirty-two years of age; and a post-mortem examination revealed merely a fibrous tumor, some three inches or more in diameter, on the anterior portion of the uterus. The liver was perfectly normal, as regarded its size, color, consistence, and texture.

Similar neuralgic pains are common in the left hypochondrium, but sometimes extend from the region of the scapulæ to the margin of the ribs, to the sternum and pectoral muscles, and are often associated with much soreness and sometimes spasm. This pain, in the left side, has been attributed often to gastric affections, or to diseases of the heart, thus giving rise to much perturbation of feeling and anxiety of mind on the part of the patient.

From the upper portions of the spinal marrow, especially in the region of the upper cervical vertebræ, the same kind of pains radiate to the occipital region, to the sides of the neck, and often, in the direction of the brachial plexus and nerves, to the tissues of the upper extremities. Here, as in the inferior extremities, particular nerves suffer: hence, pain in spots in the course of small twigs of the nerves, among the tissues, or along the muscles, neuralgic pains in the fingers, wrists, elbows, in the upper arm, and feelings of numbness, deadness, are often felt with various morbid distressing feelings, not susceptible of description. These pains, conjoined with those in the region of the heart, have often been regarded as belonging to "angina pectoris," and considered by many as gouty, by others as dyspeptic, and by some as always connected with diseases of the heart.

Hyperæsthesia of the Skin.—Neuralgic suffering is often mani-

fested by great soreness of the skin, so that the least touch or pressure is often intolerable. When the skin of the abdomen is involved, this soreness gives rise to the suspicion of peritonitis; and when it is over the hypochondria, to inflammatory affections of the liver, stomach, or spleen. When over the chest, diseases of the heart are often suspected. When in the extremities, it confirms the ideas of rheumatism and gout. Such soreness of the cutaneous tissue over the spinal column has given origin, too frequently, to ideas of vascular engorgements and inflammations of the spinal cord and its membranes at these spots.

Symptoms vary, and may be confined to one side of the Body.—Such are the usual consequences of spinal irritation, when the brain has escaped, or has been but slightly involved. Sometimes the symptoms are very moderate, so that patients go about their usual avocations, complaining only after unusual excitements, or fatiguing muscular efforts; while in others they are so severe that standing or walking is intolerable, and even turning in bed is painful, and much suffering is experienced when perfectly at rest on the couch or bed. It is a singular fact, and perhaps not fully to be explained, that in almost all these cases the suffering is chiefly upon one side of the body, the right or the left. Patients have often observed, that if the left or the right side were as well as the opposite, they would make no complaints. The uterus being a single organ, its nerves associated with each sacral and sciatic plexus, and no special irritation of one set of sacral nerves being traceable, this limitation to one side would not, *à priori*, have been expected.

Cerebral Disturbances.—Several of the peculiar symptoms of irritation of the brain have been alluded to; but now the consequences of the disturbance of the cerebral mass must be traced more distinctly.

Inasmuch as the brain is the great centre and source of nervous influence, it is the instrument, the organ of the mental and spiritual being through which the body disturbs the spirit, and by which all spiritual and intellectual influences are exerted over the animal economy.

Cephalalgia is one of its most common manifestations. Violent

pain may exist in the forehead, but more frequently in one temple, extending, in the form of severe neuralgia, to the eyeballs, the scalp, the face, the ear, &c.; and is often conjoined with great mental disturbance and apprehension, and many morbid sensations. They are often so severe, that patients term them "crazy" headaches; and a nervous delirium is not unfrequently added. The sensibility of the nervous system is painfully augmented, so that ordinary impressions on the senses become excessively intense; the least noise, especially, vibrates distressingly on the nerves and brain. These headaches endure for a few hours, or may last for a day or two; and frequently are terminated by a critical excretion from the kidneys, in the form of immense quantities of colorless urine—"diabetes serosa." Often similar headaches are attended with nausea, vomiting of the food, of acid, or of bilious matters, from the stomach—the so-called "sick headaches," "bilious headaches"—so that the bile is regarded as the source of evil. These headaches are occasionally very moderate, and are often accompanied by feelings of great tension or fulness; by pulsating sensations; by the idea that the bones of the head are movable, overlapping each other; by the apprehension of serious disease of the brain and of the mind.

These cephalalgias are often periodical—once every month—preceding, during, or after the menses, sometimes both before and after the flow. Occasionally they occur once or twice a week, and some sufferers can hardly say that they are ever free from pain or morbid sensation in the head.

The "clavus hystericus"—the circumscribed dull pain at the top or "opening of the head"—is not, perhaps, so frequent; but is quite common and persistent, and occasionally connected with the most frightful disturbances of the economy. In addition to this pain in the top of the head, patients, in many instances, complain of a dull, heavy, stupid headache, often with a sense of weight and uneasiness in the occipital region; sometimes with tinnitus aurium, flashes of light from the eyes, and frequently, in bad cases, loss of vision.

Convulsions.—These symptoms are often followed by the most aggravated form of convulsions, as if the pain and distress were no longer tolerable. The whole body, as well as the muscles of the face and extremities, becomes violently agitated. Opisthotonos

not unfrequently is seen, the head being thrown back towards the spine, the feet drawn up under the body, so that a complete arch, or almost a circle, is made. In some of such cases the patient maintains her consciousness; in others there is complete insensibility.

Catalepsy sometimes arises under these circumstances, and may continue, with variations, for days.

Delirium.—Nervous or hysterical delirium is observed in other cases, either transitory, or, it may be, lasting for days. The patient's mind is not always in distress, but often very pleasantly excited, as if in some gay or fancy land—dreaming, as it were, with some apparent knowledge of persons and things, but all moving and acting as if in another sphere. *Mania* is, probably, not unfrequently the result of uterine irritation. One form of this is well known, under the name of nymphomania. But there are other cases, where there is no apparent development of sexual excitement. The most decided mania, coming on, it may be, in paroxysms, and enduring year after year, will often alternate with convulsions, or exist without these spasmodic affections.

Sudden loss of consciousness and of muscular power is occasionally observed. A patient, while standing or walking, may suddenly fall, and for some time can give no sign of mental or motive power. This is probably a variety of the so-called cataleptic state. Occasionally there is simulative apoplexy and paralysis.

Case.—In a lady, a patient of mine, and the wife of a physician, an attack of this kind came on suddenly in the night. A neighboring friend and surgeon was sent for, who wisely forbore using any evacuating remedies; although the patient was stupid, and unable to move one-half of the body. The muscles of the neck, on one side, were also somewhat contracted. In a few days these symptoms entirely disappeared.

Intellectual and Moral Disturbances.—Such are some of the more important indications of cerebral irritation, so far as simple sensation or pain is concerned; but the brain is the agent of the mental and spiritual being. It is the organ of the soul. In all its irritations, therefore, some disturbance of the intellectual and moral faculties may be expected. The instrument is out of tune; so that discordant notes will issue from individuals whose mind and heart are in reality excellent. Such intellectual and moral derangements are exceedingly common in all nervous diseases,

and are much diversified, varying from the slightest mental distress to the most profound melancholy or the most vehement and active forms of mania.

Allusion has already been made to some of these mental aberrations; but as they often arise when there are but few physical disturbances, and sometimes seem to constitute the disease, or the most prominent evidence of a morbid state, we must dwell on them more at length.

Perhaps the most common disturbance is *depression of the mind.* The patient is "low-spirited," is desponding, loses her interest in the common business of life, performs her duties with an effort, and finds it requires an exertion to turn her thoughts away from herself. Gradually she loses her interest in her friends and in society, preferring solitude as more congenial to the state of her mind and heart. This state often becomes very distressing; nothing withdraws the patient from her own morbid sensations; she is desponding, melancholy, prefers death to life, and even meditates seriously as to the value of life under such circumstances; for to her the future promises to be like the past. She expects, perhaps even desires, nothing better; and is almost ready, in her despair of comfort here, to rush upon the untried realities of another world. These extreme cases are comparatively rare, but minor cases of mental indifference or despondency are exceedingly frequent. On recovery, such patients often say, "a cloud has been removed from my mind," a "load taken from my heart," "my head is cleared," "the confusion of thoughts has vanished," "my natural interest in my husband, my children, my duties, has returned," &c.

I have met with many patients whose *moral feelings* might be regarded as in a state of irritation; everything worried and agitated them; the merest trifle not only annoyed but excited strong expressions of displeasure, and even of anger. Such persons may have sufficient self-restraint to command themselves among strangers; but at home, among children and domestics, and even towards husbands, self-command seems to be impossible, or at least requires a powerful exercise of the will.

Cases.—One lady, well educated, refined, and cultivated, said to me that she wondered how her husband could endure her presence in the house, although before her sickness she had always been very amiable.

Another lady, after I had comforted her by saying that the disturbance of her passions was physical and not moral, begged me to inform her husband that all her bad temper depended on her physical state; "for indeed, doctor," she said, "I was always amiable before I suffered in this way."

These states of mental and moral excitement, sometimes even in strong-minded and religious women, become uncontrollable even by the most determined efforts of the will and of the conscience. These patients are really "non compos mentis;" they mourn over and are distressed and mortified at the ebullitions of passions which they cannot restrain.

Indescribable and inexplicable feelings of dread, *anticipations of impending evil* to themselves or their friends, take possession of the minds of other patients. They fear to be alone, even for an instant; they cannot divert their thoughts from disagreeable or painful subjects. They often not only lose their interest in their relations, and are disposed to quarrel with them, but even to seriously injure them.

Case.—A lady, apparently sane upon other subjects, but very nervous and desponding, assured me that she would not trust herself with her own children; she was persuaded she would destroy them.

A variety of this state of the cerebral functions, but usually not so terrific, consists in *hallucinations and spectral illusions* of various kinds. Every one has heard of the fancies, the notions, the vagaries, the strange thoughts and imaginings of nervous people. They are sometimes pleasant, but often very disagreeable, and even fearful to themselves or companions. In other cases, mental hallucinations, deceptive perceptions, are so vivid that they appear to be realities.

Cases.—A highly educated lady, of natural robust constitution, became a great sufferer from bodily debility and mental troubles, yet maintained perfect sanity and great power over her will. Sleep was often a stranger to her system; and, during the tedious night watches, various forms and diversified sights would flit before and around her. One night a young woman, who she knew had been dead for some months, was distinctly observed entering her chamber, walking about, and, finally, seating herself. My patient told me: "I knew it was an hallucination; I endeavored

to reason upon the absurdity of believing in the apparition, but all in vain; there sat the woman perfectly distinct before my eyes, and did not vanish till I arose from bed and lighted the gas."

I was requested, lately, to visit a lady from Virginia at one of the hotels. I found her a martyr to nervous affections; her body and mind seemed quite dilapidated. She was a woman of delicacy, refinement, and spirituality; and was too feeble and diseased to walk, or even to sit up with comfort. It was an effort to her even to converse. After several questions, I ventured to ask her as to the state of her mind. No answer was given, but her tears immediately began to flow, so I waived the subject. After a few days, when her symptoms had improved, she acknowledged that her mind was not only greatly confused, but in a very distressed condition; and whenever she was in unusual pain, as at her catamenial periods, or agitated from any cause, she could not sleep, and was tormented with distinct spectra. "People would appear in my room all night. I could not divert my attention from them. I could see them as distinctly as I see you, and they would continually talk to me, and generally upon disagreeable subjects."

In both these cases all the hallucinations quickly vanished upon relieving the nervous irritation of the uterus.

The wretched physical and mental sensations from cerebral disturbance cannot be described. The patients have no language to express the nature of their feelings, but portray in strong and eloquent terms the misery, often the horrors, of their mental and spiritual state as far more distressing than physical pain.

The line of demarcation between *sanity and insanity* cannot indeed be drawn in the various states of cerebral disturbance. Decided mania occasionally ensues; the patient sometimes sinks into the hopeless wretchedness of melancholy, or the chaotic musings of idiocy. These extremes are, however, rare; but, nothing is more frequent than some mental or moral disturbance, dependent on uterine irritation. When this irritation is relieved, the cloud is removed from the mental vision; the chaotic confusion of the ideas vanishes; the indifference to friends and to the business of life is superseded by warm affections and active devotion to duty. The morbid excitements of the mind subside; cheerfulness and hilarity succeed; the patient feels rejuvenated, revolutionized, and can hardly believe the reality of past sufferings, or that she has retained her personal identity.

CHAPTER VI.

GENERAL SYMPTOMS OF IRRITABLE UTERUS—REFLEX INFLUENCES OF CEREBRAL AND SPINAL IRRITATION.

Let the well-educated medical student refer once more to all that he has learned of the anatomy of the brain and its dependencies; let him re-examine the best physiological investigations as to the dependence and independence of the nervous system, and its connection with the various actions and functions of the tissues, organs, and apparatuses of the body. Then, calling to mind the most inscrutable, but most intimate affiliation of mind and body, of the spiritual and corporeal nature of man, let him study all that mental and moral philosophers, all that phrenologists, metaphysicians, and transcendentalists have discovered or imagined, as to the operations of the immaterial portion of our nature; yea, let him receive reverently, and as minutely as possible, what is revealed in the Bible on these mysterious subjects; and then, after the most persevering and laborious investigation, he may form an idea of the direct and reflex influences of cerebral and spinal irritation on the various portions of the animal economy. Daily experience, in the treatment of such cases, would still further enlarge his views; and his admiration would be excited, while contemplating the inexplicable manifestations of nervous irritation in every part of the body, the mysterious character of organic and animal life, and the still more mysterious union and dependence between the spiritual and corporeal being. He will, indeed, be made to feel the limited character of his knowledge, and to exclaim—How wonderful is the constitution of man!

In women, all these manifestations of cerebral and spinal affection are known among systematic writers by the term *Hysteria;* the phenomena of which are ever varying and constantly simulating more serious and dangerous diseases. It is said, therefore, to be "Proteus-like." Its various phases, always changing and

assuming every form of morbid action, too frequently lead even the experienced practitioner far astray from the proper course of therapeutical treatment.

SYMPATHY AND REFLEX ACTION.

The cerebro-spinal nervous system (the centre of perception, and the originator of sensation and motion) has a wonderful direct and indirect influence over all the tissues, organs, and functions. The character and degree of such influence have not yet been fully elucidated by the anatomist and physiologist. Much has been done; but much remains to be done. Hence, in morbid derangements of organs, it is difficult, often impossible, to say, how much results from the direct influence of the brain or spinal marrow, how much from indirect agency, and how much may ensue through a more immediate synergy or sympathy between one or more organs without any intervention of the spinal marrow or the brain.

For example, irritations of the stomach will disturb the brain, sometimes the liver, the heart, and the lungs, &c.: so, also, the irritations of the brain will disturb the stomach, liver, heart, and lungs, thus showing the intimate connection between the brain and these organs. This, no doubt, is due to the pneumogastric nerve, passing, as it does, to all these organs, from the medulla oblongata. The inference, however, is by no means clear, that there may not be a disturbance of the heart, liver, or lungs, with the stomach, without the intervention of the brain, or its prolongations. Every one is familiar with facts showing the sympathetic connection of organs, as the uterus with the stomach, with the mammæ, &c. Are this and other sympathies effected by means of a direct influence of one organ on another, or must we travel always along the course of a nerve to the spinal marrow or brain, and back to the suffering organ? Much has been, and may easily be adduced, on both sides of these interesting questions; we, however, must leave them, until further observations and experiments have elucidated these arcana. The probability is, that there is truth in both statements; that sympathy is generally dependent on the intervention of the brain and medulla

oblongata et spinalis, and sometimes, perhaps, on the ganglionic nervous system. To systematize our history, we will presume that in nervous irritations, the impression is usually propagated through the medium of the cerebro-spinal centres.

EXTERNAL ORGANS.

Many of the secondary or reflex influences of spinal and cerebral irritations have already been noticed, especially the soreness, the pain, the spasms, the cramps, and various neuralgic disturbances in the lower extremities, the trunk, the superior extremities, the neck, and face.

In cases of violent nervous headaches, the pain very generally radiates to the scalp, to the skin and deep-seated tissues of the face. Intense, darting, burning pain is often felt in the eyeballs, or deep in the sockets of the eyes; in the ears, as if in the centre of the tympanum; in the nose; or thrilling along the dental nerves as in the most severe forms of odontalgia: not unfrequently it is accompanied with the most acute twitches and spasms of the facial muscles, thence "tic douloureux," as it has been called by the older authors.

The motatory system is often disturbed in various degrees, sometimes most horribly without any tonic, or painful spasms, as has been described, but with clonic spasms or convulsions. Minor examples are observed in the irregular twitchings of the eyebrows, of the muscles of the eyelids, of the eyeballs, and occasionally even of the tongue; so also we may notice all the varieties of "subsultus tendinum," or irregular actions of the muscular fibres of the extremities, to the most rapid convulsive disturbance.

Cases.—In one case, of a young lady, the right arm, partially flexed, was raised and depressed so quickly that the eye could hardly follow its motions. There were simultaneous agitations of the muscles of the chest, of the neck, face, and eyes; often a similar motion began in the left arm, but more frequently in the right lower extremity, especially if the patient attempted to stand or walk. All this occurred without pain, or loss of consciousness, but always with some peculiar sensations preceding the attack, which were mitigated by the spasms. These last were a relief,

the patient observed; so far were they from being accompanied by pain or mental affection.

In another case of an unmarried lady, analogous spasms came on almost every night, in paroxysms of eight or ten hours' duration; during these paroxysms the knees were drawn up to the breast, the arms clasped tight to the thorax, and the head bent over the breast, and all the muscles kept in constant agitation; but the functions of the brain were apparently undisturbed. These paroxysms did not come on in the day time, and could soon be prevented for twenty-four hours by attention to the uterus. After a time these spasms entirely disappeared, but the patient suffers still from neuralgia of neck, heart, uterus, &c.

In other cases, these clonic spasms are more sudden and violent, and disturb the whole body; it cannot be kept at rest, the patient is thrown into various positions for hours in succession. Analogous spasms are sometimes confined to the muscles of the spine.

These convulsions may come on at irregular intervals, from accidental causes; but occasionally they occur with great regularity at the catamenial periods, thence their evident connection with uterine irritation.

INTERNAL ORGANS.

During the existence of such attacks, the patients often complain of similar spasmodic sensations about the œsophagus, the larynx, the lungs, the heart, the diaphragm, &c., which they call (perhaps correctly) internal spasms. They are not dangerous in themselves, but very alarming to the patient.

The practitioner has often very decided proof that these sensations in the internal organs are sometimes to be relied upon.

PHARYNX.—The pharynx is sometimes thus affected.

Case.—A patient of mine was unable for three days to swallow any solid or fluid matter. The moment the attempt was made, a spasm of the œsophagus or pharynx forced the fluids into the larynx, endangering suffocation. The patient's organic functions were perfectly normal; she suffered from neuralgia, and also from

the distress of hunger and thirst. The inhalation of ether relieved these symptoms.

LARYNX.—Such irregular contractions are far more common in the muscles of the larynx. Hence, in some nervous patients, we have pure examples of *croup* without any inflammation, and usually spoken of as "laryngismus," "spasmodic croup." It may come on in paroxysms, after longer or shorter intervals, with the usual distressing symptoms, so alarming to patients and their attendants, as indicative of immediate suffocation. Yet, generally, they are harmless and manageable. Often the relief is sudden and perfect. For the time being there is no impediment to respiration, and no hoarseness remains; but shortly, however, it may return with all its original severity.

ORGANS OF THE CHEST.—The symptomatic or reflex influences of the uterus on the organs of the chest are far more frequent than on the larynx or pharynx.

Respiratory Function.—Every variety and degree of disturbance of the respiratory function is occasionally observed, with or without neuralgic symptoms. With many there is a "tired feeling" about the chest, as if some exertion had been made more than usual, or as if a deep inspiration or sigh was absolutely necessary.

Cases.—A lady said to me, that she dreaded to have her friends call, it was such a fatigue to converse, causing a sensation of exhaustion about the neck or tracheal region, as well as the chest.

In another case, a lady told me she had always to lie down before she could talk with her friends.

In these instances the tones of the voice were clear and natural; and when the patient became interested, no signs of oppression existed.

Often there is also a sense of constriction or tightness, as if a full breath could not be taken. In many there is always a sense of oppression, even when at rest; in others it is paroxysmal; in some periodical, and recurring with great regularity. It is occasionally mild in its attacks, but sometimes is exceedingly intense. This great sense of suffocation, of distress, combined with mental anxiety, constitutes the worse forms of "*spasmodic asthma.*" Such attacks are often ephemeral, perhaps returning daily, sometimes at longer and irregular intervals. Nevertheless, a sense of oppres-

sion and dyspnœa is seldom absent; so that the least pain or irritation of the body, or any agitation of the mind, will bring on a paroxysm of asthma.

Coughs.—Another variety of nervous irritation of the lungs is manifested by coughing. There are a great number of these nervous coughs, and some of a most peculiar and wonderful character. A simple, dry, hacking cough, scarcely noticed by the patient, is perhaps the most common. Next may be mentioned the sonorous, hard cough, as if through a metallic tube, apparently with distress, but generally without any suffering or anxiety on the part of the patient. Paroxysmal coughs, simulating those in pertussis, are not unfrequent, and are noticed as convulsive coughs. The patient, for hours, may have been comfortable, and then is suddenly seized with a fit of coughing, lasting for several minutes, until the sufferer seems exhausted by fatigue.

Case.—In one patient, at least, I have known the paroxysm to begin moderately, as an ordinary cough, and regularly become more and more rapid; until the distinction of sound was almost lost in one continued and protracted scream. It closely resembled the operation of the steam-valve in a locomotive engine, which, on starting, opens and shuts slowly, but soon, as the speed increases, with so much rapidity as to defy all attempts to estimate the frequency of its operations. These have been termed, vulgarly, "barking coughs;" they are often very loud and sonorous, so as to attract the notice and excite the curiosity and anxiety of neighbors and of strangers.

There are various modifications of these spasmodic efforts, in which there is no decided cough; but the inspiration is loud, and the expiration prolonged with a more moderate, yet a distinct, sound. Such attacks are often periodical for months in succession; the paroxysm, coming on usually in the morning, will generally last for eight, ten, or twelve hours, after which the breathing and voice will become perfectly natural until the same hour on the succeeding day.

In some patients the connection with uterine irritation is so decided and manifest, that it will be useful to record the facts.

Cases.—A large, corpulent lady, whose organic actions were perfect, with a fine color and other evidences of health, suffered from neuralgic and spasmodic complaints, traceable to displace-

ments of the uterus. One day, after my entering her room, she playfully, but in all earnestness, exclaimed, "Doctor, you have given me a violent cough. I have been coughing very constantly, night and day, since your last visit." "Well, madam," I replied, "if I gave you a cough, I will cure it." In a few minutes, by changing the uterine support, the cough disappeared, and did not return.

I recall two other cases; they were very similar, and occurred in women long sufferers from neuralgia. A cough would continue without intermission for many hours, defying the ordinary appliances of anodynes, demulcents, &c., and causing great fatigue and exhaustion to the patients. They could not take nourishment, or sleep, from its persistence and severity. On two occasions, I have known the paroxysm to continue from mid-day until I was called to their relief at midnight. In both patients, relief was instantaneously obtained by attention to the pelvic irritation. Each of these patients had several attacks of this character, and were always immediately relieved by such manual means, without the assistance of medicine.

An unmarried lady, who had been for many years an invalid, was troubled with a bad cough, with short and oppressed respiration, often amounting to attacks of spasmodic asthma. She came under my care and was relieved by attention to irritations of the uterus. She remarked that she had just been amused, by recounting to herself all the medicines she had taken for pulmonary consumption. She stated that her physician, after having treated her during a whole winter for consumption, had intimated to her friends that she would soon die, as medicine could not afford relief. Years have elapsed since the uterine irritation was relieved, and no pulmonary symptoms have returned.

Aphonia.—In several of my patients perfect aphonia has existed, apparently from inertia of the respiratory apparatus. Sometimes for days, and occasionally for weeks, the patient can speak only in whispers and with considerable effort. This aphonia, also, will often suddenly disappear.

When such loss of voice and spasmodic coughs are accompanied with pain about the chest, and aggravated by motion, a full inspiration even giving pain, they have often been mistaken for inflammatory complaints of the muscles of the chest, or of the

pleura, bronchia, or lungs. Such a mistake is, of course, productive of great detriment to the patient, and discredit to the profession.

Heart.—Disturbances of the action of the heart from various moral causes, as fear, joy, anxiety of mind, &c., are familiar to every one, especially as occurring among women. Irritations or excitements of the brain, from physical as well as moral causes, affect the functions of the heart. This is very frequently exemplified in all the varieties of uterine irritation, and occurs probably through the spinal and cerebral systems. In cases of irritable uterus, the morbid functions in the cardiac region are exceedingly diversified and rapidly alternating. The heart, for hours or days may give no disturbance; and then suddenly the slightest cause, it may be, will excite the most distressing affections. Patients continually allude to a fluttering and irregular action of the heart, to palpitations which are sometimes very violent, with a sense of suffocation, of fulness, or of distension as if rupture must occur. Hence, there are great secondary disturbances of the brain and nervous system from anxiety of mind, and dread of a speedy dissolution. Many become alarmed under an idea of the heart being misplaced, thrown from one side of the chest to the other, while others insist that the action of the heart at times entirely ceases. In most of these cases the practitioner may have positive evidence of cardiac agitation, by placing his hand on the chest, or by auscultation when the palpitations and irregular actions are distinctly felt and heard. Very little, however, can be learned from the pulse at the wrist, which is often perfectly quiet, soft and regular under these nervous disturbances of the central organ of the circulation. Sometimes, it is corded, quick, and irritable, perhaps, from the general disturbance of the nervous system, as well as from the action of the heart. The diagnosis, by auscultation, even between these functional or nervous cardiac excitements and the indications of structural disease, is not always very easy. I have known a number of cases, where even experienced auscultators have believed that organic disease existed, but the subsequent result did not justify the opinion. When these irregular actions are combined with neuralgic pains in the tissues of the chest, physicians, as well as patients, have apprehended acute inflammatory affections of the heart, or of its external or internal membranes. The distinction between carditis,

pericarditis, or endocarditis, and mere nervous disturbance of the heart, is not always easily drawn.

Mammæ.—In connection with disturbances of the chest those of the mammæ or breasts, although external organs, should be noticed in this place. The physiological connection of these glands with the uterus is familiar to all, as seen in their cotemporary development at puberty, their enlargements and increased sensitiveness after marriage, especially when conception has occurred. These physiological states of the mammæ are types of the pathological changes, due to nervous irritations of the uterus. The mammæ become irritable, that is, preternaturally sensitive. The patient complains of soreness if touched, and sometimes she cannot even bear the pressure of her clothes, or any movements of her arms. The glands may become developed, thence "hypertrophy" of these organs. One gland is sometimes larger and more tender than its fellow, the proper glandular tissue of either breast may become developed irregularly, even in virgins and married women where no conception has occurred. These irregular enlargements are often termed "tumors" to the great alarm of the patient, and to the pecuniary profit of charlatans, or, it may be, of an ignorant surgeon.

Cases.—This season, a patient of mine came from North Carolina to Philadelphia, with such an enlargement of the left breast, accompanied by some soreness and hardness. This, and a similar development in the right breast, had been termed malignant by a "travelling cancer-doctor." She informed me that several of her acquaintances had submitted to the treatment of this ignorant pretender.

Some years ago I attended a married lady from the valley of the Mississippi, who for a long period had suffered excessively from nervous affections, due to uterine disturbance. After some weeks, she called my attention to "a lump" in her breast, which she said was sore and sometimes painful. After having examined it, I gave as my opinion that it was of no importance, and would cause no serious trouble. She was much surprised, for her surgeon had twice operated on this very breast some years ago for precisely such tumors; which he said would become cancerous, and that extirpation was demanded. I had the pleasure of meeting this lady this summer. She has more flesh, and

is in better health than she has been for years, and has found that no operation upon her breast is needed.

These irregular and hardened enlargements of the mammæ seem very analogous to the *mastodynia* spoken of by the older writers on obstetrics, as a symptom or consequence of pregnancy.

The preternatural sensitiveness of the mammæ, and their developments, seem to be, as formerly mentioned, prototypes of the irritable uterus, being sometimes merely very sensitive, congested or even hypertrophied.

Viscera of the Abdomen.—Disturbances in the functions of the viscera of the abdomen, from uterine irritation, are very common. Every practitioner of obstetrics is perfectly familiar with the sympathies existing between the organs of digestion, and those of generation. In irritable uterus, these sympathies are equally remarkable, and some detail will, perhaps, be useful.

The neuralgic pains in the regions of the abdomen have already been noticed when speaking of spinal irritation. These pains may exist in any part of the abdomen. When at the lower part, in the hypogastric and iliac regions, they are often to be traced directly to the uterus and its appendages; but these as well as those at the upper portion, in the hypochondriac, and even in the epigastric regions, are more frequently of a spinal origin, radiating along the parietes of the abdomen. Such pains are, as formerly remarked, too frequently confounded with inflammatory pains indicating visceral disease.

Liver.—Pain in the right hypochondrium, radiating to the back, the scapulæ, and to the top of the shoulder, has often been treated as if from hepatitis, and the treatment continued for months and years without avail. The mistake has been the more readily made, because, in many instances, there is also torpor of the liver, constipation of the bowels, nausea, vomiting, &c. The entire absence of fever, the intermittent character of the pain, and its frequent change of location; the clearness and purity of the complexion and of the conjunctiva of the eye; and the normal condition of the urine and other secretions, will all indicate the neurotic character of the complaint. The diagnosis, thus formed, will be confirmed by the fact that such pains usually prove indomitable so long as the uterine irritation exists.

There is, as already intimated, generally a diminution in the biliary secretion, no doubt contributing frequently to cause torpor of the intestines. This, however, is not connected with organic alterations of the liver; for, in the post-mortem examinations of those who had suffered for many years with affections of this kind, the liver has been found in a perfectly normal condition as to size, color, density, &c.

Stomach.—In irritable uterus the stomach is much disturbed in very many cases, whether by a direct sympathy or through the intervention of the cerebro-spinal system, is perhaps a matter of small moment. In many patients, of course, there is no disturbance, they may have an excellent appetite, good digestion, and no complaint to make of their digestive apparatus. In others, we have every variety of nervous dyspepsia. Some complain merely of a sense of fulness and oppression after their meals; with them, even small quantities of food feel heavy, as a "load" upon the stomach. In other cases there is a loss of appetite, a disgust for food, even the smell of meats, &c., is often disagreeable; there are heartburn and cardialgia from acid accumulations, or acrid eructations, especially when oily and other animal substances have been taken.

Nausea is not uncommon, and is often followed by vomiting, either of the contents of the stomach or of glairy, serous, or mucoid matters, and occasionally of bilious fluid. Often there is great straining in retching, with but slight ejection—the so-called "dry vomiting"—gas being chiefly thrown off. These attacks of nausea and vomiting are often periodical, coming on at stated intervals, then disappearing for hours, during which the appetite and digestion may be comparatively good, and then again suddenly returning. I have known regular "morning sickness," recurring for months in young girls, from uterine irritation, and simulating exactly the emesis of pregnancy. The effort of straining and vomiting aggravates the uterine sufferings, as well as the neuralgic pains in every part of the body.

Perhaps the most frequent symptom of gastric disturbance is flatulence. This is an evil exceedingly common, and is by no means the least important of these gastric disorders, or the most easily to be overcome.

Stomach and Bowels—Tympanites.—It is seldom confined to the

stomach, but extends throughout the whole tract of the intestinal canal. So that it may be considered as occupying either a portion or the whole of the alimentary passages.

Considerable mystery exists as to the causes of this development of gas. Pathologists usually recognize it as resulting from the decomposition of food, which has not been properly digested. Flatulence, therefore, is a very common result of indigestion. There can, however, be but little doubt, that there is also an intimate relation between the generation of gas, and the condition of the nervous system. Hence the influence of the uterus upon this production of gas, when this organ is a source of nervous excitement.

Since it is impossible, in the present state of our knowledge, to explain how gas can be generated through the agency of vital tissues, many have met the question with a positive denial as to its occurrence. Yet, that gas is thus formed, at times, will be evident to all who will examine the subject. We are at present dealing with the fact, and not with the explanation. Authors, old as well as recent, have recorded cases in which gas has been found in the bloodvessels, in serous and other cavities of the body, where there had been no decomposition whatever, and where atmospheric air could have had no access. Abdominal tympanites embraces one variety in which a gas, often inodorous, has been largely collected in the cavity of the peritoneum. This is known by post-mortem examinations to have occurred in cases where no perforation of the alimentary canal existed; and sometimes where no special disease of the serous membrane could be discovered. In an autopsy made by myself, on opening the cavity of the abdomen in a tympanitic subject, there was an immediate collapse. No evidence could be detected of either a wound or ulcer of the stomach or intestines, and these organs afforded no evidence of having been themselves distended. The collapse of the whole abdomen was instantaneous, upon dividing the parietes.

All surgeons are familiar with the generation of gas in abscesses where no external communication existed.

The testimony as regards mucous surfaces is hardly less positive, although there may be an access from without. Gas is often discharged from the uterus and vagina, not only as an occasional but as a constant symptom. In some cases of irritation, this

occurs when there has been no decomposition of mucus, blood, or of deciduous membrane, placenta, or other portions of an ovum. And cases of regular uterine tympanites, "physometra," are recorded by authors, in which, owing to complete obstruction of the canal of the cervix uteri, the whole body of the organ was enlarged from the accumulation of gas. The diagnosis may be made positive by careful digital examinations, internally and externally, assisted by percussion. The resonance due to the uterine tumor can with care be distinguished from that due to the intestines. As regards the alimentary canal, all are familiar with the sudden generation of gas in all the varieties of hysteria, whether excited by moral or physical causes. On account of sudden fear, great anxiety, sorrow, or grief, nervous paroxysms are often produced, in which the development of gas will often be enormous, even when no food exists in the stomach. In many cases, there is no evidence of indigestion; and perhaps in all cases, the gas is generated too suddenly to be attributed to the fermentative processes.

In uterine irritation, whether symptoms of hysteria be present or not, gaseous developments in the stomach and bowels are exceedingly common. Even in healthy females, when no evidence of indigestion exists, intestinal tympanites of a moderate character may be noticed prior to the occurrence and at the beginning of the catamenial period. They speak of a fulness at the lower part of the abdomen, with a sense of distension, weight, or pressure, which usually is much moderated or dissipated by a free flow of the menses; and hence this fulness and distension has been ignorantly ascribed to engorgement of the bloodvessels or distension of the uterus: yet, that it is gaseous is easily verified by a tactile examination and by percussion. It is the result, therefore, of uterine excitation, and not of uterine congestion. The flow relieves this excitement, and the intestinal tympany disappears.

In all the morbid nervous excitements of the uterus, similar phenomena are still more common. As one of my patients said to me, after years of occasional suffering, generally from dysmenorrhœa: "Doctor, there is no doubt about it, the moment I feel those uterine pains, I have wind in my stomach." The feelings of tightness, of fulness, the sense of oppression and weight at the epigastrium, the uneasiness excited immediately after eating

even small quantities of food, are often due entirely to gaseous accumulations, and are temporarily relieved by carminatives of various kinds.

So also in the intestines in dysmenorrhœa and other forms of uterine irritation, large quantities of gas are felt by the patient, and recognized by the ear and touch of the practitioner. The noise in the stomach and bowels from the admixture of air and the fluids in these viscera, "borborygmi," as it is termed, is audible even at distances, and thence mortifying and distressing to the patient, especially, as is not unfrequent, immense quantities are eructated by the mouth, or ejected per rectum. Continual allusions have been and will be made to gaseous disengagements in all the forms of uterine disturbance whether of nervous or inflammatory character. Hence, not only in dysmenorrhœa, but in all the varieties of irritable or inflamed uterus, in metritis, puerperal ovaritis, and peritonitis, gaseous distension of the alimentary canal is one of the most frequent symptoms. Puerperal fever without tympanites is an occasional but rare circumstance.

The *secondary*—consequential or reactive symptoms of flatulence—are always uncomfortable, disagreeable, and sometimes of the most severe and distressing character, in nervous affections; and in inflammatory diseases they often hasten the dissolution of the patient.

In the stomach we have already alluded to the feelings of oppression and distress which flatulence produces, often followed, as they are, by nausea, and constant ineffectual retching—"dry vomiting." In addition, this internal distension, like pressure from without, aggravates all the neuralgic pains of the parietes of the abdomen and chest. Hence, there is also great soreness of the skin over the stomach, ribs, &c., so that the patient complains of the slightest pressure; her garments must be loosened, and even the weight of the bedclothes is distressing. Irregular actions of the muscular fibres of the stomach ensue; the gas cannot escape; it is locked up in particular portions of the stomach; thence, spasms, cramps, "gastrodynia," sometimes of the most intense character, with the necessary consequences of depression and exhaustion, sometimes even of convulsions. Such symptoms, conjoined especially with cardialgia, vomiting, &c., simulate gastritis, and are also often confounded with peritonitis.

Similar phenomena result in the accumulation of gas in the intestines. Here, also, we observe the uncomfortable distension; the great soreness of the whole cutaneous tissue of the abdomen; the same intolerance of pressure and weight; the same confinement of the gas to portions of the intestines, large or small, but, perhaps, most frequently to the cæcum or sigmoid flexure of the colon, and often to its transverse portion; and the same disposition to spasms and even severe colics. Of course, all the local symptoms of uterine irritation are also exceedingly aggravated. From the distension of the intestines and the spasmodic action of the abdominal muscles, there is great increased pressure upon the uterus, already in a sensitive, irritable condition. There is, besides, sympathetic disturbance of the uterus and the bladder. Hence, pains and cramps of the uterus, and of the bladder, are superadded to the colics of the intestines; so that it is difficult to determine whether the bowels or the uterus are most in fault. These uterine spasms, or "colics," as they have been termed, are often excited by intestinal irritation. The distension of the abdomen, the great soreness and pain on pressure, with other phenomena, have too often been regarded as evidences of inflammation; and such cases, therefore, have been confounded with enteritis, colitis, or peritonitis, from which they should be carefully distinguished.

Flatulence, as above described, may be regarded as active, exciting the regular peristaltic motions of the stomach and bowels, by which the distension may be diminished. But, there are other and very common cases, which may, not inaptly, be termed *passive*. In these, there seems to be but little resistance from the muscular walls of the intestines, or even of the abdomen. In such cases, the gas gradually accumulates; there is a passive distension of the whole abdomen, sometimes to an enormous degree, without any spasms or irregular actions of the stomach or intestines, without "borborygmi," and with little or no escape of gas per orem or per anum. This state of things constitutes the "*tympanites*" of nosologists. Not unfrequently it is temporary, passing away in a few hours, or a few days; but, occasionally, it persists, and even for years. There is sometimes not much distress attending it, merely an uncomfortable feeling of distension or of pressure; but, generally, there is great soreness of the

abdomen, and even of the skin. The patient complains of the least pressure from the bedclothes or from the hand, so that a tactile examination can with difficulty be made. Motion even in bed is painful; the patient is generally found lying on the back, with the lower limbs flexed, so as to relax the abdominal muscles and diminish their pressure. She is not conscious of the cause of the distension; but imagines it must be from tumors, enlarged viscera, or dropsy, or even pregnancy, and is often surprised to hear that it is gas—"et præterea nihil." Generally, there is loss of appetite, some eructation from the stomach, and occasionally nausea. The bowels are torpid; the stools, when they do appear, are small in quantity, and hard, but natural as to color. Here, also, as in the active variety of flatulency, this distension aggravates the nervous and spasmodic symptoms of other parts, particularly of the uterus, which is thus pressed down, and irritated. Hence, there is a great increase of the patient's sufferings.

That these passive gaseous accumulations are increased by indigestion, and the decomposition of food and drinks, there can be no doubt. But that this is not the sole cause, is proved by the fact that the tympany will continue when all other evidences of indigestion are removed, under the best regulated diet, and the best remedial agents; that it is often persistent for a long period, until indeed there is a rectification, a resuscitation of the nervous energies of the suffering woman. It depends on the nervous state of the general system, often connected with irritable uterus and its appendages. It is "nervous," or "hysteric" tympanites. The diagnosis is not always easily made, especially as the abdomen is often too tense and too sensitive to admit of a careful examination. Resonance on percussion is our best means of diagnosis: but this will seldom enable us to say positively, whether the case be nervous or inflammatory, arising, it may be, from chronic peritonitis. It is difficult to determine whether enlargements of the liver, spleen, uterus, or tumors of the uterus, and of the ovaries, may not coexist. The diagnosis may sometimes be facilitated by examination per vaginam, by the finger, or by the uterine probe, particularly when the uterus or ovaries are involved.

Case.—An unmarried lady was once brought to my care, who for two years had been disabled by nervous affections, and this painful distension of the abdomen. She was anæmic, pallid, with

no appetite, and costive bowels; but was entirely free from fever and was in no degree emaciated. The secretions were all natural as to their appearance, except that of the kidneys, which was very deficient, so that for two or three days no micturition occurred; and, by means of the catheter, hardly half an ounce of straw-colored urine could be obtained. By a vaginal examination, the uterus was found to be small and slightly prolapsed. The patient had been regarded as the subject of abdominal tumors, but subsequent observation gave the negative to this opinion; for the whole swelling gradually vanished, upon attention to the prolapsus, and no tumor could be found. The patient returned to her usual avocation as a teacher in about four years after the commencement of her disease.

Such cases may be occasionally found in the male subject, but are more frequent in women, and connected generally with internal irritation.

Intestines.—In nervous affections there is generally a torpor of the bowels, giving rise to obstinate constipation. This is well known, but authors and practitioners have unfortunately differed as to the cause. Too frequently, it has been regarded as dependent on the liver, and mercurials have been freely given, and often pushed to salivation, to the great detriment of the patients. That the nervous system, through the medium of the uterus, is usually in fault, is proved not only by the absence of the common symptoms of bilious disorder, but by the coexistence of uterine affections, with this torpor of the bowels; and by the fact, that when the uterine trouble ceases, the bowels are more easily regulated. In some cases, the intimate connection is shown by the rapidity in which constipation appears or disappears on the occurrence or cessation of irritations of this organ.

Thus, a lady informed me that her bowels always became torpid when she had menorrhagia, and on its cessation, they became regular. So also in dysmenorrhœa, constipation is much more common at the period than at other times. It is found also that, in all the varieties of hysteria, torpor of the bowels is frequently observed. The consequences of constipation are generally known. It increases the tympanites, the indigestion, the loss of appetite, the disposition to gastrodynia, and to colic; as well as aggravates the soreness from distension, and the sensitive and

neuralgic state of the tissues. In various ways it also augments the displacements and irritations of the uterus. The mere attempt to pass scybalous matters from the rectum, as formerly mentioned, will sometimes cause the most intense agony, and still more frequently, will be followed by sensations of great languor and prostration. The injurious effects of sedation of the bowels upon the liver, lungs, heart, brain, and other viscera, are well known.

It is wonderful how the general health and flesh of the patient will sometimes be maintained for months and years, where affections of the womb exist, complicated with more or less dyspepsia, torpor of the liver and of the bowels, neuralgic spasmodic irritations of various tissues, and sometimes even violent convulsions.

When the appetite and digestion remain good, these patients often exhibit all the symptoms of perfect health, as regards the organic life, having plenty of red blood, free secretions, full nutrition, abundant development of their tissues and organs, and a superabundance of fatty deposits. Some of the healthiest looking women become martyrs to nervous affections; indeed, the most severe sufferers I have seen, have been in excellent condition as regards their circulatory and organic functions. Still, however, from confinement to the house, from the disturbance of the functions of the digestive organs, many nervous patients are thin, pallid, anæmic, sometimes chlorotic. And, on the other hand, there are great numbers of cases of anæmia where there is no peculiar excitability.

These propositions are very simple, but are too often forgotten; so that the practitioner regarding the debility and anæmia as all important, resorts merely to nutritious diet, tonics, and stimulants, without inquiring into the local causes of evil. Or, on the other hand, in the healthy looking individual, he is sometimes led to treat him simply for his mental and physical excitements, and his local irritations by depletory measures, without remembering that the more he is exhausted, the more sensitive he becomes. Anæmia is not, properly, the cause of nervous affections, but one of their frequent and indirect results. It may thus arise from loss of appetite, or, at least, from impaired digestion, imperfect assimilation and long confinement, and thus, from sympathy of the organs of digestion, with the uterus, through the medium of the nervous system. Nervousness, or, more properly, irritability, of

the cerebro-spinal system is, therefore, the cause of anæmia, through the medium of the digestive organs, whose functions are diminished; because the patient, in consequence of suffering, is deprived of fresh air and exercise. Some practical deductions will hereafter be made.

In pure nervous affections, the condition of the stomach and bowels is, indeed, such as has been described, namely, sympathetically disturbed by the uterus, so that this disturbance appears and disappears with the presence or absence of pelvic irritation. Yet in many of the chronic, long protracted cases of confinement to the house or bed, secondary symptoms of *a more inflammatory and dangerous character* may be developed. We, at times, perceive evidences of phlogosis throughout the whole tract of the alimentary canal, usually commencing at the stomach and spreading either upwards towards the mouth, or downwards along the intestines. Hence we have chronic stomatitis and pharyngitis, often with aphthous or albuminoid deposits, sometimes with vesicles or in pustules, and enlargement of the muciparous glands, resembling tubercles. The same kind of irritation, under the names of œsophagitis, gastritis, enteritis, colitis, and rectitis, is sometimes observable throughout the whole tube, with the usual symptoms of anorexia, cardialgia, nausea, diarrhœa, and dysentery. They are all of a chronic character, and sometimes exhaust and destroy the vital powers of the unhappy patient. In the post-mortem examinations, the customary results of the inflammatory process may be seen in the discoloration of the mucous membrane, the morbid exudations, the glandular enlargements and ulcerations.

Happily, these inflammations are not frequent, and can usually be relieved; but when neglected or improperly treated, may prove fatal. They are not necessarily connected with uterine irritations, but are accidental, and occur secondarily; as in all chronic affections, where the patients have long been confined, and when there is a want of appetite, digestion, and assimilation. The blood, of course, becomes impoverished, and thence the secretions themselves acrid and irritating to the tissues, especially to the mucous membranes. To this is constantly added the irritation from food and drinks which have not been digested, and even this is too frequently increased by the improper exhibition

of drugs. Herpetic eruptions on the skin, especially about the mouth, eyes, ears, vulva, or anus, are also manifestations of the same deteriorated condition of the fluids, and evidences of the same cachectic state of the system. The wonder is, not that such patients should die, but that many should survive, and that some should eventually recover.

Kidneys.—The kidneys are also much involved in all nervous affections, especially in women; but to what extent is not easily ascertained. In the ordinary condition of most nervous patients, there is no disturbance of the renal functions, as indicated by pain, or the character of the urine. But after severe cephalalgia, asthma, or any of the decided forms of hysteria, there is often a rapid secretion of colorless urine, resembling pure water. Pints, or even quarts are sometimes discharged in a few hours, apparently to the great relief of the patient. It is the "diabetes serosa" of systematic authors, and seems to be a "critical discharge;" the paroxysm being partially or completely relieved. No permanent benefit, however, results.

There are few, if indeed any other evidence of kidney affection; as the pains often experienced in the sides and back can hardly ever be referred to the kidneys. They are changeable in their location, and seldom exist in the region of these viscera; with the above exception, there is ordinarily no disturbance of their secretory functions. I have known, in the most agonizing attacks of neuralgia of the uterus and of dysuria, the appearance and the chemical qualities of the urine to remain unchanged. Of course, there are many apparent exceptions to this remark, as the urine is frequently affected by the ever varying condition of the stomach, liver, and the blood; but these variations are accidental, and arise from complications more or less transitory.

The common impression seems, however, to be the reverse of this. Women themselves, especially, are continually alluding to "kidney pains" and "kidney affections," in speaking of their nervous symptoms. This arises, no doubt, partly from ignorance, and partly from modesty; for it will be discovered, that under the above expressions, they allude to the bladder and its disturbances. Hence they often use these terms to speak of the burning pain about the urethra and bladder, the constant inclination to urinate, the neuralgic and spasmodic sufferings in dysuria and

strangury. All of these are dependent, not on any morbid character of the urine, not on the condition of the kidneys, or even on the blood, but on local states of the bladder or uterus, as was formerly detailed. In a few rare cases, I have found purulent discharges from the bladder, evincing inflammation as cystitis, in some instances, and nephritis in others. In one case, that I recall, the result was fatal, from rapid enlargement and disorganization of the left kidney, as far as could be ascertained during life, for no post-mortem examination was obtained.

ORGANIC LIFE SOMETIMES INVOLVED.

We have now presented a succint account of the sympathetic or general symptoms of irritable uterus. We have exhibited their true essential character, as depending on the cerebro-spinal nervous system, without necessarily involving the organic life, whose actions are often perfect when the animal life suffers even severely.

Nevertheless, such is the intimate connection and mutual dependence of these two distinct systems on each other, that some disturbance of the circulation is observable very frequently in nervous affections. This has already been dwelt upon in the first chapter, and afterwards illustrated as far as the uterus was concerned, under the head of local symptoms.

What is true of the uterus is true, *cæteris paribus*, of other tissues and organs. In the cerebral irritations, sympathetic of uterine disturbance, we have, for example, not merely neuralgia, cephalalgia, delirium, and other nervous symptoms; but we have also in some cases irregularities of the circulation. The pulse is usually soft and free from irritation, even during the paroxysms of pain; occasionally, however, it is more frequent than natural. But very generally there is coldness and pallor of the upper and especially of the lower extremities, while the face is flushed, the eye often injected, and there exists a more or less turgid condition of the superficial vessels of the neck, chest, &c. There is doubtless a similar active congestion of the internal tissues of the cranium, but generally in a moderate degree. Even in the severer forms of hysteria, when stupidity, or delirium, or convul-

sions ensue, the engorgement is not often of a serious character. No practitioner dreads the result of such attacks; very few patients perish in hysteric convulsions; doubtless, because the congestion is comparatively trifling, while the nervous irritation is severe and prominent.

By way of illustrating this idea, attention might be fixed for a moment on puerperal convulsions, which are always dangerous and too frequently fatal. After much anxious experience and reflection, it is evident to my mind that there is no essential pathological difference between the usual form of puerperal convulsions and those which occur in the non-parturient state in hysterical women. I have seen so many cases in the latter precisely similar, as regards their phenomena at the time and after the attack, to those of the former; and so many of the puerperal form resembling those of the hysteric as to the precursory, attendant and consecutive symptoms, that I must believe, that pathologically they are virtually the same. The only real difference is the degree of congestion; this being comparatively trifling in the unimpregnated state, very great during gestation, and still more so during labor. The engorgement, in this case, arises from the almost universal plethoric state of pregnant women, which during labor is enhanced, particularly as regards the brain, by the "pains" and the bearing-down efforts; these include, of course, the holding of the breath, the temporary suspension of respiration, and the consequent passive congestion in the lungs, right side of the heart, the brain, &c. Hence, the danger and fatality of puerperal convulsions. The original nervous irritation is aggravated by this congestion, so that effusion of serum or blood may ensue, and the patient become comatose, and die.

In hysteric convulsions there is nervous irritation, but the congestion is moderate; and although it aggravates the nervous symptoms, yet very rarely is there effusion, serious mischief, or death. Such cases are usually and safely treated as nervous irritations; although, sometimes, the plethora and congestion are so great as to demand depletion. In puerperal cases, however, depletion is very generally necessary for the safety of the patient, to relieve congestion and prevent effusion. Yet in some of the milder forms of this complaint, which have indeed been termed "hysterical puerperal convulsions" by the systematic

authors (as if different in their nature from the congestive), patients have recovered under the treatment for nervous irritation. These observations are predicated, let it be observed, upon the idea that puerperal convulsions are dependent not on toxicæmia, but on plethora or inordinate fulness of the bloodvessels.

What is thus exemplified by the condition of the brain in nervous affections from irritation, is true also of the other organs of the economy. In the brain, however, the centre and source of nervous influence locked up in a bony casket, and, therefore, incapable of distension, the indications of nervous irritation, and the aggravation by the engorgements of its vessels, when congested, are comparatively very great. In nervous irritation of the larynx, of the lungs, and of the heart, there is frequently congestion; but generally it is not severe, and is seldom followed by any bad consequences. It is an error too common to regard the croup, the asthma, &c., as essentially congestive or inflammatory. Their essential character is nervous, the engorgement being secondary and usually of minor importance. In very plethoric habits, or in pregnancy, the congestion is greater, and may, as in cerebral irritation, sometimes demand primary and paramount attention.

As regards the lungs, more especially, effusions of serum, mucus, and blood, occur in the bronchial tubes, which may then be expectorated, to the relief of the congestion, or, if profuse, may cause asphyxia and death.

Similar observations may be made of the irritations of the abdominal viscera. The nausea, the vomiting, the constipation, the flatulency, the tympanites, the gastrodynia, the colics, &c., although essentially purely nervous, yet are occasionally enhanced by congestion. In some rare cases, this congestion is relieved by the effusion of blood from the stomach, bowels, hemorrhoidal vessels, &c., and occasionally by increased secretions. In some, this is manifested by the emesis of mucoid and seroid fluids, or by that watery eructation termed "water-brash."

Cases.—One lady has lately informed me, that for years a decided serous diarrhœa with her was frequently the result of uterine irritation. In another, obstinate chronic diarrhœa, at about the forty-fifth year of life, was evidently a substitute for the catamenial discharge. It was really a case of vicarious menstruation, and disappeared gradually, as the patient recovered from the ute-

rine irritation, and the effects of the cessation of the menses. In a third case, to which I have just been called, where there is endometritis superadded to irritable uterus, the patient says that almost any exercise will produce pelvic pain, and be followed by a laxative stool, not serous, but feculent and pultaceous. Sometimes the discharges are more of a bilious character, and occasionally accompanied by tenesmus.

All these examples are, however, exceptions to the general condition of the intestines in nervous affections, namely, that of constipation. But, even a great degree of costiveness, not unfrequently, alternates with diarrhœa; and there are many females, who can never suffer from mental agitation without having subsequently a diarrhœa.

The pure limpid urinary secretion, which flows so abundantly after paroxysms of nervous irritations, performing the part of a critical evacuation, evinces also a prior engorgement of the renal vessels, as connected with the nervous irritation, and hence the pabulum or material for this extraordinary secretion. Nevertheless, all these engorgements, with comparatively few exceptions, are moderate; often, they are not to be detected, and of course but seldom demand very positive remedial measures. The essential character of the complaints is nervous, located in the cerebro-spinal system, and is produced and maintained by some local irritation, which is often apparent, but occasionally obscure and mysterious, so as to avoid detection by the united agencies of science and experience. Still, these congestions, when apparent, demand attention, as they aggravate the nervous irritation, and often give rise to discharges. This is especially true when the uterus is involved, as then menorrhagic or leucorrhœal discharges, and in cases of enteric irritation and congestion, as hemorrhagic or seroid evacuations ensue; which directly debilitate, and thus indirectly render the general system, as well as the individual organs, more and more irritable.

CHAPTER VII.

PROGRESS AND RESULTS OF IRRITABLE UTERUS.

THE progress and results of this nervous condition of the uterus have been perhaps sufficiently elucidated by the above history of the local and general symptoms. A few more details may, however, be advantageously given.

In a large number of women, this disease exists in a very mild form; so mild as frequently not to excite even the suspicion, that the uterus is the origin of the evil. When perfectly quiet, they have no complaints, or can readily bear moderate mental or corporeal exertion. If, however, a long drive, or especially a long walk be taken, they feel very "weak," or, more correctly, very languid, exhausted, with sensations of "sinking," "of giving way;" sometimes faintness, and occasionally actual syncope ensues. Rest but partially restores their energies; it is still an effort to move, to leave their beds in the morning, or to resume their daily avocations. They become less interested in reading, find it an effort to fix their attention on their work, to listen to the conversation of their friends, or even to endure their society. They become low-spirited, and are easily disturbed by trifles. They wonder what makes them so weak, and so indifferent; they have no pain, no positive local trouble, unless it be, after exercise, a sensation of weakness in the back, or fulness in the lower part of the abdomen. Nevertheless, days and months pass away, and they can gain no strength under the most skilful employment of a good diet, tonics, stimuli, exercise, travel, and social intercourse.

Under such circumstances, a long walk, dancing, jumping, marriage, or any other exciting cause, aggravates the sensibility of the uterus, the pain in the sacrum, in the abdomen, &c. At the catamenial periods, symptoms of dysmenorrhœa or menorrhagia appear, and are followed by leucorrhœa, with more or

less development of the sympathetic symptoms of spinal and cerebral irritation. The local trouble is by no means confined to the uterus, but extends to the adjacent organs, the rectum, the vagina, and the bladder, involving, in all cases, directly or indirectly, the sacral nerves. These last often become so sensitive, that the least pressure upon them from a displaced uterus, or feculent matters in the rectum will give intense pain, radiating towards their sentient extremities, or in the reverse direction, towards their centres or origins in the spinal marrow or brain.

IRRITABLE RECTUM.

Irritable Rectum is, therefore, a common sequence of irritable uterus, but may arise from other causes. Among these are displacements of the uterus, it may be a prolapsus or retroversion, pressing upon the rectum, even when the uterus itself is not very sensitive; the presence of ascarides, or other vermes; as well as morbid secretions, undigested food, &c. It is sometimes the result of rectitis after the symptoms of inflammation have disappeared, while the nervous susceptibility still remains.

The *symptoms* are well marked. They are usually such as sensations of weight, fulness, tenesmus, frequent but ineffectual inclinations to stool, the discharge of seroid or mucoid fluids, painful, sometimes agonizing, defecation, great distress, and often pain from all kinds of enemata, not excepting in some cases those of an anodyne character. The presence of the injecting pipe, or the least distension of the bowel, often, cannot be borne. Examination by the finger, in bad cases, is actually intolerable, and excites terrific outcries from the patient, with many hysterical symptoms; especially when irritation of the rectum is complicated with irritable uterus, and the finger is carried to the anterior part of the rectum, against this organ. The orifice of the rectum is also very sensitive to a tactile examination, and to the passage of fæces, &c.

In these cases more or less congestion is apt to ensue; hence occasionally there are bloody effusions; hence also turgescence of the hemorrhoidal veins, their protrusion when straining is induced, their stricture by the sphincter ani, their further turgescence, and consequent inflammation or rupture, constituting the two varieties

of inflamed or "blind" piles, and of "bloody" piles. Hemorrhoids may thus be a sequence of irritable uterus or rectum.

The *diagnosis* of irritable rectum is by no means easy without careful examination, especially as regards rectitis, of which, as already stated, it is sometimes the sequence. Negatively, it may be distinguished from dysentery by the absence of chill, of fever, and emaciation; also by the non-appearance of purulent or lymphatic discharges per rectum, and indeed of all the symptoms of colitis, or inflammation of the colon. More positively, it may be recognized by the healthy character of the mucoid and seroid evacuations; by the regular discharges of natural, well-formed feculent stools; by the absence of pain and even of tenesmus, so long as the rectum is kept perfectly at rest; by the invariable return of severe pain, on motion of the patient, on defecation, or on distension of bowels by enemata, &c.; by the limited extent of this pain in the region of the sacrum, coccyx, posterior perineum, and even of the uterus, without any of the peculiar griping "cutting" pains in the hypogastric region so common in dysentery.

In chronic cases, the diagnosis is more easily established by the organic health of the sufferer, who maintains in many instances a good color, a good appetite and digestion, and an abundance of flesh and strength. The normal character of the mucous membrane of the rectum remains unaltered, and no thickening, induration or strictures can be detected. The diagnosis is rendered more clear if an irritable or displaced uterus be present, evincing the probability of an analogous condition of the rectum. Irritable rectum must not be confounded with a stricture of this intestine.

Cases.—The remark may seem to be unnecessary, but I have known at least two different patients who were treated for several months in succession for permanent contraction of this bowel, by simple and medicated washes, by ointments, caustics, and bougies, by a distinguished and justly influential surgeon. The occasional passage in these cases of large scybalous stools ought to have convinced him of the absence of stricture; even if from spasm of the internal sphincter, or of the rectum generally, or from any other cause, he could not pass his bougies beyond a limited distance.

In another case, a patient, who fell under my own care eventually,

and who declared she would rather suffer martyrdom than have an evacuation from her bowels, was treated for some six months by a most distinguished physician for fissura ani, as he thought naught else would account for the intensity of her agony during an evacuation from her bowels. A more careful examination of the circumference of the anus, of the seat of the pain, and of the position and condition of the uterus, would have disabused him of his idea. This patient, who had been a great sufferer for upwards of three years, perfectly recovered subsequently, by a recourse to remedies for a most sensitive, and partially retroverted uterus.

Several patients have applied to me for relief from what they imagined to be "inward piles;" the sensations of fulness, weight, pressure, and obstruction, were so great that they deemed no other explanation than the existence of hemorrhoids satisfactory, and as no swelling was present at the anus, tumors were supposed to exist within the rectum. Such cases, I found, were generally mild examples of irritable rectum, dependent entirely upon the pressure of a displaced uterus on the lower portion of the rectum.

Hemorrhoidal tumors, ascarides, fistula in ano, and other analogous complaints, can easily be recognized as complicating and aggravating the symptoms of irritable rectum.

IRRITABLE VULVA AND VAGINA.

Irritable Vulva and Vagina not unfrequently exist, and are so often conjoined that they must be considered together; although the predominance of the symptoms at the vulva is generally so decided that the state of the vagina is often unheeded. This is in accordance with the normal physiological character of these tissues; the most excitable or sensitive surfaces are naturally the vestibulum and the orifice of the vagina, especially that portion embracing the orifice and the under vaginal surface of the urethra.

In a morbid irritable state of these parts, the sufferings are often extreme. In bad cases, the patient has hardly any interval of rest. The local irritation, sometimes characterized by the words pain, heat, burning, pressure, fulness, &c., is truly indescribable, and of a peculiar, distressing, nervous character. It

radiates to the vagina, uterus, rectum, and sacral nerves, and thus to the whole cerebro-spinal system, exciting the most terrible mental, moral, and physical disturbances. Nymphomania, with all its horrors and ungovernable propensities, may thus arise even in the most refined and virtuous woman. These are, however, comparatively rare cases; but even ordinarily, the local sensations are very distressing. Thus the least touch, even with a soft brush or sponge, is dreaded. Coitus is almost impossible; tactile examinations, although made in the most gentle manner, are very painful; so also the effort to stand, walk, or strain. The sitting posture is often avoided. Micturition is painful, yet there is often a constant inclination to pass the urine day and night, when the orifice of the urethra is the chief seat of the complaint. The attempt is accompanied with great and prolonged straining, and the passage of urine affords but a momentary relief, as the desire returns in full force almost immediately. The sphincters of the urethra, orifice of the vagina, and of the anus, with the perineal muscles, are often irregularly and spasmodically excited, thus greatly aggravating the sufferings of the patient. The same sensitiveness in a minor degree affects the whole canal of the vagina, so that examinations of this tube are distressing and painful. Sometimes I have felt the whole vagina powerfully and spasmodically contracted around the finger or pessary.

All these severe symptoms frequently appear without any evidences of inflammatory action, even when the disease is chronic; and after months' and years' duration, no preternatural secretions, no thickening, or other alteration of tissue, can be detected. Sometimes even no redness exists: but of course in such vascular and erectile, as well as sensitive tissues, congestions not unfrequently occur; the membranes become unusually red, and a tumid or partial erectile state of the clitoris, nymphæ, and vulva may ensue. This congestion is more frequently noticed at the orifice and in the caruncle and dense tissue of the urethra, which thus becomes tumid, sometimes hypertrophied, projects more than is natural, and is exquisitely sensitive. This development of the under surface of the urethra has been often noticed as "a tumor," a new growth or production, but this must certainly be very rare; at least I have seldom met with a case, where there was that degree of hardness which could be regarded as the result

of inflammatory action, or where any adventitious growth was present. In nearly all the cases that I have examined, there has been a simple congestion or hypertrophy of the extremity of the urethra, disappearing when the nervous irritation ceased.

In these irritations of the vulva, there is seldom any increased secretion; the membranes are often more dry and smooth than natural; the occurrence of secretion is productive of relief.

Many patients are tormented for a longer or shorter period (usually transitory) with a distressing itching of the vulva. This has been designated unfortunately as a separate disease, under the term "*pruritus vulvæ*." It is often so severe as greatly to disturb the brain, producing even delirium and spasms. It occurs in pregnancy, in diseases of the uterus, with or without leucorrhœa, as well as in irritations of the vulva. Perhaps this may often exist, without inflammation, at least, in a chronic state. I have known it last for years, yet the membranes remained pallid and free from the evidences of inflammation. In the acute form, it is more frequently perhaps inflammatory, a symptom of vulvitis or vaginitis, or both. Then the membrane is dry, tense, smooth, more red than natural, sometimes with albuminoid exudations as in aphthous affections, perhaps sometimes with superficial ulcerations, as reported by some few authors. This inflammation is always superficial, a species of erythema, is generally transitory, and leaves the tissues sound but perhaps still more sensitive. The itching generally vanishes with the inflammation.

The *causes* of irritable vulva and vagina, both predisposing and exciting, are usually identical with those of uterine irritation. They are indeed usually conjoined, the former in many instances seeming to be merely the sequela of the latter. Nevertheless, the irritation of the uterus is often very great, while that of the vulva is trifling, and the reverse is also true. Irritable vagina may not only result from uterine irritations, but be consequential on inflammation of the vulva and vagina; the inflammation having been removed, the sensitiveness may continue. It is, perhaps, sometimes the result of continence in girls of a nervous temperament, and of warm erotic passions, combined, perhaps, with secret self-excitement, being less frequent in married women. On the contrary, it is, also, the consequence of "Nimia Venus," particularly in young married women who remain sterile. Mechanical

irritation, stimulating washes or acrid discharges from the uterus, the presence of ascarides in the vagina, sometimes, also, of foreign bodies, as of pessaries, are all said occasionally to excite the symptoms of irritable vulva and vagina. By far the most frequent cause is uterine displacement; which, besides rendering the uterus sensitive, directly and indirectly affects the vagina, partly by the sympathetic extension of the symptoms of nervous irritation from the womb, and partly by the pressure, dragging, and similar sources of irritation from a prolapsed, retroverted, or retroflexed uterus.

The *diagnosis* is by no means easily made out in all cases, between it and vaginitis, as the symptoms are very similar. In irritable vulva and vagina, however, especially in the chronic forms, there is an absence of the turgescence and fulness of the mucous membrane, of the lymphatic and purulent secretions, of the thickening, induration, and contraction of the passages. In many cases of months and years of suffering, no purulent evacuations have ensued, nor any alteration of the tissues, which are as delicate and as pliable as in their normal state, and after recovery no vestige of previous disorder remains. Nevertheless, the line of demarcation between the two affections cannot be accurately drawn. Here, as elsewhere, the two are often conjoined; the pain of itself would almost indicate this, being much more intense than the same amount of inflammation would usually excite. In other cases, an irritable condition follows what was at first mere inflammation.

IRRITABLE BLADDER AND URETHRA.

These are among the most distressing varieties of nervous irritation. In bad cases, the sufferings are horrible: there is, not only, the usual amount of pain, heat, burning, pressure, fulness and weight; but there is the ever existing tormenting desire to urinate, every five or ten minutes, or even constantly for hours at a time. The patient feels as if the attempt to pass her urine must be repeated every minute, and persists in it for half an hour, or even longer at a time; yet, but a few drops of urine are evacuated after the most powerful bearing-down efforts and

agonizing pain. This is often accompanied with spasms of the bladder, urethra, vagina, rectum, and the levatores ani muscles; all aggravating the sufferings of the unfortunate patient. The consequent loss of sleep, of fresh air, of exercise, and often the diminution or loss of the appetite, tend still more to cause the exhaustion of the patient, and the increase of her mental and corporeal sufferings.

Cases.—One patient had abandoned her bed altogether, saying it was useless to lie down, as every few moments the irritation of her bladder would force her to rise.

In another, the attacks came on in paroxysms of neuralgic and spasmodic irritation, resembling a "fit of the stone." She found most relief in sitting upon the floor, with her foot bent under her, so that the heel pressed firmly against the vulva. The bladder was several times carefully examined by the sound, but no calculus could be detected. She perfectly recovered, under the treatment hereafter to be indicated.

In a case of a young unmarried lady, where this dysuria had existed for years, a retention of urine occurred, apparently from spasm of the urethra, and for three months rendered the use of a catheter necessary two or three times a day. The inclination to urinate was less urgent and less frequent during the existence of this retention than it had been before.

In another, the dysuria for weeks would be very distressing, and accompanied by a pulsating distressing pain, or by a vibrating "or strumming" sensation, productive of much nervous distress; then the bladder would be comparatively comfortable, while the pulsatile distress would be translated to the rectum, sometimes to the extremities, or even to the upper part of the neck, and to the face.

Every degree of suffering from the bladder, may be met with, from a more frequent desire to urinate, to the severe sufferings above described, which are, however, comparatively rare. Some patients complain of pain during the flow of the urine, in others, it is felt immediately after its evacuation, in all, the inclination to micturate soon returns. With all their intense sufferings, in very few cases have I been able to detect any signs of positive inflammation, excepting, always, that of heat, pain, and strangury. The urine has been perfectly normal in its physical aspects, and its che-

mical constituents. On standing, no mucoid or lateritious deposits, and no appearance of pus are exhibited. There is no evidence of swelling, or alteration of tissue in the urethra or bladder, no sympathetic affections of the kidney, and no febrile excitement. The relief of the patient is sometimes sudden, complete and permanent; and even when it continues more or less for years, the tissues and the secretions remain in their normal condition. In some cases, I have seen some small portions of blood forced out of the urethra, apparently from the violent straining; but otherwise there was no change, and this took place only occasionally.

Irritable bladder may, however, be the result of cystitis, or be accompanied by inflammation, the two complaints coexisting. This is true, especially in chronic cases, where the disease is caused by mal-conditions of the urine, by gravel, by calculus, or other foreign substance in the bladder. But even sufferings from stone in the bladder are essentially neuralgic and spasmodic, and not inflammatory; although, in such cases, there is often inflammation, sometimes with purulent discharges, and even thickening of the coats of the bladder. The paroxysmal attacks, known by the expression "fit of the stone," are not those of pure inflammation. Their dependence on the nervous and muscular tissue is shown by their paroxysmal character and by the facts, that they are neither accompanied nor followed by any increase of the purulent discharge; that they often occur when there are no pus globules to be found in the urine, and when the secretion is perfectly natural. Beside, although the agony is intense, no febrile symptoms follow. The surgeon will also testify that, immediately on the exit of the calculus per urethram, or by the wound inflicted by the lithotomist, the pain ceases, although days and even weeks may elapse before the inflammation of the bladder has vanished. All of which is fully confirmed by the fact, that these severe symptoms of stone in the bladder often exist, where no stone is to be found, and where no phlogosis can be detected. The terrible pain excited by a calculus passing along a ureter, is another example of nervous, not organic or inflammatory irritation.

A similar analysis might be given of the cystic irritation, arising from an acrid condition of the urine. The dysuria, the strangury, the spasms, and the straining or bearing-down efforts in such cases, may and often do exist without any cystitis. The

urine is merely the irritant or exciting cause of the nervous irritation. Although these acrid secretions from the kidneys are attended with inflammation; yet generally, the character of the irritation, as far as the bladder is concerned, is neuralgic. The cause is the state of the urine, arising from a morbid condition of the circulating fluids, of the chylopoietic viscera or of the kidneys.

The *causes* of irritable bladder are generally similar to those of irritable vagina. My experience, as elucidated by the results of treatment indicates, that in a very large proportion of the cases, displacements of the uterus, also hypertrophy, pregnancy, and other enlargements of this organ, are the original and exciting causes. They operate by direct pressure on the bladder and urethra, or else by dragging this viscus with the uterus (in consequence of the close connections between them), in its various displacements, particularly in retroversion and procidentia.

Irritable bladder may arise also from cold, from rheumatic, gouty or other inflammatory states (the irritability remaining after the inflammation has disappeared), also from acrid urine, the use of cantharides, of turpentine, as internal or external remedies; from gravel, calculus, or other foreign substances in the bladder; from mere sympathy with diseases of the vulva, rectum, or uterus. Possibly, it may be sometimes the result of that general irritability of the whole nervous system, met with in girls of a very nervous temperament, whose physical, and, perhaps, moral training has been very injudicious; and in whom almost every tissue and organ is preternaturally sensitive. Irritable bladder is also the result, not unfrequently, of abortions and labors.

The *diagnosis* is, of course, in some respects very easy. But great attention must be paid to the history of any individual case, to determine how far it be an original or a secondary affection, and what is the peculiar exciting cause, and also how far it is purely an example of irritable tissue, or complicated with inflammatory disturbance. The whole success of the treatment depends upon an accurate investigation of these points.

It is, however, comparatively seldom in practice, that the bladder, vagina, or rectum, are isolated in their sufferings. Most frequently, in severe cases, all the pelvic viscera are involved, the uterus having been the original source of mischief. In very many

it is the rectum, in others the bladder, in others, again, the vagina, which chiefly sympathizes with the uterus.

IRRITATIONS AND ENLARGEMENTS OF THE OVARIES.

The question has been started by some, how far these symptoms, as now detailed, of irritable uterus, are referable to the *ovaries*, whether these bodies ever become irritable, and whether their inflammations are usually the cause of spinal and cerebral irritation.

Positive and dogmatic answers, perhaps, ought never to be given to such suggestions, as the diagnosis must necessarily be extremely difficult in all ovarian diseases, except where the ovaries are greatly enlarged. Their natural position behind the broad ligaments prevents any accurate examination from being made either externally or internally. By the finger per vaginam, nothing can be felt: per rectum, the same observation may, I think, be made; although it has been asserted that the finger can so distend the anterior wall of the rectum, and be bent up behind the uterus and broad ligament, as to reach the diseased ovary. In the case of an enlarged or displaced ovary, this is practicable; but it seems to me, that, in other cases, it is impossible. The finger is far too short to reach a small body in the posterior part of the pelvis, and high above the rectum. Besides, this intestine is so well supplied with strong muscular fasciculi, as not only to afford a mechanical resistance, but also a vital spasmodic opposition. The mere attempt is accompanied so universally by intense pain, as to defy any persistent trials, especially in cases of an irritable or inflamed condition of the tissues. Certainly, also, if any body be distinctly recognized, it would be very difficult, if not impossible, to determine whether it were an ovary; a portion of feculent matter in an intestine; a tumor of the uterus; an enlarged lymphatic or mesenteric gland; a tumor developed in the broad ligaments; an osseous growth; or even, perhaps, for similar mistakes have been made, whether the supposed ovary was not the fundus of a retroflexed uterus, the cervix uteri being still *in situ naturali*.

In post-mortem examinations, of individuals, dead from other

diseases, there have often been found unmistakable evidences that the ovaries had been inflamed; such as adhesions to other parts, and alterations in their structure. The practical difficulty is, however, to say when this inflammation occurred, or what are its positive indications during life. The fact, that the knife does reveal, after death, that there is such a disease as inflammation of the ovaries, does not prove that, in any particular case of morbid irritation of the pelvic viscera, ovaritis must be present. So general a deduction, surely, would be an absurdity.

The fact that pain in the region of an ovary is very common, constant, and sometimes very severe, is no positive proof of the existence of ovaritis. Because, in the chronic cases to which we now allude, the pain is much more severe than in chronic inflammations of these tissues. It is, indeed, often intense, comes on in paroxysms, is seldom aggravated, but is often moderated, by firm pressure from a hand, a bandage, or abdominal supporters constantly worn. It extends to the groin, to the front and inside of the thigh, and sometimes is evidently connected with pain in the back. It is unaccompanied by any enlargement, which can be discovered by an external or internal examination. The patient has no fever (inflammatory, or hectic), is often not emaciated or anæmic, and frequently, as regards her organic life, is perfectly well, with plenty of rich blood, strength, and physical development. The pain may be very persistent for days, months, and years, without any local or general change ensuing. In many patients, brought to my care, the antiphlogistic treatment had been perseveringly and repeatedly resorted to, in all its modifications, by rest, leeches, fomentations, by blisters, and other revulsives, and had entirely failed to afford any permanent relief; but had rather aggravated the sufferings, by debilitating the patient, and thus rendering her nerves more sensitive, and her sufferings greater. In such cases, relief from this obstinate pain has been afforded by remedies addressed to the uterus as an irritable organ. In proportion as the uterine symptoms were moderated or aggravated, this pain, "in the side," as the patients call it, just above Poupart's ligament, was lessened or increased; and when the patient was entirely relieved of uterine affection, this pain vanished, without any attention being paid to the ovary.

The legitimate inference, therefore, is, that this pain is not

dependent on the ovary, but, directly or indirectly, upon the uterus. The probability is, that it is connected with those, partly muscular, cords, or "round ligaments" of the uterus, in their course towards the internal abdominal ring, or along the abdominal canal.

Although, therefore, chronic inflammations of the ovary or ovaries do sometimes occur, and although they may sometimes be coexistent with an irritable uterus, yet the diagnosis must be very obscure. In practice, such inflammations can hardly be recognized, and are, therefore, necessarily disregarded. Not so, however, in cases of enlarged ovary, whether such enlargement has been the result of inflammation merely, or has arisen from those morbid depositions in the stroma or vesicles of these organs, which are known familiarly by the name of tumors of the ovaries. My observation has been that such tumors are generally not sensitive, they often manifest no irritability; and pressure on them internally or externally can frequently be made with impunity. Nevertheless such ovarian tumors, when they are not very large and remain in the pelvis, are often productive of all the symptoms of a displaced and irritable uterus. This results, doubtless, from several causes. For instance, it occasionally happens that, owing to the displacements of such ovarian tumors in the pelvis, they become themselves morbidly sensitive; cases of which will be mentioned under the head of displaced ovaries. Another cause is the pressure made by the enlarged ovary against the uterus, which, besides rendering it sensitive and painful, may produce, in many instances, a displacement of the uterus, laterally, to the opposite side of the pelvis or directly downwards, as in prolapsus uteri, with or without flexion, and sometimes anteriorly, so that the uterus is pressed against the bones of the pubis.

Case.—I am now attending a lady in whom a large tumor, apparently ovarian, occupies the posterior portion of the cavity of the pelvis chiefly on the right side. It is so large that the uterus, still of its normal size, is pushed against the pubis and elevated so that the outline of the organ can be distinctly traced through the parietes of the abdomen in the hypogastrium, while the neck of the uterus can be felt, by a vaginal examination, near and behind the pubis. In this case, as in many others which I

have examined, pressure on this displaced uterus gives pain, but pressure on the ovarian tumor excites no uneasiness.

There is still another cause, which should be mentioned, of spinal irritation from an enlarged and displaced ovary in the cavity of the pelvis, namely, the pressure made on the nerves of the pelvis, especially the obturator and the sacral nerves and the sciatic plexus. Of the many cases of displaced ovary that have come under my care, some have experienced but slight inconvenience from this cause, while in others the results of the pressure were very severe.

Cases.—A physician, some years ago, from the South requested me to examine his wife, as he suspected from her complaints there was a scirrhus of the uterus. The uterus was found in a normal state, though slightly prolapsed, and an ovarian tumor of the size of a goose's egg on the right side of the pelvis. A pessary relieved all her uneasiness in a very short time. Several years afterwards I examined this case, and found the tumor had greatly diminished in size. She still enjoys very good health.

In another lady, the symptoms of cerebral and spinal irritation had been intense, with great mental and physical exhaustion, for some twelve years. To my surprise, on examination, the uterus although hypertrophied and somewhat displaced laterally to the left, was by no means irritable. An enlarged ovary was found pressed down in the right sacro-sciatic notch. In proportion as mechanical supports were successful in elevating the tumor, the patient's physical and mental symptoms were relieved. She cannot, however, be at all comfortable unless the mechanical support is properly adjusted with reference to this tumor.

The subject of displaced ovaries and their consequences will be resumed hereafter under another division of this work, namely, that of displacements of the uterus.

IRRITATIONS OF LYMPHATIC GLANDS.

I have seen a few cases of excessive sensitiveness of small bodies, probably *lymphatic glands* in the pelvis.

Case.—A fine healthy young married woman came under my care from Virginia. She was a lady of great sprightliness and

activity, but, from excessive suffering for more than a year after the birth of her child, was constantly confined to her bed. All ordinary remedies failing, she was in the daily habit of taking laudanum to procure sleep and relief from pain. Her health was otherwise very good. A vaginal examination revealed a uterus somewhat hypertrophied and completely retroverted. After the retroversion had been relieved, the patient was comparatively comfortable, and abandoned her opiates. She made no complaints when quiet, but on attempting to walk the terrible pain in the back would return, yet without any renewal of the displacement. On a further and more minute examination, I detected a small flattened body, about an inch in diameter, lying on the right side of the rectum low down in the cavity of the sacrum. It was loosely attached, quite movable, and in many respects similar to a lymphatic gland, but excessively sensitive. The patient complained very much whenever it was merely touched. It was now evident that the superior margin of the pessary which supported the uterus in situ, pressed upon this irritable body, and was the cause of her sufferings. After many experiments, the uterus was supported by an instrument which was made of such a form as to elevate this sensitive gland, also, beyond any sources of irritation. Then the patient was able to walk with impunity. She returned home and continued well until the birth of another child, when the same trouble returned, but with less intensity. Similar relief was again afforded on her return to Philadelphia. The birth of a third child was followed by a similar trouble. I then found the gland was softer, still movable, and much less sensitive. The relief given as before, by the pessary, has from late accounts continued, and the patient is still very well.

In another case, from Louisiana, I detected a very similar swelling in the left side of the pelvis, giving rise to the same suffering and the same difficulties in the treatment. The patient was married, but had never conceived. She also was able to wear a supporter internally for four years without irritation and with relief. That this one especially was not a displaced ovary, although connected with the broad ligament, I inferred, from its being more flat and more of the square form than the ovary. It was lower down and more anterior, and could, therefore, be more distinctly felt; although movable, it was located too near the plane of the ischium

and its movements were too circumscribed to regard it as an ovary floating on the broad ligaments among the intestines.

In neither of these cases was there any symptom of inflammatory action, excepting, of course, excessive sensitiveness; there was no thickening, induration, or fixation of the tissues, no further increase of size, and, of course, no suppuration. Indeed, the size and density, as well as the sensitiveness, gradually diminished, and gave the patient no trouble whatever when the tumors were so supported as to keep them free from irritation; and in both cases years elapsed between the first and final examinations. They seemed, indeed, to present pure examples of an "hypertrophied and irritable tissue."

IRRITATIONS OF THE PELVIC NERVES.

The only remaining tissue of the pelvis which need be mentioned is the nervous.

Continual reference has been made in the preceding pages to "sacral irritation," or, more accurately, to the irritation of the large *sacral nerves* as they emerge from the foramina on the anterior surface of the sacrum, and run obliquely and for a short distance in grooves on the surface of the bone to form the great sacro-sciatic plexus on either side. They are intimately associated with the lower hypogastric and sacral ganglia of the sympathetic nerve, and, of course, with the whole nervous system of the uterus and its appendages. It necessarily results, therefore, that, in all cases of irritable uterus, there will be more or less morbid sensitiveness of the sacral nerves. But this sympathetic irritability is greatly enhanced by pressure on these nerves themselves, whether from sudden muscular effort of the patient, from scybalous stools, a prolapsed or retroverted uterus, ovarian or other tumors, pessaries or other foreign bodies in the vagina. The effects of this pressure are aggravated by the fact, that the nerves are often compressed against the bone, exciting at the moment severe darting neuralgic pains. Every obstetrical practitioner is perfectly aware that much of the distress towards the conclusion of labor, especially the pains in the back and lower limbs, the tremors and cramps of the muscles arise from the pres-

sure of the child's head on the sacral nerves. So, also, in the unimpregnated condition, during manipulations with pessaries in the vagina, frequently some of these nerves are touched, giving rise to pains often expressed as "darting," "lancinating," "tooth-ache-like," "lightning," and by other similar significant terms.

There is, therefore, generated, in many instances, a morbid sensitiveness of the sacral nerves, an "irritability," which is purely nervous and not inflammatory. The proof seems positive, for the symptoms disappear as soon as the cause is removed, while they continue for years if the cause remain operative. But even in such cases no intimation of inflammatory disturbance can be discovered, no local alteration of tissues, and no injury to the general health, except what may indirectly result from pain and confinement, and, perhaps, it might be added, from injudicious and unscientific treatment.

Similar observations may be made of other nerves, especially of the *obturator*, as it passes along the sides of the pelvis to its point of egress at the superior part of the obturator foramen. Pain, soreness, numbness, stiffness, or weakness of the adductor muscles of the thigh are, probably, dependent on irritations of this nerve, which very soon becomes morbidly sensitive.

In a patient whom I am now attending the pain is chiefly in the right iliac region, and down the front of the thigh. When moderate, almost the only place of pain is anterior and about midway between the knee and the groin, indicating, I suspect, some obscure affection of the *anterior crural* nerve.

CONCLUSIONS.

The history, just given, indicates the progress and terminations of these irritable diseases. Locally, a sensitive uterus may remain unchanged, even for years at a time, and the irritability may eventually disappear, under the ever varying changes in the nervous sensibility of the patient as she gradually becomes less sensitive to local irritations. This more frequently occurs as the patient advances in years, especially when the menses cease to appear and the phenomena of age advance. To this period of life many unfortunates anxiously look for relief to their sufferings, and not

unfrequently their hopes are realized. Yet, in many cases, I have known irritable diseases to continue, and sometimes actually to be generated after this "change of life."

In mild cases, remedial measures may greatly assist in blunting the morbid sensibility, so that the patients may become comparatively comfortable even while the cause remains more or less operative. The idea is exemplified by the fact, often mentioned, that a degree of local irritation is often easily tolerated by the strong and robust, which would torment the delicate and nervous.

In more severe cases, the suffering of the patient may continue for many years, unless the cause be removed, without any alteration of tissue, or any manifest enlargement or swelling. In other cases there is manifest enlargement. The organ is developed, hypertrophied; this is the result of congestion and increased nutrition, without any inflammation, and no proper alteration of tissue. Not unfrequently there are leucorrhœal and menorrhagic discharges, due to the congestion. There seems to be no evidence that alteration of structure or any disorganization ever results from mere nervous irritability of an organ, however long it may exist. It may be complicated, however, with inflammation, then disorganization may, of course, ensue; but this is accidental and not essential. It is the exception, and confirms, indeed, the general principle, that, as Dr. Gooch originally declared, in irritable diseases there is no tendency to disorganization; "Exceptio probat regulam." The natural tendencies of the complaint are eventually to perfect health. When the cause has been removed, recoveries are very rapid; so, also, as the nervous system becomes more insensible to irritations, any local irritability soon disappears.

The same is true of the spinal and cerebral irritations and their reflex influences. They disappear rapidly, the local disease being cured; or, they may be diminished or destroyed in some cases, after the lapse of years, by the natural changes in the animal economy.

The only exceptions to these remarks, are those unfortunate individuals who, from want of fresh and pure air, of exercise, and good food, or from improper medical treatment, and mental or moral causes due to morbid hereditary predispositions (such

as scrofula, tuberculosis, or other cachectic diseases), are liable to secondary complaints, which may, indeed, prove serious and destructive. So also those who, while they are suffering from irritable affections, have inflammatory or febrile diseases superadded to their old complaints. These complications arising from their usual causes, are prone to their own terminations.

CHAPTER VIII.

CAUSES AND PATHOLOGY OF IRRITABLE DISEASES.

THE causes of irritable complaints are a most important part of their history, as it is chiefly by investigating them, that a proper prognosis and an efficient treatment can be established. In the phlegmasiæ and febrile diseases, the causes are often obscure, intangible, and, comparatively seldom, can be detected; they are generally transient; as soon as the mischief is done, the cause has often vanished, or is inoperative. The practitioner, therefore, has usually to contend more with the disease than its cause; with the consequences of a poison rather than with the poison itself. This is a general truth, but, of course, there are many exceptions, especially in surgical cases. But, in all the varieties of spontaneous inflammations, in the head, throat, chest, and abdomen, as well as in the extremities; in all those from internal causes; in all the varieties of idiopathic fevers; the causes are usually unknown, or at least demand no modification of therapeutical remedies. It is not so, however, in nervous affections. All remedies avail comparatively little, as long as the cause continues operative. They are palliative, not radical in their character and results. The only sure treatment, permanent as well as efficient, is the removal of the *cause*, the irritant which, acting on the irritability of the tissues, excites irritation, "nervous irritation." Too much attention cannot be paid, therefore, in all cases to the investigation of the sources of mischief in neurotic affections.

On a general review of the causes of irritable diseases, two grand divisions must be made: the one respects the susceptibilities of the nervous system, whether it is more or less easily disturbed; the other regards, more especially, the innumerable sources of irritation, the numerous irritants which may disturb the nervous sensitiveness. The former may be classified as the *predisposing*, the latter as the *exciting* causes of nervous diseases.

The predisposition may, however, be so decided, that the slightest irritant may produce severe effects. So, also, the exciting causes are frequently so powerful, that no peculiar predisposition is requisite for the development of the most intense examples of nervous irritation.

PREDISPOSING CAUSES.

NERVOUS TEMPERAMENT.—The most frequent predisposing cause, in all probability, is "*natural temperament*," the "*nervous temperament*," as it is usually termed. By this is meant, that certain individuals, from their original organization, are peculiarly impressible, easily disturbed, easily excited or depressed in everything that regards their cerebro-spinal nervous system.

It may be said, that such temperaments are often hereditary; but nevertheless, they are frequently observable, even early in life, when no decided indications of such susceptibility could be noticed in either father or mother. All women may be said to be nervous, when compared with men; all young children, when compared with adults; young girls at and after the period of adolescence, when compared with the married woman in the maturity of her strength, or with the elderly female who has passed her climacteric, and whose sedateness and impassiveness emulate that of the stronger sex. When girl is compared with girl, the same relative differences are observed; some are apparently unexcitable in their physical, intellectual, or moral nature; while others are thrown into ecstasies on the slightest occasion, and perhaps are depressed with the same facility; in other words, they are nervous. But, as has already been mentioned, this nervous temperament, although not unfrequently found in the anæmic, emaciated, and asthenic girl, is often observed, and, perhaps, in its most intense manifestation, in girls of excellent organic development and actions, in those abounding in red blood, with active circulation, nutrition, secretions, and excretions; in those of a full habit, and who are active, strong, and capable of much endurance. Certainly, every one must have observed great nervousness in girls whose organic life was perfect. As formerly contended, there is no necessary connection between nervousness

and anæmia. There is often great anæmia with no morbid irritability, and the reverse, great irritability with no anæmia.

The nervous temperament is often, however, not natural but *acquired.* The most common source of mischief is a bad physical education. In proportion to the advancement of civilization; the multiplication of the wants and duties of life; the cultivation of the mind and the sentiments; the influences of self-indulgence, of confinement in ill-ventilated rooms, and in crowded cities; the pleasures of the table, festive assemblies, and all the appliances of modern luxury; the mere physical system degenerates, and becomes enervated, sensitive, and irritable. The organic actions are feeble, the appetite depraved, the digestion imperfect, and of course chylosis and hæmatosis defective. Anæmia, deficient nutrition, and still further, exhaustion and nervousness are the common and unfortunate results. The physical being is, in this age, comparatively neglected; its wants are made subservient to false and fatal notions of mental cultivation, or forgotten amid the fascinating pleasures of sensual existence. The morbid irritability, thus often generated in early life by a vicious physical education, entails years of mental, moral, and physical suffering.

Later in life, the same nervous sensitiveness is often induced; even when, originally, the health and strength had been good, by inordinate mental excitements, or luxurious indulgences. Nervousness is, indeed, the almost necessary result of whatever debilitates. It is, inversely, as the strength of the organic or animal system; all the direct causes of exhaustion, therefore, in men and women, render them more sensitive, more irritable. The loss of blood, profuse evacuations from the stomach, bowels, kidneys, uterus, mammæ, and skin, not only induce anæmia and exhaustion, but nervousness. The patient becomes more excitable, as she becomes weaker. The same truth appears in all the indirect causes of exhaustion, from previous inflammatory or febrile complaints. The convalescent is proverbially irritable, not only mentally but physically. The intemperate becomes weakened and nervous from over-stimulation. The sensualist not only prostrates the powers of mind and body, but becomes the victim of irritable complaints. In this view, early marriages predispose to nervous affections; indeed, marriage not unfre-

quently is the cause of hysteria, especially in erotic habits, and where no conception ensues.

Rheumatism and Gout.—Intimately connected with this excitable state of the system, is a rheumatic or gouty diathesis; which, whether in its active or passive state, predisposes to all the variety of nervous affections. Often, in such patients, the irritation is fixed upon the pelvic viscera, producing all the symptoms of irritable uterus and bladder. Hence we frequently hear of rheumatism and gout of the uterus.

The Parturient State predisposes to irritable diseases in various ways. As soon as conception occurs, there is, as every one knows, very universally an exaltation of the cerebro-spinal system. This exaltation is aggravated by innumerable sources of irritation during gestation, not forgetting all those arising from the mental and moral excitements and apprehensions of the patient. The agonies of labor leave the uterus and the whole organism in an irritable condition, to be followed frequently by exhaustion from over-lactation, the loss of sleep, the anxieties and other causes of debility, too often attendant on maternity, especially among those brought up in luxury and refinement.

Displacements of the Uterus, whether in the single or the married woman, must be numbered among the predisposing causes of irritable affections, as will hereafter appear. These displacements constitute the chief reason why females, so frequently, date the commencement of their sufferings from one of their confinements, whether premature or at term.

Climate.—The exhausting influences of a warm climate on the human system are well known and recognized. The inhabitants become enervative and indolent. Hence, from the long summers, and the sedentary and indolent habits thereby generated, nervous affections become more frequent. Ladies of the south suffer comparatively more than those of the north, not because the exciting causes are more numerous or efficient; but because the nervous system is more excitable from the influence of climate and modes of living. Slight irritations will disturb quickly and sometimes severely.

Case.—Among many cases of a similar character, I would cite the following: A very interesting young married lady from the south, consulted me as to her condition. She was but twenty-two years of age, the mother of two children; she had a healthy appearance, with a good complexion, and was free from all organic irritations. She could not walk about without uneasiness or exhaustion, and never attempted to move across the room without an "abdominal supporter," which she had felt forced to wear, but with great inconvenience, for two years. Her chief complaint was of her mind; she was troubled by peculiar sensations in her head, with confusion of ideas. "Doctor," she said, "I have been deranged for two years, and am not much better at present." I could discover no other source of irritation about her system than a slight prolapsus uteri. This was easily relieved. She speedily felt better mentally and corporeally, could walk without bandages with ease and freedom, and once more enjoyed the pleasures of life. In a letter written soon after her return home, she said: "This beautiful world, which I could not look upon without horror and disgust, has become again a source of delight;" "I could not wish my worst enemy to suffer as I have done, even for the pleasure I now enjoy." Years have elapsed, during which she has given birth to several children, and has had no return of her nervous distress.

General Conclusions.—This and analogous cases demonstrate, that severe and urgent symptoms may arise from trifling causes, in persons whose natural or acquired temperament is irritable. Another inference, also, is perfectly legitimate, that in many cases, no decided suffering will arise, even from well-marked local irritation, when there is no predisposition. Hence, for example, displacements of the uterus in the vigorous, insusceptible women, will often exist even for a long time with apparent impunity. Another fair inference of a similar character should be stated; that females may often recover, partially or completely, by destroying the predisposition, the morbid irritability, even when a local irritation of moderate character continues. As they gain strength, for example, they become less sensitive, and, of course, are less disturbed by any local trouble. They become stronger and able to bear it.

EXCITING CAUSES.

The predisposing causes here, as in other diseases, may often become also the real exciting causes of an irritable uterus; but usually there is some other irritant, of greater or less power, operative. A slight irritation will produce severe symptoms when the predisposition is strong; and, on the contrary, even when no predisposition whatever exists, a more decided local irritation will be also followed by severe symptoms.

INFLAMMATORY CONGESTION.—Congestion has been, very generally, regarded as the usual cause of all the sufferings arising from irritable uterus. As formerly intimated, no very precise notion has been connected with this word and its French synonym, engorgement; and no particular attention has been paid to the different circumstances under which vascular turgescence occurs in the animal economy. The two varieties of active congestion already insisted on, the one depending on nervous irritation and the other on organic irritation, must always be borne in mind, differing, as they do, so much in their immediate and remote consequences. The one is properly simple congestion or engorgement, the other is inflammation. Both have been regarded as the cause of an irritable condition of an organ.

As respects simple congestion, this has been and still is a great error, theoretically and practically. Congestion is not the cause, but the sequence of nervous irritation. It is impossible to conceive of blood rushing to any spot, tissue, or organ, under the equable action of the heart and large arteries, unless some previous change has occurred in such tissue. An apoplexy or determination of blood to the brain presupposes a determining cause, an irritant producing an irritation—"Ubi irritatio, ibi affluxus." Another reason for entirely disregarding this kind of congestion as a cause, is, its evanescent character. In blushing, in lachrymation, and in the erections, as soon as the nervous excitement ceases the turgescence disappears with wonderful rapidity, leaving no vestige of its visitation. In morbid congestions, also, with certain limitations, the same remark is true. Active congestion of the brain, heart, lungs, liver, and uterus (as in severe

cases of dysmenorrhœa), generally vanishes with great rapidity and completeness if the cause subsides.—"Causa sublata, effectus tollitur."

The same observations are, in some respects, true as regards *inflammatory congestion*. Here, also, the turgescence presupposes a cause, an irritant acting on the irritability of the tissues of organic life; hence organic irritation, then inflammation. The surgeon well knows how soon inflammation is resolved if the mote be taken from the eye or the thorn from the flesh. But unfortunately, many inflammations are kept up by irritants which cannot be removed, or depend on spontaneous causes, such as peculiar states of the patient's general system or of his fluids; and hence, they are persistent. Moreover, the nature or character of organic or inflammatory irritation is peculiar; it not only involves the sensibilities of the tissues, but has a tendency to produce alteration or actual disorganization. On these accounts, inflammation is often the cause of an irritable state of a tissue. In acute cases of inflammation, pain, and not unfrequently spasms (symptoms of nervous irritation), are often present, even in the earliest stage, and become more or less intense in its progress. Occasionally, also, the nervous irritation, especially when a strong predisposition to it is present, is inordinate compared with the degree of inflammatory irritation present. This is observed in some of the varieties of rheumatism and gout, of gastro-intestinal and uterine inflammations of even a very moderate character. Often, indeed, the symptoms of nervous irritation are so urgent as to demand almost the sole attention of the practitioner, those of inflammation being put in abeyance for the time being.

Frequently, however, even in such cases, the inflammation being removed, the pain and spasms disappear. Nevertheless it is a truth, which the profession has been slow to learn, that in many cases after inflammation has been dissipated, the part affected remains tender, sensitive, and irritable, not only for days, but sometimes for months and years. This fact is recognized by the popular word "weakness." An organ once diseased is regarded as "weak;" that is, easily disturbed, or predisposed to be diseased again. Brodie fixed the attention of surgeons on this idea when he spoke of "the hysteric condition" of the mammæ, of the joints, &c.; and Gooch, more clearly than any one else, de-

veloped the distinct idea of a morbidly sensitive organ without any inflammation, when he described so graphically an "irritable uterus," and traced the history of its phenomena.

Inflammation, therefore, is a frequent cause, immediate or remote, of an irritable uterus. This is not only true of the common forms of metritis, but of those peculiar varieties connected with rheumatic, gouty, cutaneous, and other metastatic forms of disease. In all of these latter there may be rapid translations to and from the uterus, with some suffering at the time, but leaving the organ exceedingly sensitive or in a state of actual irritation. Too much has, however, been lately said of rheumatism and gout of the uterus to the exclusion of other causes far more common.

PARTURITION.—The sensitive state of the uterus during pregnancy is aggravated and sometimes confirmed by the sufferings of *labor*, and occasionally by the inflammatory consequences of a tedious and painful delivery. For weeks and months, the uterus may remain so irritable as to become the centre of irritation to other tissues and organs. Owing to the enlargement of the uterus continuing after delivery, and especially to the elongated and consequent inefficiency of its ligaments, as will be explained more fully hereafter, displacements of the organ ensue, perhaps, more frequently than under other circumstances, and thus lay the foundation of great and prolonged suffering. Often, therefore, do females date the origin of their sufferings from a particular "confinement."

OVER-LACTATION.—The continual irritation of the mammæ, produced by *over-lactation*, acts not only as a predisposing cause, by exhausting the patient's strength, and thus rendering the nervous system more sensitive, but often has a direct influence on the uterus, increasing its sensitiveness and rendering it morbidly irritable.

It is well known, that putting the child to the breast soon after delivery is an exciting cause of after-pains. In protracted cases of nursing, especially when the milk is deficient, the act of suckling is often followed by pain in the back and other evidences of uterine irritation; and, if persisted in, it may be productive of bad consequences.

"NIMIA VENUS," excessive coitus, and all unnatural excitations, are frequently direct causes of an irritable uterus. It is often observed, therefore, some time after marriage, particularly in cases where no conception has taken place.

MENTAL AND MORAL EXCITEMENTS.—In close connection with the last mentioned cause are all those innumerable, indirect but positive excitements of the uterine system, which act through the medium of the imagination and passions—through the brain—on the ovaries and uterus.

Hence not only is a predisposition established, but positive morbid irritation induced, by the indulgence of voluptuous imaginings, whether arising spontaneously, or generated by improper and loose conversation, by the reading of romances, novels, plays, or books still more impure, and by attendance at the ball-room and the theatre. Everything of the kind has a terrible influence, especially on young girls of a warm excitable temperament. These causes, combined with a bad physical education, luxurious indulgences, sedentary habits, and other violations of the rules of hygiene, constitute a prolific cause of irritable and nervous diseases.

Moreover, much mischief is the result of undue *mental excitement* in young persons, even if the morale be properly cultivated. The prolonged exercise of the mental powers produces corporeal weakness. It positively exhausts, and thus renders the brain and its dependencies, sensitive, and irritable; so that every organ, the uterus especially, becomes morbidly excitable. The brain itself yields, and even mental exhaustion, as well as physical, too often results from the inordinate and injudicious effort to cultivate the intellectual, at the expense of the physical being. This is, no doubt, the reason of the frequent failure of the prevalent system of education. All the branches of human learning, considered as requisite for a lady, and all the "accomplishments," are to be gained in some five or six years, with an almost total disregard of the organic and animal functions. No wonder, then, that girls, on leaving school, become so soon the "living martyrs" of nervous, irritable diseases.

COLD.—The symptoms of irritable uterus are very frequently

referred by patients to "*cold*," that is, to some unusual exposure to a cold atmosphere, or to some sudden transition of temperature. Strictly, this is never quite correct, as the direct influence of cold probably never excites either organic or animal irritation. Still, however, as cold is a cause of various functional disturbances of the uterus, such as amenorrhœa, dysmenorrhœa, &c., and also of various kinds and degrees of inflammatory action, it becomes indirectly the cause of irritable uterus.

GREAT MUSCULAR EFFORT, especially when suddenly made, excites the uterine sensibilities, and directly or indirectly, is a most frequent cause of morbid irritability of the uterus. Hence, patients very frequently date the commencement of their troubles to a long fatiguing walk; to climbing some high hill, mountain, or tower; to ascending and descending high staircases; to severe jolting on horseback, or in coaches; to dancing, running, jumping; to falls; to sneezing, coughing, vomiting, straining at stool; to lifting or carrying weights; to dandling children in the arms, &c.

If the exertion be suddenly made, it is much more injurious; and, of course, the bad effects are decidedly more readily manifested when any predisposition exists. Thus, after parturition, when all the excitements of gestation and labor have left the pelvic organs unusually sensitive, a slight muscular effort, as in walking, standing, or defecation, will often prove permanently injurious.

The uterus in all cases of violent or prolonged muscular effort, is impelled more or less forcibly against the floor of the pelvis, by the weight of the superincumbent viscera, and by the action of the abdominal muscles and diaphragm. Under the continual repetition of such pressure from above, resisted by the sacrum, the coccyx and the rectum, often filled with indurated feces, the uterus gradually becomes more and more sensitive, and thence arises more or less sympathetic distress.

Nevertheless, it is indirectly that these physical efforts are chiefly deleterious. They all have a direct agency in causing a permanent *displacement of the uterus*, by stretching its ligaments, so as sooner or later, to render them incapable of sustaining this viscus in its natural location. The causes and the effects of such displacements will hereafter form the subject of special investi-

gation. It will be sufficient now to state, that under these circumstances of displacement, the uterus is subjected constantly to irritation on every movement of the patient, and may thus be rendered so irritable, that the most terrible consequences will result. Displacements of the uterus, however induced, and whether with or without a predisposition to nervous irritation, become, as will hereafter be shown, the most prolific cause of an irritable state of this organ. Even when other causes are operative, the symptoms are often enhanced and kept up by this unfortunate accident; indeed, not unfrequently, they will all often disappear, when other supposed mal-influences exist, if the displacement be relieved.

PRESSURE made on the uterus from other sources than muscular action, is often equally injurious, especially as all such extraneous force receives an additional impetus from every motion of the patient. The tight dresses, the corsets, the various bands and strings around the waist, the weight of the lower garments, the use of binders, of abdominal supporters, and all the variety of braces, too often employed merely to hide trifling deformities; all operate, directly, by the unnatural pressure made on the uterus, or still more powerfully, indirectly, by forcing this organ into various mal-positions, which are a constant source of irritation.

Similar results may be met with, from *internal* pressure, from tympanites or ascites, from enlarged liver, spleen, or mesenteric glands, from feculent accumulations in the bowels, from enlarged ovaries, with or without dropsical collections; all of which may directly irritate the pelvic viscera, or may cause displacements of the uterus.

DISEASES OF THE UTERUS.—In *affections of the uterus itself*, the same remark is still more frequently substantiated. Hence, hypertrophy and indurated states of the womb, tumors within or on the exterior of the uterus, or in its substance (intra-mural), physometra, hydrometra, and abscesses of the organ, not merely excite the organic and animal actions of this viscus; but by increasing its weight, and by affording a broader surface to pressure from the intestines, &c., they, almost necessarily, cause displacements, which

are followed by irritation, congestion, leucorrhœa, menorrhagia, hemorrhage, &c. Proofs of this important fact will hereafter be adduced, when the treatment is considered.

OBSTRUCTIONS, PARTIAL OR COMPLETE, OF THE CERVIX UTERI, particularly during the menstrual life, often become the source of great irritation. The uterus is very intolerant of any fluid, retained within its cavity. If the mucoid or menstrual secretions have not a ready outlet, irritation and painful contractions ensue, constituting mechanical dysmenorrhœa. The constant periodical recurrence of which will render the tissues of this organ preternaturally sensitive.

IRRITATIONS OF OTHER ORGANS.—Finally, the uterus is disturbed by its sympathetic connections, in cases of *irritation or disease of other organs*, as the ovaries, the bladder, the clitoris, the vulva, and the rectum, especially its lower part, so often the subject of painful diseases, also from the more distant intestines, stomach, mammæ, brain, &c., to which allusions have already been made. These reflex influences on the uterus are often very efficient in producing mischief.

GENERAL CONCLUSIONS.—A review of these causes of irritable uterus will, to a great extent, enable us to answer the repeated inquiry; why nervous affections of the uterus are so much more prevalent and distressing during the present than the past generation. The answer is twofold, or, perhaps, threefold. The first relates to the predisposing states of the patient's system. The nervous temperament of women of the present age has been greatly developed by the wonderful increase of the indulgences and luxuries of modern life. The physical education of the girl has been most carelessly and thoughtlessly disregarded; while every stimulus has been applied to procure a precocious development of the mind, the heart and the passions. The organic life has been neglected, while the animal has been unduly and too rapidly excited. Another answer to the query is, that the tight dresses, the weight of garments, the braces, &c., to which girls are subjected, are more constantly resorted to, and are of a more decided character than those employed by their ancestors.

Perhaps it should be added, that the greater frequency of uterine diseases is more apparent than real. Formerly these complaints passed under other names, as weakness of the general system, nervousness, rheumatism, gout, affections of the head, heart, lungs, stomach, liver, or even of the bowels. Patients were regarded as complaining, as addicted to secret vices, to intemperance in alcohol or opium. Even of late years, neuralgia, spasms, and especially that most convenient word, "spinal irritation," have received the credit of all the varieties of uterine affection. The uterus, as a source of spinal and cerebral irritation, of neuralgia, spasms and convulsions, has been, and, perhaps, still is too often ignored. Even women themselves, as well as their medical attendants, have, often, not surmised the source of irritation.

Case.—I have just taken charge of a patient, with hysteric faintings, spasms, and convulsions, who for some months had been treated for inflammations of the brain and the spinal marrow, by profuse bleedings, cupping, leeching, mercurials and evacuants, and all the variety of counter-irritants, to the scalp, spine, &c. During the employment of these so-called remedies, the symptoms constantly increased in violence. For the last three months, medical treatment has been abandoned, and she has been improving. Many of her nervous affections, however, continue. She had a retroverted uterus with hypertrophy; I could detect no other disease in any organ of her system.

All ages are liable to irritable diseases; but the uterus is very seldom involved until the occurrence of puberty. I have had patients, who traced the symptoms of uterine irritation to one or even two years before the appearance of their catamenia, which were, however, behind the usual time. It is during the menstrual life of woman that such complaints most generally occur. A strong predisposition is seen, as soon as this most wonderful change begins in the economy: for, then not only the ovaries and the uterus are most rapidly developed to their perfect organization; but analogous changes occur in all the tissues and organs of the body. It is when the brain, as the organ of the mental and moral being, as well as the source and centre of all nervous influences, attains the full development of its structure and its functions, that the peculiar irritability and sensibility of the woman are fully developed, and the predisposition for neurotic complaints

becomes most marked. The history of the symptoms, already given, illustrates these facts. When the menstrual life terminates, the ovaries and the uterus rapidly lose their influence; the organic actions often become more active, and the cerebro-spinal system loses its sensibility to a greater or less degree, so that the hysterical forms of complaint are far less frequent. Nevertheless, irritable diseases sometimes originate after the disappearance of the menses, and when they existed previously, are often continued, even severely, for years; still, it is a general truth, that neurotic diseases disappear at fifty years of age. The married woman looks forward with pleasure to this golden period of her existence, when the sufferings of maternity shall cease. The martyrs of neuralgic complaints (always dying but still surviving), whether single or married, whether blessed with children or denied this great privilege of woman, bend their thoughts and wishes to the same important epoch. Far off it may be, years may still have to elapse, years of wretchedness and suffering, mental, moral, and physical, during which the prayer for death will often be breathed; still the hope arises, and should be encouraged, that amid the revolutions of the animal functions, pain and distress will cease, the blessing of health will be again granted, life will present new and unwonted charms, and the mind and spirit rejoice under the soothing influence of natural sensations and normal stimuli. If no organic disease has been superadded, the recovery may be complete.

Happily, however, by attention and appropriate treatment, irritable diseases can often be arrested, and health and happiness restored long before the period of the cessation of the menses.

PATHOLOGY.

The nature of this form of morbid excitement, as here advocated, has already been developed.

An irritable uterus is that state of the nerves of the organ, in which they are preternaturally susceptible to impressions. This is all. There may be, and often is, no perceptible disturbance of the organic life. It is merely a disease of the animal life; often, however, when a severe or continued irritant disturbs this irrita-

bility, the irritation will be followed by congestion or engorgement. This is not inflammatory congestion, but that modification of congestion resulting from nervous excitements, as in menstruation, erections, &c. This congestion may be the cause of leucorrhœa, menorrhagia, and hæmorrhagia. Sometimes, when long persistent, and especially when no secretions or effusions ensue for its relief, congestion is followed by increased growth or development of the organ, that is, by hypertrophy, but never by inflammation, by induration, ulceration, or other results of inflammatory action. Hence, there is no permanent alteration of structure; even after the lapse of many years, the recovery is perfect, and often sudden. Of course inflammation is often coexistent with an irritable uterus; but it arises from other and extraneous sources. On the other hand, an irritable tissue often ensues from inflammation, which is thus sometimes the effect, but never the cause.

This simple distinct view of an irritable organ does not seem to have been received by the profession; even Gooch, notwithstanding his admirable description of the disease, treated it as an inflammatory complaint. His successors have followed him practically, and have expressed their theoretical views by numerous modified terms. Thus we read of a moderate degree of inflammation; of sub-inflammation; of a continued dysmenorrhœa; of rheumatism or gout of the uterus; of inflammation slowly, after the lapse of years, tending to disorganization; of a peculiar irritation, not tending to recovery; of congestion of the uterus; of engorgement; and lately we hear constantly the positive, unmodified declaration, that it is nothing more than inflammation of the mucous membrane of the os, cervix, and sometimes of the body of the uterus, followed by its usual consequences. The practice, most unfortunately, of authors and theorists is founded on these different pathological views.

The numerous and varied opinions of pathologists on this subject, in Europe and America, as evinced by books, and by the excited debates in medical societies, cis- and trans-atlantic, are anything but creditable to medical science. All must mourn over a discrepancy of opinion, which bears so directly on the treatment of such painful and distressing maladies.

DIAGNOSIS.

The diagnosis, in one point of view, is exceedingly easy. We must simply ascertain, in order to pronounce it irritable, whether a part be morbidly sensitive; whether its sensations be more readily disturbed than natural. But, the practical difficulty is to determine whether this excitable state is merely the result of inflammation, or whether it arises from some other irritant. In other words, to distinguish between a state of nervous and of organic irritation; between an irritable and an inflamed organ.

In pure uncomplicated cases of irritable uterus, the absence of all the symptoms and the consequences of inflammation, would seem to be sufficient. But, it has been objected, that all the symptoms of inflammation are not absent; that the pain, the soreness, the burning, the disturbance of function, which are present, are all evidences of phlogosis. This difficulty has already been met, when the great pathological fact was presented, that pain has no necessary connection with inflammation, that it is an accident or an accessory to this state of morbid excitement. We know that some of the most destructive inflammations exist without pain; and also that the most intense agony which animal nature can endure, is often experienced without inflammation. If, therefore, the case be a doubtful one, yet, after the lapse of weeks, or months, or years, none of the usual consequences of inflammation be observable, the organ may safely be regarded as irritable. This diagnosis will be confirmed, if the general health of the patient remains good, with no decided or continued emaciation, and no fever, &c.

The difficulty is greater when local inflammation exists with an irritable uterus. This point has also been noticed. If the symptoms of nervous irritation be decidedly predominant, we may regard it as a case of irritable uterus, complicated with inflammation, and demanding not only treatment for the inflammation, but afterwards a subsequent and diverse treatment, for nervous irritation. Even in bad cases of inflammation, when enlargement and induration of the cervix, a red, tumid, and granular condition of its mucous membrane and purulent discharges are present; even in such cases, the neuralgic pains will very fre-

quently be found dependent, mainly on pressure and other causes, rather than on the inflammatory process. It is inflammation complicated with an irritable uterus. This distinction will be found of great practical importance.

Again, care must be taken not to suppose an organ to be inflamed, simply because it is painful, and at the same time enlarged and indurated. Often, in such cases, there is no inflammation present; the induration is the result of a bygone inflammation; it is a sequence, not a symptom. The pain and spinal irritation still remaining, are evidences of an irritable organ.

The same remark and mode of reasoning are applicable to all those cases of irritable uterus, conjoined with simple hypertrophy, with a hypertrophic enlargement depending on pregnancy, polypous tumors, or heterologue developments in the substance, or on the surface of the uterus. Too often have all such cases been confounded with, and treated as, inflammation.

Of course, also, care should be taken, that when symptoms of pelvic irritation be present, its true locality be ascertained as far as practicable. Frequently, on account of the predominance of the rectal irritation, have all the symptoms of irritable uterus been referred to inflammation, stricture, or hemorrhoidal tumors of the rectum; to fissure of the anus, or fistula in ano. So also the cystic irritation, so common, has often been regarded as a disease of the blood, kidneys, or urinary passages; yet the original complaint was, and continued to remain in the uterus.

Perhaps, under this head of diagnosis, the caution should be reiterated, not to consider any of the secondary or sympathetic symptoms of irritable uterus as primary or original, and, especially, not to confound nervous irritation of the brain, lungs, liver, &c., with inflammatory or organic diseases of these organs.

PROGNOSIS.

The prognosis, of course, in all nervous affections, must be doubtful; nevertheless, in pure uncomplicated cases, it may be regarded as quite favorable. In such cases, however severe and prolonged the suffering, death very rarely results. On the contrary, a perfect recovery may be very confidently anticipated in

most of the cases, and occasionally the restoration to health is very rapid. Where complications exist, the prognosis depends on the character and degree of the complication, whether curable or incurable, whether mild or severe, acute or chronic, &c. But even in incurable cases, for example, in hypertrophy, indurations, and tumors of the uterus; the symptoms of nervous irritation may be so moderated, or completely subdued, that the patient will enjoy excellent health with great or entire freedom from suffering.

Besides, in those cases of irritable pelvic viscera which defy every ascertained mode of promoting a cure, the patient may, with good reason, entertain the hope that time will bring relief; that the disease "will wear out;" or, more scientifically, that the revolutions continually occurring in the animal economy, before, and especially at the time of the disappearance of the menstrual function, may render the nervous system less sensitive, and even diminish the degree of local irritation. The woman after fifty, often, enjoys excellent health, when life previously had been painful and distressing.

CHAPTER IX.

TREATMENT OF IRRITABLE UTERUS—REMOVAL OR PALLIATION OF THE CAUSE.

THE unavoidable conclusions from the facts adduced in illustrating the nature and history of irritable uterus, are, that the local complaint is primary; that the general disturbance of the cerebro-spinal nervous system, and the reflex affections of individual organs, are altogether secondary; and that however much the predisposing causes, or states of the patient's system with the general health may be improved, and the nervous susceptibilities diminished by appropriate general treatment; yet, after all, the patient is not well. There is palliation of suffering, but no radical relief. Permanent advantage will not be gained by a constant treatment merely for plethora, weakness, lassitude, anæmia, dyspepsia, cerebro-spinal irritation, or congestion. I have known ten, fifteen, and twenty years wasted, amid great sufferings, in vain attempts to give strength to the weak, red blood to the anæmic, healthy functions to the dyspeptic and bilious, and to diminish general or local plethora by evacuants and revulsives. The cause having been overlooked, all treatment was ineffectual for recovery, everything was but palliative.

On the contrary, if the cause be removed; if the irritant be destroyed; it is most wonderful how rapidly, sometimes how instantaneously, irritations will cease. The neuralgia, the spasms, the wretched sensations in the brain, heart, lungs, &c., will most mysteriously vanish. A clearness is imparted to the mental vision, the mind again becomes capable of thought and reflection; pleasant, cheerful, amiable feelings, succeed the desponding, irritable, gloomy, despairing sentiments which had become habitual. There arises a feeling of lightness, of buoyancy of body, mind, and spirit, to which the poor sufferer had long been a stranger. The whole being seems to be revolutionized, a new life is imparted,

a peculiar zest is given to the business and pleasures of life, so that the patient feels a doubt as to her own personal identity; so different are present from former sensations. Even when, as is usually the case, the improvement is more gradual as the cause is slowly removed, yet the relief is often as decided as it is wonderful. One hundred miserable feelings, said a lady, to me, have vanished since your visit of yesterday.

REMOVAL OR PALLIATION OF THE CAUSE.

The *first indication* in the treatment of irritable uterus is the removal of the cause, or to palliate it so far as practicable. Unfortunately, there are cases in which the cause cannot be detected; such cases are incurable by the practitioner, however much he may succeed in palliation. In some, the causes may be detected but cannot be removed; but generally their influences can be palliated; at times their character is transitory, and they will spontaneously disappear.

CONGESTIONS of the uterus, so far as they differ from inflammations, though so generally regarded as a cause, are, according to views already presented, the effect, and need hardly now be specially noticed. Let it be remembered, however, that in a few cases, especially at the menstrual periods, these congestions may be so great as to increase the sufferings, and to demand some temporary remedies, before a radical treatment can be applied. They may thus become aggravating causes; then, the application of a few cups to the sacral region, of leeches to the hypogastric, the perineum, or the labia may be very comforting and useful. These may be assisted by laxatives, diaphoretics, and especially by warm hip-baths, fomentations, and poultices. All this, however, is rarely demanded, and should be restricted as much as possible; for, few things are more injurious than the persistent use of direct evacuants in irritable diseases. This is in accordance with the general principle, that the irritability of a part, or of the whole economy, is inversely as the strength.

ACUTE INFLAMMATION is sometimes the cause of irritability in

the manner formerly explained. In other words, after inflammation has been subdued, the organ is left in a morbidly sensitive or excitable state. The cause being removed, by perfect rest and the usual antiphlogistic treatment, the consequences—a very different set of phenomena—demand attention. The irritability, thus the sequel of inflammation, will often disappear rapidly, providing no new source of irritation, or no aggravating cause be operative, especially under the soothing influence of rest in bed. Judicious management, therefore, during and after acute inflammation, will soon remove every vestige of disease, especially if the patient be seen before organic changes have occurred.

Chronic Inflammation.—But chronic inflammations are often coexistent with irritable uterus, and one of the great pathological questions of the day is how far they are mutually connected as cause and effect. That inflammation, with its sequela ulceration, is the common and almost universal cause of nervous, neuralgic, and spasmodic affections, is the prevalent notion of pathologists in Europe and America. Thence, all their efforts are directed to the removal of the inflammation as the cause, the "*radix malorum*." By the author, these opinions are regarded as fundamentally erroneous, and the practice resulting as decidedly mischievous. For although, occasionally, it is true that the chronic inflammation is the sole, efficient cause, and its removal the *sine qua non* to recovery; yet in a large majority of cases the nervous symptoms have an independent origin. They may exist in all their intensity without, as well as with, inflammation; they often are present before inflammation appears; and very frequently they remain even for many years after all inflammatory symptoms have disappeared. When nervous irritation is complicated with organic or inflammatory irritation of a chronic character, their existence is very generally due to a common cause.

A prolapsus uteri, for example, may give rise to the symptoms of irritable uterus, and also to those of inflammation of the cervix uteri. In this case, the displacement is the common cause, neither the irritability depending on the inflammation, nor the inflammation on the irritation, but both on the unnatural position of the organ. The continual pressure on the displaced womb from the weight of the superincumbent viscera, enormously enhanced

by the contraction of the muscular parietes of the abdomen, will arouse slowly but often very effectually the nervous susceptibilities of the whole uterus; while the constant attrition of the delicate tissues of the os and cervix uteri against the posterior surface of the vagina, where it covers the rectum and perineum, will frequently produce organic irritation or inflammation. In such cases, by perfect rest, washes, and other antiphlogistic means, the inflammation may be readily subdued. But the moment the patient is on her feet, or making any muscular effort, she finds that her complaints are as bad as ever, because the irritable condition remains inasmuch as the prolapsus continues; the irritation is again immediately re-excited long before any recurrence of the inflammatory symptoms.

The deductions resulting, if these views be correct, are, that in a comparatively few cases chronic inflammation may be the efficient cause of irritable uterus; that in all cases it is an aggravating cause; and, therefore, whenever present, it demands a suitable treatment to diminish or destroy its symptoms. Nevertheless a *pure antiphlogistic* treatment should seldom be trusted; in a large majority of cases it should be considered merely as of a temporary or accessory importance. The main dependence should be placed on rest and remedies for an irritable, not an inflamed organ. In these chronic cases especially, the perseverance in a course of antiphlogistic remedies, whether local or general, or both, will prove not merely nugatory, but highly detrimental and dangerous. So common are the evils resulting from this practice, that proofs of the truth of these opinions are to the writer almost innumerable.

Cases.—A lady, from Alabama, informed me, that from the time of her marriage, at the age of fourteen, she had been, now for some fifteen years, the subject of the most intense pelvic distress and suffering, by which she was completely disabled. The use of the lancet, assisted by low diet, calomel, and purgatives, had been carried to such an extent that the greatest possible emaciation was induced, and all her powers prostrated, so that for years it was not thought that she could possibly recover. At the bend of each arm innumerable cicatrices testified to the accuracy of her statement.

A lady, from Missouri, with a retroverted uterus, and an atre-

sia of the vagina, had been copiously bled every few days during three months for severe pain and congestion of the brain, until she became exceedingly anæmic, and her blood resembled "pink colored water," with but temporary relief.

A lady, from Virginia, had been subjected for six years to the use of mercury, had been salivated several times, and was still kept under the influence of this drug, for supposed scirrhus of the cervix uteri. Her husband stated, no doubt hyperbolically, that his wife had taken a quart of calomel in six years. She speedily recovered, however, under the treatment for irritable uterus caused by retroflexion.

Much dependence, especially of late years, has been placed on *local antiphlogistic* remedies, which, as already intimated, are occasionally requisite to moderate severe pain, great congestions, or when the symptoms are urgent. They are often useful as temporary or occasional measures. But, under the idea that inflammation is present and must be subdued, the practice has been continued, even in the same case, for months or years. Cups to the loins, leeches applied to the vagina and to the uterus, assisted often by scarifications and even incisions of the os and cervix uteri, have been employed sometimes for a long period with decided mischief to the general system, and very often an aggravation of the local symptoms. This is true even when some inflammation is still existing: but more especially so, in those numerous cases, where no inflammation whatever really exists, where the supposed indications of phlogosis were entirely neuralgic and spasmodic, with or without congestion; or where the chronic inflammation existing was accidental, and not essential, secondary, and unimportant.

The same remarks are applicable to the inordinate perseverance in other varieties of antiphlogistic remedies. If a simple, non-specific inflammation (for no allusion is now made to scrofulous, syphilitic, phagedenic, cancerous, and other peculiar or malignant diseases), cannot be relieved by a moderate and comparatively restricted use of evacuants, assisted by astringent and alterative remedies; it certainly ought to be suspected, that there must be some counteracting agency, some persistence in the original, new, or aggravating cause, some peculiarity of the patient's general health, some sympathetic mal-influences from other tissues

and organs, or, what is probably more frequently the case, that there has been an entire mistake made as to the pathology of the case. Is it conceivable, on any acknowledged principles, or on any results of experience of the wise and prudent surgeon, that, if a non-specific inflammation or ulceration—the cause being removed—will not disappear under the influence of mild and soothing measures, assisted by solutions of the nitrate of silver, and occasionally by the judicious and transient application of the solid nitrate, any good can be anticipated from repeated and prolonged burnings from the lunar caustic; or, if this fail, from the mineral acids, the acid nitrate of mercury, the chloride of zinc, the potassa pura, the potassa cum calce, or the actual cautery? Will not all and each of these articles produce a more intense inflammation, a deeper ulceration than the original inflammation, however intense, or however prolonged? What would be thought of the science, skill, and judgment of a practitioner, who should, in obstinate chronic inflammations and ulcerations of the mucous membrane of the nares, of the mouth, of the throat, of the larynx, of the eye, or of the rectum, resort, in rapid succession to the various grades of stimulating and caustic applications, not to be deterred in his heroic treatment until the red or the white-hot iron had done its fatal work?

Some forty years ago, the writer was present at a consultation of three leading surgeons, on a case of gangrenous chancre of the penis, which had defied the usual treatment, in a man whose health was broken down by disease, mercurials, &c. One exclaimed, in the full confidence of his science and principles, "Carthago delenda est," "there is no treatment for syphilis but mercury; more calomel must be given." So now, for ulcers, almost if not altogether invisible, certainly intangible, cauterization after cauterization, each more severe than its predecessor, is said to be the only remedy for obstinate inflammation and ulceration of the uterus! No apparent attention is paid to the original or accessory causes, to the peculiar condition of the surrounding organs, and none perhaps even to the patient's general health. The answer made to all such objections, although they are perfectly in accordance with experience in other organs, is, that the patients recover. This may be, and doubtless is, sometimes true; but, in numerous cases, the whole theory and practice is a failure.

Patients are constantly brought here from distant parts for treatment of complaints of the uterus, still persisting, sometimes, in an aggravated form, where these remedies had been employed for a long time, in vain.

That patients will not only survive such practice, but occasionally recover, is by no means wonderful to the scientific and experienced accoucheur. The uterus itself is not a vital organ. All its inflammations, all its hypertrophies, its indurations, its tumors, when not specific, may be often tolerated for a long life, and may not prove the cause of death. The severe contusions, lacerations, and the consequent inflammations, ulcerations, and even gangrene resulting in many cases of difficult labor, seldom destroy life. Even specific diseases, the phagedenic and cancerous ulcers, with their fungous growths, their profuse sanies, fetid and hemorrhagic discharges, often continue for months and years, before relief is found in the grave. It is therefore altogether credible, that however severe the inflammation, ulceration, and sloughing, produced by caustics, nevertheless, as soon as the practitioner shall remit his so-called remedial applications, the inflammation will subside, the sloughs will separate, granulations form, and cicatrization ensue, and the patient be assured of her recovery. May not the question be, however, seriously and conscientiously propounded, whether in all cases of inflammation with or without ulceration of the mucous membrane of the cervix uteri, all this treatment, even if successful eventually, is not only unnecessary, but positively an aggravation and prolongation of her sufferings, corporeal and mental. Every one must give their testimony from their own experience. The writer gives his positively. Such inflammations are as curable as those of the rectum, the mouth, or the eye, and by remedies as mild, as soothing, and as effectual in the one case, as in the other. By the heroic plan, more suffering is induced, more time is required, and more injury results to the general health from the greater suffering and prolonged confinement; very frequently, as intimated, no relief is afforded, and in some instances, the recoveries, if they can be so named, are followed by partial occlusion of the os uteri.

Enlargements.—The question in abeyance is, perhaps, in appearance at least, altered, when there is a permanent enlargement

of the cervix uteri; in other words, in cases of hypertrophy or induration of the neck of the uterus.

The distinction has already been drawn between hypertrophy and simple induration. The former is the result of simple congestion, the latter, of inflammation. Examples of the former are seen in pregnancy and cases of polypi; it is simple development, growth, with no alteration of tissue. The latter all are familiar with, as the result of metritis.

Hypertrophy.—In hypertrophy where no phlogosis has been, or is present, is it conceivable that cauterization is requisite to diminish or destroy the enlargement? What practitioner would be regarded as "*compos mentis*," who should resort to his cauteries for the hypertrophy resulting from a polypous tumor or from a fœtus in utero? Yet, what is the difference in hypertrophies arising from other causes? In both, there is simple enlargement, development; and in both, there is no inflammation, and, indeed, no morbid organic action. In each there must be a cause of such increased growth. In the former, the polypus or the fœtus being removed, the enlargement disappears. Is it then not, therefore, a natural conclusion, that in the latter also, the detection and the removal of the cause would be a far more rational practice than the application of the potential or actual cautery? Yet the hypertrophy is often spoken of as the disease, "*ipse morbus;*" it must be destroyed; and nothing else is thought of as necessary or practicable.

Again, even if the cause be removed and the hypertrophy continues, or at least disappears very slowly, on what therapeutical principles can the caustic treatment be justified? Would it not be substituting a greater evil for a less—a state of inflammation, suppuration, ulceration, and gangrene, for a simple increased organic action, which is not truly abnormal even when great development occurs, but normal, natural? Will not the tissues, thus excited and irritated to a morbid state, be far more likely to remain permanently enlarged by the inflammatory process thus induced by the stimulating and caustic applications? Might it not be rationally expected that the increased size would more certainly and safely disappear by quieting irritations and promoting the secretions by the use of warm baths and fomentations, by warm mucilaginous vaginal injections, by emollient ointments,

by the various applications of conium, belladonna, and other narcotics, by mercurial, iodine, and other resolvents?

The appeal made by its advocates to the results of this practice is certainly not satisfactory. There have been no comparative trials made of the two modes of treatment; no candid statement of the bad as well as of the apparently favorable results of the caustic method. Few, perhaps very few, practitioners have acted on the principle of removing the cause of hypertrophy.

Many cases of reported success may be explained by the fact that the caustics, so called, have not been used as caustics, but so slightly applied, or so diluted, as to act merely as stimuli, or as resolvents. Thus we hear of the "antiphlogistic" touch of the nitrate of silver.

Induration.—Very similar questions and answers may be asked and given as to the treatment of induration by the same heroic remedies. The two cases, of hypertrophy and induration, although different as to their causes, the actual condition of the tissues, and their susceptibility to remedial influences, are, nevertheless, very similar as to the bad consequences which may result from such applications, and as to the means of preventing and relieving such evil effects.

The condition now to be considered is that of the cervix indurated and enlarged by lymphatic deposits, the result of phlogosis. It has ceased to be an inflammatory state; *inflammation* has disappeared, but its effects remain. An anchylosed joint is a similar condition, and may remain for years, or even for life, as the result of an inflammatory disease. So, also, an indurated neck or body of the uterus may continue after all morbid excitement has completely disappeared. In such cases, it is difficult to perceive how cauterization can be justified. Inflammation of a simple, non-specific character, produced the induration; inflammation was the cause. Why then reproduce an inflammation by caustics? Just in proportion to the degree of inflammation re-excited will be the probability of increased induration; provided, always, the tissues are not destroyed by ulceration and gangrene. The plea that resolution is expected may be satisfactory to the inexperienced, but not to the experienced practitioner. Indurations of the mammæ, the lips, ears, and other portions of the economy, are not thus treated by surgeons, and for what reason indurations of

the neck of the uterus either demand or can be profited by such practice yet remains to be shown.

The truth, as it seems to be supported by reasoning, and by the experience of the writer at least, is, that in hypertrophied and indurated states of the cervix, when the original cause is no longer operative, there is really no disease. The patient not only is, in current professional language, well, but feels well, so long as she remains quiet in the recumbent position; yet as soon as she rises, and makes any muscular effort, the supports of the uterus show that they are not equal to the increased weight thrown upon them, and this enlarged and heavy viscus presses firmly against the floor of the pelvis. The uterus becomes prolapsed, or, it may be, retroverted, and then follow sensations of pressure, fulness, and weight, which in turn are succeeded by soreness, pain, and all the tribe, perhaps, of the symptoms of irritable uterus, symptoms due to displacement, and not, as generally referred, to congestions and inflammations. This mistake is the more readily made in the present instance, as actual induration is present. In all such cases, it is not the antiphlogistic, or the cauterizing treatment, which is demanded, but suitable measures for removing and preventing displacement. Thus the feelings of pressure, soreness, and pain, may be dissipated, and the way be prepared for the employment, with far more rational hope of success, of the usual resolvents, such as iodine, nitrate of silver, &c. Much experience enables me to affirm that, even when the induration continues, the patients will often feel perfectly comfortable and enjoy life as much as ever. Under this treatment, however, indurations will, in many instances, gradually but regularly disappear.

General Conclusions.—The conclusions, therefore, which may be safely made from this discussion, are—

1st. In all cases of acute inflammation, perfect rest in bed, with appropriate antiphlogistic remedies, should be exclusively relied upon.

2d. In chronic inflammations, with nervous, neuralgic, and spasmodic symptoms, while constant attention should be paid to the phlogosis, the main business of the practitioner has respect to the nervous irritation. This usually has a distinct origin, and is thus far independent of the inflammation. The latter may be,

and often is, an aggravating, but not the essential cause. It may be removed, and the nervous irritation will continue in all its intensity.

3d. The persistence in the antiphlogistic treatment, especially by heroic remedies, powerful stimulating and caustic revulsives, is founded on a wrong principle, and is calculated to increase, rather than to diminish the morbid irritability of the tissues.

4th. By a careful attention to the various predisposing and exciting causes of inflammation, and by mild and soothing measures, more will be accomplished, than by a resort to powerful and destructive escharotics.

5th. Hypertrophied and indurated enlargements of the uterus, are usually injurious merely from their size and weight. Hence patients at rest are often perfectly comfortable, but in motion, become tormented by the symptoms of displaced and irritable uterus.

6th. And therefore, suitable pessaries, not caustics, are generally the proper means for palliation, and even for radical recovery.

Rheumatic or Gouty Irritations.—When symptoms of irritable uterus are connected with *rheumatic, gouty, or other irritations* of a metastatic character; the peculiar treatment for such complaints may be rigidly enforced in all acute cases, both as a palliative and preventive treatment for the irritable symptoms: but in chronic cases, great care is demanded in the diagnosis, and in determining what other causes are operative and how they are to be removed. For, many cases of supposed rheumatic affections of the uterus depend on displacements or some other irritating cause.

Parturient State.—The predisposing influences of *gestation* and *parturition* are always to be regarded, and as far as possible, moderated, so as to prevent, or to ameliorate the symptoms of irritable uterus. In this point of view, perfect rest, the avoidance of all sources of irritation to the uterus, and the judicious resort to soothing and anodyne treatment, after labor, are not merely advisable, but actually necessary, until the symptoms of nervous irritation and engorgement, which then always exist, in a less or greater degree, be entirely dissipated. This injunction

of perfect rest in a recumbent position, and the avoidance of all muscular effort, in turning, in urination, and in defecation, is all important, until the uterus has gradually returned to its normal size and weight; and the ligaments and other tissues, elongated during pregnancy, have contracted to their natural length, and acquired their usual strength. Then, the displacements of this organ, so frequently resulting, after confinements, from premature erect postures and muscular efforts, would often be prevented; and, therefore, also those wretched nervous disturbances, which torment so many women for years, succeeding a labor, would be less frequent.

LACTATION.—The obstetric practitioner must also watch carefully (especially when his patient has been brought up amidst the refinements and luxuries of civilized life) the effect of *lactation* on the nervous system, and particularly on that of the uterus. He should enforce attention to the rule, that no woman who becomes more and more pallid, more and more exhausted, or more and more nervous, ought to persevere in nursing her infant. This rule becomes the more imperative when nervous headaches begin, and continue to increase in frequency; when any symptoms of croup, asthma, palpitation of the heart, gastrodynia, colic, uterine neuralgia or spasms, are superadded to the ordinary symptoms of nervous distress. It should be enforced, frequently, even when the mother has a large supply of nutriment for her infant. The increased flow of milk from the mammæ aggravates the debility and the irritability of the patient, particularly in all instances where the appetite for food is diminished or lost. This continual drain, where there is no adequate replenishing process, may speedily exhaust not merely the powers of animal life, but those also of organic life, with terrible, even fatal consequences. However desirable it may be that every woman should nurse her own offspring as long as practicable, great attention should be paid, that no undue sacrifice of comfort or health be made by the devoted and self-denying parent.

INDULGENCE OF THE APPETITES.—In preventing irritable and nervous diseases, the practitioner must carefully enforce the laws of temperance and moderation in all the pleasures of sense.

Over-indulgence in the pleasures of the table, as regards eating as well as drinking, is a most prolific source of mischief to the nervous system. This is especially true in respect to females, whose sedentary habits do not favor the various secretions and excretions of the economy, and whose digestive functions are therefore frequently disturbed. They should adhere to the rule that the quantity and quality of the food ought to be proportioned to the degree of muscular effort daily made. They should not indulge in the minor luxuries of the table, or acquire morbid tastes or fancies, to the destruction of a normal appetite. In this way, they may avoid dyspepsia, torpor of the liver, and of the bowels, and all the well-known evils thence resulting to the organic and animal functions. The importance, therefore, of a well-regulated diet, especially for young and growing girls, is of the utmost importance. It should be nutritious, but not stimulating; easy of digestion, and taken at regular periods. It is well to begin early in the morning, and repeat at intervals of not more than four hours during the day, and twelve hours during the night. Attention to these hints by parents, teachers, and guardians of youth in America, at least, would prove of great value to their young and thoughtless protégés, by preventing much acute disease, as well as the prolonged agonies of a dyspeptic and nervous patient.

In preventing and especially in removing the causes of irritable uterus, and of nervous affections, not merely over-indulgence in the pleasures of the table demands attention, but all the *natural propensities and appetences* of the economy. No organ, no apparatus, and no system, should be prematurely or inordinately excited. There is a natural, regular, and healthy development of the organs and of their functions, which conduces, in their due indulgence to the welfare and perfection of the entire being; but, when prematurely developed, or unduly indulged, they are proportionally detrimental. These observations apply with great force to those sentiments and passions, which are unconsciously developed at the age of puberty. Hence, all unnatural excitations, local or general, physical or moral, which directly or indirectly hasten the premature development of the generative organs and functions, are most pernicious. The precocious gratification of these passions in the young, or the inordinate indulgence of

them at riper years, are, as formerly stated, the fruitful source of debility and morbid irritability of the uterus and the whole cerebro-spinal system. All that tends to produce this condition must be resisted and destroyed if practicable. Parents and guardians should be cautioned as to the habits and practices of their interesting charge, as to their companions, their social intercourse, their conversation, their readings, and their amusements; so that while every opportunity is afforded for the healthy development of the economy, there should be no inordinate excitement of the feelings, sentiments, and passions, by improper companionship, and conversation, by reading works of imagination, as novels, romances, plays, by attendance on balls, theatres, operas, &c.; all of which, by this undue excitation, hasten the development of the nervous system, and the phenomena of puberty, before the organic system is proportionally matured. If the danger at this age be avoided, the same excitants, even when maturity has arrived, will often break down the powers of life, and thus give rise to the whole tribe of dyspeptic and irritable disorders.

The practitioner should bear in mind how all these evils are enhanced by the sedentary occupations and luxurious indulgences of civilized life.

Excitement of the Mind.—The physician should place his veto also on the common practice of *over-stimulation of the mental* powers, however purely intellectual such stimuli may be. He must insist on moderation in study, as all mental and moral excitations are virtually stimuli to the brain as a physical organ, and the centre of nervous influence. Debility, exhaustion, irritability, and even collapse of the nervous system, too frequently ensue on a too early or continued employment of the mental powers.

"Precocity was my ruin," said a gentleman of most excellent character, but whose life had been apparently unproductive of what it had promised. "I was prepared for college at eleven; graduated at fifteen; at eighteen made my maiden speech at the bar with much eclat; and then collapsed." How many parents, after the expenditure of time and money upon their daughters' education, with the terrible sacrifices of domestic intercourse, have to mourn over the broken health, the impaired constitutions, per-

haps the premature death of their children, from over-stimulation of the mental faculties, and neglect of their physical being.

COLD.—The indirect effect of *cold* in disturbing the functions of the uterus, or in exciting congestion or inflammation, must be also carefully counteracted by regulating the amount of clothing in strict accordance with the changes of the temperature.

DISPLACEMENTS OF THE UTERUS are, however, the most frequent cause, original or secondary, of irritable uterus. Their complete removal by measures which do not in themselves cause irritation, is the most efficient and sometimes the sole mode of relief. The causes of displacement, the varieties and modifications, the various modes of relief, with the principles which should regulate their administration, must therefore be fully studied and comprehended, if success be expected in the treatment of most cases of irritable uterus.

We have already alluded to the effect of pregnancy and parturition in predisposing to or bringing on such displacements; and attention has been directed to all the bad influences of muscular effort, in whatever way exerted, in causing irritable uterus, either directly or indirectly, by inducing displacements of the organ. Hence the necessity of guarding patients as regards inordinate muscular effort, not merely as to running and jumping, but as to dancing, ascending heights, straining in vomiting, coughing, defecation, &c. Attention should be fixed upon the ill effects resulting from external pressure due to the use of corsets, tight dresses, braces, and abdominal supporters; so that care may be taken that no pressure is made upon the abdominal viscera in any way.

The practitioner must endeavor to obviate, as far as practicable, the effects of internal pressure and weight. He must strive to dissipate any tympanites, ascites, feculent accumulations, mesenteric, ovarian, and other abdominal tumors. He must counteract, if possible, the unavoidable disposition of the uterus to become prolapsed whenever its size or weight, from any cause, is augmented; as in all cases of hypertrophy of the organ, of physometra, hydrometra, of retained menses, of abscesses, of simple induration of the organ, or all enlargements connected with organic

diseases, as tumors within the cavity or in the substance of the uterus, with fungoid or malignant growths.

Sympathetic Disturbances.—Much general knowledge and practical acumen will be demanded to trace out and to obviate all those innumerable sources of mischief, whether original or secondary, which *sympathetically* disturb the uterine sensibilities. All mental and moral agitations are to be quieted as far as possible. All excitations from the physical condition of the brain, spinal cord, lungs, heart, liver, stomach and bowels, must receive due and constant attention; even when such visceral disturbances were originally excited by the uterus, as there is always a mutual action and reaction. Tympanitic states of the stomach and bowels, for example, are exceedingly distressing in uterine irritations, and must be palliated or obviated, as far as possible. Yet it is true that this gaseous accumulation, very frequently, is the result of the uterine affection. If the pelvic excitement disturbs the digestive functions, this disturbance aggravates the pelvic affection. So, also, if the uterus provokes a nervous, spasmodic cough; the coughing greatly enhances the uterine irritation. This is true, indeed, of all, or nearly all of the reflex influences.

General Remarks.—The fulfilment of this first indication, *the removal of the cause*, as already intimated, is all important in the treatment of irritable diseases. It is the "*sine qua non.*" Without this being accomplished, all other treatment is but palliative in a large majority of cases. However much may be done to restore strength, to give rich blood to the anæmic, or to quiet nervous irritation, all will be but partially successful. In most instances, the patient will remain obstinately dyspeptic or anæmic, will complain of feelings of debility and exhaustion, and be tormented with wretched nervous feelings, with neuralgia, spasms, or even convulsions; often, as already maintained, even the whole tribe of nervous irritations, local and general, will exist in the utmost intensity; when the organic actions are perfect, and when great muscular power exists, and the richest blood permeates the system, to give a due stimulus to every function.

In all such cases, the treatment demanded for the removal of

the cause, is all that is required for the recovery of the patient. The cause being removed, the patient is well. She can and does at once return, not only to her natural sensations, but to her ordinary avocations. There is a most wonderful and rapid transition from extreme suffering, and apparently most serious disease, to perfect comfort and health.

CHAPTER X.

TREATMENT OF IRRITABLE UTERUS—TO DIMINISH OR DESTROY THE MORBID IRRITABILITY.

THERE are, however, numerous cases in which—from natural temperament, from acquired predispositions, from the combined influences of pain, miserable feelings, and confinement too often in close unventilated apartments, from sedentary occupations, loss of appetite, nausea, and the whole train of dyspeptic ills—the patient is really debilitated, not merely as regards her sensations, but there is a loss of power, as respects the organic and animal life. She may be anæmic, sometimes chlorotic, and incapable of any mental or physical effort. As an almost necessary consequence, she is irritable, nervous, excitable; the merest trifle, the slightest mental or bodily disturbance produces inordinate effects. A degree of uterine irritation, which, in a large proportion of women would be disregarded, will, in such sensitive persons, excite much distress, and call for much attention.

In all such cases, there is a *second indication* to be fulfilled, namely, to diminish or destroy the morbid irritability, whether general or local.

As already intimated, all measures will be but palliative until the cause be removed, though much may be anticipated from judicious management. The presumption now made is, therefore, that the cause is no longer operative; or, in other words, that there is no inflammation, no rheumatic, or gouty irritation of the uterus; no ovarian, rectal, or vesical irritation; no sympathetic disturbance of the uterus from other organs; no displacements from simple relaxation or elongation of the ligaments, from hypertrophy or induration of this organ, or from the presence of internal or external tumors.

Then, since no exciting cause remains, the morbid sensitive

state of the patient may be moderated by *direct* or *indirect* measures.

The *former* includes all those remedial agents, which have a direct sedative or anodyne influence on the nervous system, particularly the antispasmodic and narcotic medicines, so useful as temporary means in assuaging pain and moderating miserable nervous sensations. These are valuable as palliative measures, but seldom useful as permanent remedies.

Every one is acquainted with the use and the abuse of narcotics—how delightful they are to most persons, especially when tormented by pain or by those indescribable wretched feelings, which annoy the nervous patient by night as well as by day. The temptation to indulgence is great and often unconquerable. Let it, however, never be forgotten that no permanent benefit results. They, indeed, wear out the nervous power; larger doses are demanded to obtain relief; and every day the poor patient becomes more nervous, and more susceptible to any morbid impression. Mind, as well as body, becomes prostrate, and a useless wretched life is often followed by a premature death.

These observations also apply, be it remembered, to the common resort to alcoholic stimuli by nervous sufferers. The feelings of lassitude, of debility, and exhaustion, the sensations of sinking and of emptiness, of fainting, even the severe neuralgic and spasmodic pain, are all temporarily relieved by spirituous potations. When united with hot water, they are very valuable to relieve all these sensations, especially as they act so well as carminatives. Alcohol becomes, therefore, a most important adjuvant to our other antispasmodic remedies; but the abuse of it, even by intelligent and refined, by moral and spiritual women, has been terrible. The disease is not removed, though the temporary relief is great; a bad habit is created, and the dire, uncontrollable consequences of confirmed intemperance, are too often witnessed by sympathizing friends. So many fine women, of great mental and moral endowments, calculated to adorn and bless society, have been thus wrecked, that the practitioner of medicine, while he is justified in the temporary employment of such stimuli, should utter a constant warning against their abuse, and devote all the energies of his mind, and all the resources of science, to

eradicate the evils which constitute the pretext for these pernicious indulgences.

The *second*, or the indirect mode of treatment, is far more efficient, although less immediately advantageous, and constitutes the only permanent and radical means of relief. It is founded on the general principle, so often insisted upon in these pages, that irritability is inversely as the strength, the vital power, the *vis vitæ*. To give strength, to impart vital vigor, is the surest means of rendering the patient less excitable and less irritable.

The importance of this principle, and the necessity of fulfilling it, should never be forgotten. The practitioner should not be deceived by the occurrence of pain, even intense pain, in the head, or spine, in the regions of the heart, lungs, liver, spleen, stomach, intestines, or in the extremities; neither by the sensations of heat and burning, nor by the beating, pulsating, distressing feelings of his patient. These, *per se*, are not the evidences of inflammation, or even of congestion, but of morbid sensitiveness. Evacuating remedies, although occasionally useful for immediate relief, are decidedly injurious, inasmuch as they debilitate. Even when positive local inflammation exists, demanding some local antiphlogistic treatment; yet, in the cases now contemplated, the general health and strength at the same time must be maintained and augmented by decided invigorating measures. The "*vis medicatrix naturæ*" must be sustained in all its integrity, even for the benefit of the suffering organ. Neither is this principle to be lost sight of in those unfortunate cases where this nervous irritability is complicated with positive febrile excitement. The mildest anti-febrile measures should be adopted, and every opportunity be embraced during the apyrexia, by tonics, nutritious diet, &c., to prevent any further loss of vital power.

Nervousness is aggravated by debility; and it is diminished as vital power is augmented. This, however, is not a mere question whether there is more or less blood, whether even the blood is more or less rich in red corpuscles or fibrin; indeed, not a question as to the simple presence or absence of "anæmia," as has been contended. For, many anæmic patients are strong and not nervous, and many patients of a sanguine temperament are nervous. If there be debility, there is usually anæmia; but anæmia may be relieved, yet nervousness will often continue. There are nu-

merous anæmic persons who enjoy excellent health and strength. Although nervousness and anæmia are very frequently co-existent, yet the latter must not be regarded as the cause of the former, but both as resulting from a common cause, namely, the diminution of vital energy, organic or animal.

To impart strength in these cases should be the main object and effort of the practitioner.

The mode or manner, as well as the means, of fulfilling this indication, is familiar to every well-instructed practitioner. Here, therefore, the subject might perhaps be dismissed; but, it will no doubt be useful to give some details, as diversities of opinion exist on various points, and much judgment is required in the management of the various complications, arising from the peculiar temperaments, moral and physical, and the constitutions of the patients. Perhaps, also, some hints may be advantageously given to those who are, as yet, inexperienced in the practice of the profession.

HYGIENIC MEASURES.

Food.—No permanent strength can be imparted without proper *food*. It affords the material for the blood, for nutrition, and for the generation of vital power.

In the case of exhausted patients, anæmic and nervous, it should be the most nutritious that can be procured. Hence, a preference is usually to be given to meats, the farinaceous substances, milk, and eggs. The articles should not only be nutritive, but easy of digestion to the patient. Any food, undigested, is not merely useless, but positively injurious. For, the irritations arising from gas, acrid matters, and other crudities, disturb the digestive apparatus, and, it may be, the whole economy.

The food, therefore, should be good of its kind, and it should be suitably prepared; the science and art of the culinary department should be attended to. The diet should always be simple, and especially free from oily admixtures: butter or fat, subjected to heat, is acrid, irritating, and indigestible.

It should be taken with an appetite; otherwise, it will seldom be well digested. It is a very common, but a great and often a

serious error, to entice sick persons to eat. The natural instincts, observed in the brute as well as in man, should be regarded. The peculiar tastes, the "longings," of patients, even for articles of diet, not usually esteemed suitable or digestible, may sometimes, within certain restrictions, be indulged. One of my patients could retain nothing on her stomach but apples; another, nothing but "green corn" (Indian). They were indulged with impunity, and even with advantage. When there is little or no appetite, nutritious matters may be administered in a fluid form, as drink, or be given in minute quantities, at regular intervals.

In all cases, the meals should be at stated periods, with intervals of three or four hours during the day, so that during the waking and working portion of the day, the stimulus of food should not be long suspended. The last meal—"the supper"—should be light, and in the early part of the evening, as digestion is feeble during the night, the natural period of rest to the organic as well as the animal functions. The quantity of food taken at any meal, should be moderate, so that the powers of the stomach should never be over-taxed. A little food, well digested, is useful; much food often is injurious, as it over-stimulates the stomach, and remains undigested. Fruits and vegetables, generally, in all their various modes of preparation, whether fresh, dried, "preserved," cooked or uncooked, are to be avoided by dyspeptics as acescent and flatulent. To assist the digestive process, stimuli are often useful. The best are the "condiments," so called, especially the vegetable spices. Occasionally, the malt liquors, wine or brandy, may be allowed, yet always with many restrictions.

LAXATIVES are often required to obviate the usual tendency to constipation, and thus to favor the secretory and digestive processes. Sometimes simple enemata are sufficient; in other cases we must employ laxatives of a tonic character—"tonic laxatives"—in small doses, and at regular stated intervals, so as not to purge, but to act merely as "peristaltic persuaders," and produce one or two feculent evacuations every day.

TONICS are universally resorted to, with the combined object of giving an appetite and imparting strength. Perhaps they have been too much relied upon, or, at least, too exclusively. They

are, however, very valuable adjuvants, acting, it may be, slowly, but efficiently; not always directly by imparting strength, but indirectly, by exciting an appetite, promoting the secretions from the stomach, liver, &c.; and more especially, by giving energy to the vital actions of the digestive apparatus. Thus, tonics indirectly give strength, by facilitating the conversion of nutritive materials into rich blood, which, in its turn, not only replenishes the losses of the economy, but also imparts activity and vigor to all its functions.

The list of tonics is very long, and a choice must be left to the judgment, experience, and perhaps it may be added, to the theoretical views, of the practitioner. Certainly, a selection should always be made, adapted as far as possible to the circumstances of the case; it is usual to begin with the mildest vegetable bitters, and afterwards to prescribe those which are more stimulating or more enduring in their effects.

In nervous, anæmic, and chlorotic cases, iron is universally regarded as the most useful, whether given in its pure metallic state, oxydized, or in union with the various acids. It has been exhibited in almost an endless variety of combinations with laxatives, bitters, alteratives, &c., and generally with good results. Nevertheless, it is, after all, merely an adjuvant, assisting the processes of assimilation and nutrition. Certainly the chemical theory, that as the color of the red corpuscles of the blood was supposed to be dependent on the presence of iron, therefore the exhibition of this metal was absolutely necessary in anæmia, has been carried to an extravagant, not to say a ridiculous extreme. As if the Indian warrior from his venison, the Esquimaux from his walrus, and the son of Erin from his potatoes and buttermilk, could not, and did not, generate a richer blood, than the luxurious child of indolence and fashion, who for months, or even years, has regularly swallowed a "per diem" allowance of ferrum per hydrogen, or the compound syrup of the phosphates—"chemical food," as it has been so quaintly named. As "food," who would trust it? As a tonic, it is doubtless useful. But, perhaps, the simple combination of the protocarbonate of iron with the extract of gentian, or of cinchona, will prove as efficient as these apparently more scientific and complicated preparations.

FRESH AND PURE AIR is almost an absolute requisite for the sustentation of animal life, and even more necessary for its restoration to activity and vigor. All are familiar with the horrible depressing influences which result from the small houses, in narrow, ill-ventilated streets; from confined apartments, and from the dry and hot atmosphere of modern houses, heated by stoves, by grates, by hot water, or hot air. In all of which, even under the best system yet produced for ventilation, the "life of the air," its refreshing, tonic, and stimulating properties are destroyed; and hence, the secretions of the skin, throat, and lungs, are rapidly removed, to the great detriment of the economy. No wonder, then, that anæmia and other evidences of exhaustion, with scrofulous and tuberculous developments, are so common among the young; and cerebral and pulmonary congestions are so frequent and so fatal among adults! Who has not experienced the tonic, stimulating influences of a pure, and frosty atmosphere during the winter; or the refreshing effects from the breezes which course among the tops of the mountains, or come sweeping from the bosom of the ocean, during the summer months? All feel and acknowledge the good, although the philosopher may be puzzled to explain the cause of the difference, whether as depending on oxygen, electricity, or other peculiar agents.

Under the head of defective ventilation, we include all want of purity of air, whether due to the destruction of its oxygenous element, the superabundance of carbon and nitrogen, or various admixtures of more or less deleterious agents. They all combine to injure directly or indirectly the vital functions and activity of the economy.

WATER.—Pure water as a *beverage* is all important. All additions may be considered as injurious, unless specially directed for existing circumstances.

Water, of a suitable temperature, should be freely used *externally* by all human beings. It is requisite for the purposes of cleanliness, and for maintaining the proper softness and pliability of the skin, with its natural secretions and exhalations; all of which are important for the health of the individual.

Much difference of opinion exists as to the proper temperature of the water to be employed. Indeed, such difference is unavoid-

able, because the experience of patients and physicians must vary, according to the peculiar temperaments and constitutions of individuals, the character of their complaints, the habits of living, the influence of climate, the season of the year, and the activity and strength of the vital functions. Opinion also varies much as to the questions whether the application should be general or local, and, respecting the mode of administration. Volumes might be written on the use of water, tepid, warm, and cold. A few practical hints, trite as they are true, may, however, be given as the result of the author's experience in nervous and asthenic patients.

Warm Water Baths.—Although in a few individuals of peculiar temperament, a *general* warm bath is invigorating, if not continued too long; it should generally be regarded as a temporary resort, as relaxing and refreshing; but it does not usually give strength, and rather tends to debilitate. After great fatigue and exhaustion from muscular effort, it will, however, prove very refreshing. In chronic complaints it is often beneficial in removing the dryness and roughness of the epithelium, and facilitating excretions from the surface.

Local warm baths, such as *pediluvia* and *hip-baths*, are invaluable as temporary remedies to equalize the circulation, to soothe irritations, and to moderate soreness, pains, and spasms. In the form of *fomentations* and *poultices*, properly secured so as to exclude the admission of air, they are a continuous warm bath of the greatest value, soothing neuralgic irritations, and promoting secretions, and, in every way, superior to the painful rubefacients and blisters, which have been so much employed. The same bland influences are experienced in the use of warm fluids, as water or mucilages, *injected into the rectum and vagina.* All of these often form admirable substitutes for anodynes, with all their deleterious effects on the nervous system.

These local baths will often prove, when properly employed, even sufficient in acute inflammations and congestions; so that the irritation and exhaustion from leeches and cups may be avoided. Perhaps there are few greater improvements in modern practice, than the substitution of heat and moisture for more direct evacuants and painful counter-irritants, in the cases of nervous, sensitive, and irritable patients.

Nevertheless, warm baths are usually to be regarded as tempo-

rary remedies; they are relaxing and debilitating; they increase nervous excitability, although they diminish, for the time, nervous excitements.

Cold Water Baths.—After acute and urgent symptoms have been palliated, then tepid, cool, or cold water, according to the temperament of the individual, should be employed. Cold really invigorates; it lessens, and even destroys morbid excitability. It diminishes organic actions, or excitements for the moment; but, when reaction ensues, there is almost invariably an increase of strength, of the "*vis vitæ*," and hence a diminution of susceptibility. How? or why? are interesting questions; but the fact is incontrovertible and generally recognized. Hence cold air or cold water is tonic, not directly, but indirectly. Hence, also, it is tonic and refreshing only in those cases where a glow, a heat, a reaction ensues. When there is no reaction, from peculiar temperament, or from great depression or exhaustion, the direct sedative influences continue, and the patient becomes weakened; congestions, disease, and even death may result. Cold, therefore, is a powerful agent for good, or for evil, and should be used carefully and scientifically. The empirical use of cold water by patients or physicians, is to be reprehended, especially as employed under the popular system, singularly named "hydropathy;" which, often very useful, is frequently injurious and destructive, as, indeed, its name imports.

In many patients, even when apparently very feeble as regards their nervous and muscular system, and perfectly anæmic, the *general* cold bath, the *shower* or the *plunge bath*, is powerfully refreshing and invigorating, a delightful glow succeeding the temporary depression. Sometimes it may be repeated twice, or even oftener in the twenty-four hours; in a few cases it may, perhaps, be prolonged from a few minutes, which usually is the proper time, to an hour or longer. A young lady that I knew, would frequently remain in a cold bath for an hour and a half, with apparent impunity.

The shower bath or the "douche," will frequently answer, where no reaction will ensue after immersion. There are few patients, who will not be benefited by letting water fall on the spine from a "spout" or a pitcher; the higher the fall of water, and the more prolonged the time employed, the greater the im-

pression. This operation should be immediately succeeded by frictions with coarse towels, flannels, hair gloves, &c., and if needs be, by stimulating liniments and rubefacients. In some cases, especially in winter, the patient's back being exposed to the direct heat of a fire, and the rest of the person protected by blankets, the "douche" may be resorted to with great freedom, and almost a certainty of a favorable reaction. Cold, when thus used merely to the spine, is invaluable; but it can almost always be usefully employed to the rest of the body and the extremities, also by means of cloths and sponges, followed by frictions. Perhaps no woman in non-menstruating condition, should neglect the free use of cold water to the pudendum, at least once every day.

Cold water injections to the vagina should be a daily resource, except, of course, at the catamenial periods, in all cases of chronic irritable uterus, either with or without leucorrhœal discharges; provided pain is not produced. If it does occasion pain, then cool or tepid water should be substituted. Tepid or cold water to the rectum, also, is occasionally very advantageous. In all cases of vaginal and rectal injections there should be a pleasant reaction; if there be too much heat or pain excited, let cool or tepid water be employed for a time, until the lower temperature can be borne.

It is, perhaps, unnecessary to dwell on the inestimable value of this agent in nervous affections, through its combined sedative and invigorating influences. It imparts strength and diminishes irritability. The use of water, locally and generally and at suitable and varying temperatures, ought to supersede, as already intimated, the use of many of the positive direct evacuants, the deleterious anodyne drugs, and the painful, irritating, rubefacient revulsive agents. These last, in nervous patients, constantly act, not as "counter-irritants," but as direct local and general excitants to the whole nervous and even vascular system; so that instead of removing they often terribly aggravate every morbid sensation. Remedial agents in irritable patients should never excite pain of a continuous character.

A very important mode of securing reaction after the use of cold water, is by means of "the *packing system*," as it has been familiarly called. The whole body and extremities are covered with a sheet dipped in water of a temperature adapted to the

particular case, and the patient is then enveloped by a series of blankets and "comforts." In a very short time, reaction ensues, the cold sheet becomes warm, perspiration follows, and is kept up for a longer or shorter period, at the discretion of the operator; so that the patient has really all the advantages of a hot vapor bath. In some cases the reaction is so great, that even papular or erythematic eruptions ensue. The "local packing" to the neck, chest, abdomen, &c., is still more agreeable, and generally more advantageous. In pelvic distress, especially, it is usually very beneficial.

EXERCISE AND REST.—*Exercise* has always been regarded as very important for all excitable nervous women. Popularly, the most extreme notions have been urged on this subject, very often to a most uncharitable extent. "She is rich, therefore she is nervous; if she had to work for her living she would soon be well." "It is indolence," "self-indulgence." "It is notional; she can go out if she pleases." "Let her work, then she will sleep; and we shall hear no more of pains and aches, of her affectation, and her hysterical notions." Physicians often run into the same extreme. A clergyman, whose mind and heart had been overtaxed, presented himself to me a few days since to obtain a rule respecting his future course, as one physician advised him to labor all day at hard work, that he might sleep well and be strengthened. Another advised perfect rest, day as well as night, for mind and body, that he might recover his lost energies.

Power accumulates on resting. Hence, the Indian warrior, the sportsman, the laborious farmer, and the industrious artisan, refresh their exhausted energies by *rest*. It is imperiously demanded, and, if denied, prostration, or even death, must result. When the body is at rest, there may be undue mental and moral excitement, exhausting power; and hence, the student, the philosopher, and those whose hearts are oppressed by care and anxiety, also demand rest, if rest can be found, for the recovery of mental and moral power.

Continued rest, however, is as injurious almost as excessive labor. Without sufficient excitement, the nervous system becomes weakened, muscular energy is diminished, the whole system becomes morbidly sensitive and irritable, little things produce

powerful impressions; the patient, indeed, is nervous, hysterical. The mind suffers with the body; both the organic and animal actions, generally, become weakened; dyspepsia, anæmia, palpitations of the heart, emaciation, wasting of the muscular tissues, loss of sleep, spasms, and, sometimes, convulsions, are among the consequences. Many of these symptoms are dependent on, or complicated with, more or less congestion of the internal organs, as manifested by the coldness and pallor of the surface, especially of the extremities, and by the increased sensations of fulness, stricture, and oppression about the head, chest, and abdomen. The blood circulates slowly, and may become semi-stagnant, particularly in the large trunks of the venous system. Sometimes even secondary complaints, chronic inflammations, tuberculous and scrofulous affections, follow in this train of morbid developments.

Labor and rest, rest and labor, is the law of animal nature. All know this; its exemplification is seen in all the gambols and frolics of the young, as well as in the active employments of healthy and vigorous adults.

Exercise stimulates the nervous and the circulatory systems, the animal and the organic life. The brain and spinal marrow, the nerves of sensation and those of motion, with their muscular appendages, all gain power when excited, if not for too long a time, or too intensely. The various secretions and excretions, the functions of the stomach, intestines, liver, and kidneys, the actions of the heart and lungs, are all excited; there is better digestion, better chylification, better hæmatosis, better respiration, better nutrition, and of course better development of all the tissues and organs. The circulation is not merely stimulated, but it is equalized. The semi-stagnation of the blood, the congestions of the internal organs, is relieved; the blood is "pumped" from the interior to the exterior, and from the large venous trunks to the capillary tissues of the interior as well as to the exterior surfaces. There is an actual increase of power, resulting from this excitation, if it be not carried too far; and hence, as a necessary result, a diminution of nervous excitability. The irritability of the brain and its dependencies, and of course, also, the mental and moral susceptibilities, are lessened.

To obtain these good results *the rest should be proportioned to the labor*. He who works hard, should have a great deal of rest and

sleep. This last may be regarded as perfect rest, a temporary insensibility to all stimuli, and to all animal excitations. The violation of this rule is very frequent, and very injurious, especially in the treatment of the hysterical, delicate, and anæmic woman. Her power is feeble; a slight exertion exhausts. The elevation of the head from the pillow will cause sensations of weakness, even faintness in some; others can tolerate the sitting but not the standing position; some will bear exercise by gestation but cannot make any muscular effort with impunity. The degree of exercise, of muscular effort, must always be proportioned to the degree of strength actually existing. What is a moderate effort for one, is perfectly exhausting for another. These are truisms; but nevertheless, they are often neglected. Much must be left to the discretion of the patient; nevertheless the active, the restless, the impatient, the impulsive, and the woman of strong will, must often be restrained. They make too great or too prolonged an effort, or they refuse to take sufficient rest. On the contrary, the listless, the timid, the sensitive, the inert, and impassive girl, must be persuaded, urged, sometimes almost forced, to make an effort.

Temptations to exertion, of every kind, may be frequently presented; and when the mind of the patient is interested and employed, it is wonderful what the body will often accomplish. Many of my patients, long confined to their couch at home, have been carried hundreds of miles by rail and steamboat to Philadelphia, and found themselves even better for the journey.

To those who cannot be moved, *frictions* to the whole surface are advantageous, although imperfect substitutes for motion. By them, blood is determined to the exterior to the relief of internal congestions. But exercise, even for both the upper and lower extremities, may be obtained, while the patient remains in bed, by means of *elastic cords* so arranged that they may be stretched at will by means of the hands and feet.

The patient should often have her position changed in the bed, or from one bed to another, or to a lounge, or hammock. When they can bear it, they should *sit up*, which is an exercise to those not accustomed to it. Patients should be made to *stand* by the support of the nurse, a chair, or crutches, before they can even sustain their whole weight by themselves.

Walking may often be attempted thus supported, even before

the patient can elevate her feet from the floor. In one case, I have had a young lady to move up and down the room by means of a chair, at a time when spasms of all her muscles would ensue, if a foot was raised even a quarter of an inch from the floor. All these attempts are to be encouraged. Too much cannot be said in favor of walking as a mode of exercise; indeed, it is to be preferred for invalids, to all those innumerable modes of muscular efforts manifested by the sports of children, the games and recreations of the young, and the harder work of the adult. It is nature's mode.

Exercise by *gestation*, whether in the nurse's arms, in the garden chair, the carriage, the swing, the railroad car, the steamboat, or the ship, are all valuable; but they are imperfect substitutes for decided action of the whole muscular system. Exercise on *horseback* is advantageous as agitating the viscera, stimulating the circulation, and giving a certain degree of action to the muscles. *Sailing* is also most admirable for the valetudinarian. The agitations of the vessel, from the deep swellings of the mighty ocean, allow of no rest to the muscles, per noctem or per diem. The action may be insensible, but it is positive, continuous, and proportionally beneficent.

The best rule for patients, as respects all these modes of exercise, is, that *short and frequent* efforts should be made, always stopping if great fatigue or much pain is experienced. As regards pain, there are, however, some exceptions to this rule, arising from its diverse character and causes. There are many muscular pains, such as soreness and stiffness, which are dissipated by exercise. For example, much soreness is often induced by exercise on horseback. It is the result of the unaccustomed effort, and is gradually dissipated by repetition; the oftener they walk or ride, the less the uneasiness. But this principle, too, has been injudiciously applied, so that the attempt has been made to destroy neuralgic pains by exercise. Poor, delicate, suffering, agonized patients have been forced to move, to the increase of their sufferings and the aggravation of their complaints. The best rule to adopt is, to be governed by the sensations of the patient. Insist on as much exercise by walking or driving as does not permanently increase the suffering. When pain is aggravated, desist, and ascertain the cause.

Much difference of opinion has existed as to the *time* for exercise. The general principle, derived from experience and the observation of the natural diurnal revolutions of the economy, is, that the morning is the period for hard labor and substantial diet, the evening for recreation and refreshments, and the night for perfect quietude and sleep. However frequently and indeed constantly this law is violated in civilized communities, it is nevertheless the natural law, and should govern the medical philosopher in his directions. These, however, will often be in opposition to the sensations and wishes of his nervous patients. They would reverse the rule. They "feel" miserable and wretched in the mornings, and are bright and excited in the evenings. They plead for late rising, and for late hours to retire at night.

But certainly the languor and inertness of the morning cannot arise from the want of rest, when this has already been enjoyed for some eight or twelve hours consecutively. Their miserable sensations of exhaustion are owing rather to the want of excitement; to the confinement in the close air of a chamber, injured by the excretions from the lungs, skin, &c., by the burning of the lamp or gas, and, in winter, by the heat of stoves, furnaces, &c.

The excitements of the evening, however pleasant and exhilarating, are nevertheless often deleterious to the nervous patient. These excitements are frequently inordinate, and disproportioned to her real strength. Hence they are followed by a corresponding collapse, greatly aggravating the usual morning sensations of languor and debility; they are analogous to those of the inebriate and the epicure after their nocturnal banquets.

Conclusions.—Let the natural law, therefore, be brought to bear fully on the conduct of the patients. Let them rise early, be carried at once to a fresh room, then the cold, sponge, or plunge-bath, to be followed by dry and rough frictions, and rapid dressing with sufficient clothing. Let them have a warm drink, with a mouthful of food; then a drive out-doors, or a walk, if possible, soon returning home for a substantial breakfast and a morning's siesta or sleep, if needs be. Before dinner let them take another bath and a walk. After dinner, there should be more rest and quietude; then the third walk, a light supper, and an early retirement to a well-ventilated apartment. This general rule should be

proportioned, as above mentioned, to the powers of the patient. But the principle of alternate rest and labor should always be maintained as a fundamental law of the animal economy.

MEDICINAL AGENTS.

Thus, by removing the causes, and then increasing the energies of the nervous system by these hygienic and tonic measures, we may expect to accomplish much in these irritable complaints. Recoveries are often surprising and rapid. Much, however, can be done in facilitating this desirable event by general and local medicinal agents. As some modifications of treatment are requisite in the management of the acute and chronic forms of the complaint, they will be spoken of separately.

Acute Cases.—In acute cases, where there is much suffering, especially when the attack has been sudden, *perfect rest* is demanded. Motion increases pain; indeed, it is often impossible, from the severe cramps, spasms, or even convulsions, which may exist. So, also, in the neuralgic states of the uterus, so common after parturition, rest is essential, not merely to moderate pain, but to prevent displacement of the uterus. Immediately after delivery, and even for weeks, this organ is so large and heavy, and its natural supports, elongated by pregnancy, are so relaxed and weakened, that displacement is apt to occur, and increase all the neuralgic tendencies.

Loss of Blood.—Occasionally in women of full habit, where there is much general plethora, or even in cases of severe local congestion arising from exposure to cold, the approach of the catamenia, or even from the intensity of the nervous irritation, some loss of blood may be very useful. In a few such cases, a general bleeding is beneficial, but usually local depletion is all sufficient. Cups, therefore, to the sacral region, to the abdomen, or leeches to the hypogastric or iliac regions, to the insides of the thighs, and to the pudendum, are very advantageous. The once common practice, and still maintained by many, of applying leeches and scarifications to the uterus itself has little to recommend it. The relief is no greater, while the mental and physical

irritation from the use of the speculum, the pain of the operation, and the subsequent irritations from the leech-bites or the incisions, often counteract entirely the benefits from the evacuation.

Even this local depletion is, however, rarely required, and, when necessary, ought seldom to be repeated, for reasons frequently adduced, even when congestions exist. The cause of the congestion should be removed, and thus indirectly the congestion itself, rather than employ any direct means of reducing the turgescence of the vessels.

Revulsives.—In the form of hot baths, warm hip-baths, and particularly of large warm poultices and fomentations, revulsives are exceedingly soothing and palliative. So also, large warm mucilaginous or watery vaginal injections, and sitting over the vapor of hot water or hot decoctions of herbs, solace the sufferings of the patients.

They soothe nervous irritations, as formerly mentioned, and also relieve congestions, not merely by determining to the surface, but by promoting the secretions. They cause vital relaxation. This influence is often increased by the conjoint use of oil and laudanum, of camphor, of anodyne and stimulating liniments to the surface.

Sinapisms may be occasionally resorted to for a short time with advantage. But, for many years, I have nearly abandoned the use of painful revulsives in nervous patients. They act as general stimuli, not as counter-irritants; they disturb the brain and the mind of the patient. Much mischief has resulted from sinapisms, blisters, tartar emetic, setons, issues, moxas, and the actual cautery to the spine for so-called cases of spinal irritation. Although temporary relief is occasionally afforded, permanent injury is inflicted by the increase of irritation and pain, disturbing the whole nervous system.

Narcotics.—The chief dependence of the physician in acute attacks of pain and spasms, must be in narcotics. They may be administered, as usual, by the mouth; but sometimes with great effect, locally. Hence, the hop-poultice, frictions with oil and laudanum, applications of camphor, belladonna, aconite, and chloroform, are all more or less useful. Vaginal injections of laudanum, morphia, and camphor, with some patients are decidedly influential, particularly when retained for a length of time. The most

soothing and important effects often result from rectal anodyne enemata. The quantity of the narcotic should be in proportion to the necessities of the case, and should be repeated as may be advisable.

Chronic Cases.—In chronic forms of irritable uterus, the treatment must be greatly modified. When, however, there are occasional paroxysms of suffering, as is frequently the case, the rest, fomentations, and anodynes become essential. But, usually, our guiding principle should be, not so much the mere relief of pain by direct measures, as the removal of the cause of pain. To the scientific mind, it is not sufficient to say that it is neuralgia, and to treat it accordingly. Pain is a state of nervous irritation, and implies, therefore, whenever it occurs, not only mere sensitiveness of the tissue, natural or morbid irritability, but also an irritant, whether seen, or unseen, known, or unknown. The essential mode of relieving pain is to remove the irritant; take away the mote from the eye, or the thorn from the flesh, if you expect to afford radical relief. All other treatment is palliative. Hence, as has been constantly insisted upon, in the previous chapters, the cause of uterine irritation must, if possible, be relieved. This can, very frequently, be readily accomplished. When displacements exist, let the uterus be fully reinstated and kept in its natural position, simply in contact with the bladder and the small intestines, the softest bed that can be imagined; then it will be no longer irritated by pressure against the perineum, the rectum with its feculent contents, or the sacrum, and falls into a quiescent state. If the uterus be not particularly sensitive, and if there be no other disease present, the patient often at once declares herself well, feels well, and acts well.

If, however, there be great sensitiveness, either local or general; then there is occasional suffering from the slightest cause, as from tympanites, from distension of the bladder, from a costive stool, from diarrhœa, indigestion, and mental or moral agitation. For this morbid irritability, the general treatment already directed is important, and is to be assisted by local means. Time, however, is required, and a combination of favorable circumstances, moral as well as physical, is necessary to destroy this

morbid susceptibility, and so to revolutionize the system; so that ordinary impressions shall have no extraordinary influences.

Loss of Blood.—Even when the local congestion and the pain are severe, it is very rarely that loss of blood, even by cups or leeches, should be resorted to in chronic cases. They debilitate, and thus increase the soreness and nervousness.

Warm Water.—Warm baths, poultices, and warm vaginal injections are always palliative and grateful. In some peculiar temperaments, and delicate women, they have to be persevered in; but after a time, they usually relax so much, that the parts become even more sensitive.

Cold Water.—The best means of diminishing and destroying much irritability is by means of cold, or cool water. This is true of the local as well as of the general use of cold water. The douche, therefore, as already recommended for the back, the loins, and the sacrum, should be employed; but the sponging also of the abdomen, the thighs, and the pudendum, with cold water several times a day, is very tonic and refreshing, especially when followed by frictions.

Of late, the cold hip, or "sitz bath," has been strongly recommended, and no doubt is often very advantageous; but caution is requisite in its use. Patients often remain too long in it and become chilly. In many, there is an aggravation of the cold hands and feet, so common to nervous individuals; sometimes there is an increased determination to the head, so that injections of the face, eyes, and brain, result with more or less cephalic irritation. When employing the hip-bath, I advise the head to be covered with cold cloths, and the feet to be immersed in warm water, so as to prevent unequal determinations or revulsions.

Tepid, cool, or cold vaginal injections, according to the sensations and experience of the patients, are very valuable for three weeks in the month. Of course they are to be omitted during the catamenial week. They quiet irritation, diminish heat and congestion, lessen the morbid sensibility, and give tone to all the tissues. Many object to their use lest they should produce pain, rheumatism, &c. This, however, is seldom the case. Let the patient begin with tepid water; soon, she will be able to use it quite cool, even if not cold, with impunity and advantage. In girls of warm, excitable, erotic temperaments, where the imagination has been

unduly stimulated by improper conversation, plays, romances, &c., the free use of cold water thus internally and externally is our best resort.

Cold rectal enemata are, to many, almost as useful, on the same principles, particularly when the bowels are costive. They cannot always, however, be employed, as they not unfrequently excite pain; indeed, with many patients, the least distension of the rectum causes more or less irritation.

Another plan of applying cold locally, already alluded to, consists in placing towels, wet with cold water, over the abdomen, or around the hips, and covering them up with flannels and bandages. In a short time the heat of the body generates a vapor bath, and profuse perspiration ensues. Perhaps there may be a more decided effect produced in robust persons by this reaction, after the shock caused by the cold. This is often very advantageous, and may occasionally be employed. In delicate persons, however, greater benefit may be obtained from cloths dipped in warm water, and then covered with oiled silk or flannels.

Narcotic Applications.—Another adjuvant is the direct application of narcotics to the uterus. Various articles have been resorted to, and in every variety of form, whether in powders, watery solutions, tinctures, ointments, or gases; occasionally they have been injected in the neck and cavity of the body of the uterus.

The real value of this practice, though apparently very reasonable, has not yet been fully developed. Great confidence has been placed in it by some, and the results of anodyne frictions to the cervix, by an empirical practitioner, have been, as reported by patients, very wonderful. Anodynes to the vagina and uterus are often palliatives, and may freely be employed, as the narcotic influences upon the general system are not very decided, and perhaps no detriment is likely to ensue. I have used them freely as injections and suppositories, but with no very decided results. They diminish the irritation for the time, but have no abiding influence.

In the use of powders and ointments, tubes are required, so as to pass them fairly through the orifice of the vagina. The best material for a suppository is the butter of cocoa. This, when genuine, is sufficiently firm to allow a patient to introduce

it, and yet melts very rapidly by the heat of the body. Washes may be often advantageously employed, by means of the speculum, directly to the neck and orifice of the uterus, if needs be; but all such operations with the speculum are, in themselves, irritating, and should be avoided as much as possible. In the form of gas, carbonic acid, as recommended by Prof. Simpson, may, by means of a tube, be brought directly in contact with the vagina and uterus. Such anodyne powers as may prove to belong to this gas are thus readily obtained.

As occasional remedies, anodyne rectal enemata are very efficient; but as these have a decided narcotic influence on the brain, they should be subjected to the restrictions already given as to the use of narcotics in chronic diseases.

Applications of Nitrate of Silver.—The nitrate of silver has long been known as possessing peculiar powers of diminishing the irritability of tissues, to which it is applied. Surgeons had often employed it for irritable sores, irritable excrescences, and even to irritable states of the cornea, with the happiest effects. Physicians had recommended it in morbid irritability of the stomach and bowels. It was, therefore, very soon applied to irritable uterus. Perhaps, this remedy is employed by every practitioner, whatever may be his theoretical opinions as to its modus operandi. A few years ago, uterine diseases were treated as spinal irritation, with the tartar emetic ointments applied from occiput to coccyx; in the practice of the present day, the application of nitrate of silver to the os uteri is equally universal.

That good effects have often resulted is evident, from the fact that the fashion has so long continued. In cases of decided inflammation of the mucous membrane of the cervix and the os, it is often very useful, more so, however, when applied in solution than in the solid state. It facilitates "resolution." But, as formerly contended, after the inflammation has disappeared, the irritable symptoms may, and often will, remain; sometimes even after the frequent use of the nitrate has been continued for years.

In pure cases of irritable uterus, I have known much temporary benefit result from the lunar caustic by diminishing morbid sensitiveness; but my experience has been that there is seldom permanent relief.

A little consideration would, perhaps, have indicated this by

"*à priori*" reasoning. A very small part of the uterus is accessible to direct applications. They influence merely that portion, less than a fourth, of the neck which projects into the vagina. But the whole uterus is morbidly sensitive, and not merely the neck. Pressure on the anterior part of this organ, through the walls of the bladder, or on the posterior portion, through the rectum, gives exquisite pain, occasionally so intolerable that a cataleptic or hysterical insensibility ensues. On this account, we might have expected the failure of the nitrate in such cases; although a partial and temporary relief from its occasional use may be obtained.

Mechanical Measures.—It is well known surgically, that the sensibility of tissues may be blunted by mechanical means. The tissues may be "hardened." The first introduction of a bougie into the urethra causes pain, followed, it may be, by a chill or faintness. In a short time it is borne with impunity, if the operation has been carefully repeated. On the same principle, bougies have been introduced into the neck and body of the uterus with varying success. So much pain and irritation is generally excited, even after repeated trials, that frequently neither patient nor practitioner will persevere. In a few cases, I have known the practice to be useful.

GENERAL REMARKS.

The treatment of nervous affections demands much study and great attention on the part of the practitioner. The symptoms differ in every individual, and vary even in the same person. The pain and distress of to-day constitute not the trouble of the morrow; and every new sensation is, to the timid and suffering woman, the evidence of a new disease, and the harbinger of new dangers. The most dire maladies are confidently anticipated; and the reaction of such apprehensions on the nervous system and the mind of the patient greatly aggravate all her sufferings.

It is not right to suppose that the patient can avoid all this, by the simple exertion of her will. The complaints are essentially physical. The mental and moral disturbances are secondary: for the brain, the organ of the mind, disturbed by physical causes, is

"out of tune;" thence all its functions, mental and moral, as well as physical, are more or less impaired. Remove the cause, correct the physical state of this great nervous centre, and the apprehensions and anxieties of the patient will be dissipated, her cloudy and perplexed mind will become clear and discriminating. The dark world will again be pictured with scenes of joy and happiness; and, earnestness and zeal will, once more, cheerfully impel her to the discharge of every duty to her Creator and Benefactor, as well as to her fellow-beings.

True, however, as are these propositions, neither physician nor patient must lose sight of the apparently opposite truth, namely, that the mind influences the body for good or evil. Mental and moral affections are often the sole causes of disease, and very often aggravate, and not unfrequently relieve, existing complaints. The state of the "morale" is an important agent in etiology and therapeutics. It is thought that persons, of a powerful and determined will, have, by mental effort, recovered from diseases which otherwise would have proved fatal. However true, therefore, that the essential character of nervous affections is physical, however freely this truth may be enunciated, and however tenderly and charitably the interesting sufferers should be treated; nevertheless, their mental and moral sentiments must be carefully but decidedly addressed by the scientific physician. They must be taught and urged to exert all their spiritual energies in opposition to their corporeal sensations.

These efforts will be useful not only negatively, in removing additional sources of mischief from mental and moral depression, but positively, in giving the best possible stimulus to nervous power. So much benefit has resulted from mental excitements, so many nervous patients have been resuscitated from their wretched exhausted condition by a change of circumstances forcing them to exertion, that the unphilosophical conclusion has often been made, and needs, therefore, often to be refuted—that the character of the complaint was moral, not physical.

The practitioner devoted to nervous patients must, therefore, be also the metaphysician and the moralist. His therapeutics must often be of a spiritual character. He must gain the confidence of his patient, and induce her to believe his word rather than her own bodily sensations; to act in opposition to her feel-

ings; to be governed, not by her corporeal state, but by reason and conscience; and to carry her thoughts away from her trials, to things around, above, and beyond her mere animal nature. He should not only stimulate and divert her mind and heart by his own presence and conversation; but he should call to his aid her friends, her companions, her intellectual and religious monitors, who may judiciously change the current of her thoughts, and stimulate her whole mental and moral nature, and thus greatly contribute to the restoration of nervous power, and the consequent diminution of morbid irritability.

Happy is the physician who is so well indoctrinated in physical, mental, and moral science that he can successfully address himself to the organic, animal, and spiritual nature of his sensitive, delicate sufferer! And thrice happy is the cultivated and refined lady thus restored to all her natural delightful sensations, and to all her mental and spiritual enjoyments! Words are inadequate for the expression of their happiness, or their gratitude to him who has been the instrument of so great a blessing as renovated health and spirits.

CHAPTER XI.

TREATMENT OF THE COMPLICATIONS OF IRRITABLE UTERUS.

MENSTRUAL DISTURBANCES.

THE symptoms of irritable uterus are modified by the menstrual function. Every month there is an additional irritation, and consequent congestion.

DYSMENORRHŒA.—The phenomena of irritable uterus are greatly aggravated, as already detailed, every month, and are then known as "*Dysmenorrhœa.*" In its usual uncomplicated condition, dysmenorrhœa is nothing more than an acute state of uterine irritation. The predisposing cause is the morbid irritability of the tissues of the uterus, which, when disturbed, is manifested by neuralgic pain, spasms, &c.

During the *interval*, attention should be paid to the predisposition. During the *paroxysm*, the attempt should be made to diminish the sufferings of the patient. The first is radical, aiming to destroy the morbid state of the uterus, that the neuralgia, &c., may not return; the second is merely palliative.

During the interval.—To carry out the radical mode of treatment, the cause of the irritable condition, which gives rise to dysmenorrhœa, must be detected. These causes are various, and should be carefully investigated, and as far as practicable removed.

The two most frequently met with are *displacements of the uterus* and *obstructions in the cervix.* The former not only produces uterine irritation, but is very often the cause of "flexion" of the cervix, and thus produces a partial or complete constriction of the cervical canal. Hence, when the menstrual secretion commences, the fluid has no ready outlet. It accumulates in the organ and causes irritation and spasm—a true labor. When the obstruction

by this effort is relieved, and the discharge flows rapidly, the spasm and pain diminish and disappear. So also obstructions arising from thickened mucus, coagulable lymph, &c., cause usually only temporary pains. If there be a deformity, or a thickened condition of the cervix, or of the mucous membrane alone, a decided permanent stricture, or an encroachment on the canal by a tumor in the walls, then the pain is more intense, and endures through the whole period.

All these obstructions should receive attention, and be obviated by surgical means, or at least diminished. All inflammation, therefore, must be removed, and the deformities and strictures be overcome by sponge tents and bougies.

This treatment by bougies, originally recommended by Dr. Macintosh, is ordinarily successful. If, however, the uterus be in its natural position, and especially, if the woman has never borne children, it is almost impossible to use straight bougies. They should have a curve similar to that of the uterine probe, and should be made of some slightly flexible metal; the best is pure silver, which while it can be readily bent, is sufficiently firm to retain its form during the operation. This dilatation can perhaps always be accomplished by beginning, as in cases of strictures of the urethra, with small bougies, and gradually employing larger instruments.

In chronic cases this process is slow, and two additional suggestions have been made by Prof. Simpson, first by allowing the bougie, in the form of an intra-pessary, to remain for some days; on the removal of which a larger one can be introduced. Secondly, he proposes in certain instances to make, by means of the "bistouri caché or hysterotome," an incision along the length of the cervix from the internal to the external os uteri, first on one side and then on the opposite, and increase its depth as the blade is withdrawn, so as to involve the whole thickness of the cervix at its lower extremity. The first of these suggestions may occasionally be followed. But there seems to be no adequate justification for the employment of the knife, inasmuch as the operation is more or less painful, has given rise to unpleasant hemorrhage, involves the division of a mucous membrane, and the formation of cicatrices in the substance of an organ liable to great distension during parturition; and especially as the whole

object can be as well attained by the process of dilatation, without injuring the integrity of the organ.

The displacements must be treated by suitable pessaries, that is, by those which cause no pressure on the cervix, and which can be worn for months without themselves exciting pain or irritation. Under these circumstances pessaries are, in my hands, by far the most efficient means for the radical treatment of most forms of dysmenorrhœa. They relieve the displacement and also the flexion of the neck. No mechanical obstruction remaining, the sensitiveness gradually diminishes. The predisposition is destroyed, and the consequences disappear.

The flexion of the uterus, so frequently the cause of dysmenorrhœa, is a cause also of *sterility* in many young married women, by preventing the entrance of the semen to the cavity of the uterus. Few results have been more gratifying than to discover that in such cases, pessaries not merely relieve the pain and spasms of dysmenorrhœa, but facilitate conception.

Much has been written on Macintosh's plan of relieving sterility due to strictures of the canal of the cervix by bougies, and perhaps few practitioners have not thus benefited their patients. Judging, however, from my own experience, strictures of the canal, whether natural or acquired, are comparatively very rare. Most of the obstructions are from flexion, which may be temporarily relieved by a sound, or bougie; but the permanent relief requires a mechanical support to the body of the uterus, which, by removing all pressure from the neck, prevents the recurrence of the bending. These points and the operation of pessaries will be noticed in the second part, on "Displacements of the Uterus."

During the absence of the catamenia, the whole treatment indicated for irritable uterus is more or less applicable, such as good diet, exercise out of doors, tonics, and particularly the use of cold water internally and externally.

During the paroxysm.—As soon as there are any indications premonitory of the menses, the acute symptoms of irritation are to be expected, the whole treatment is to be reversed; and palliation of the suffering becomes the chief object. The bowels should be well opened by a nauseating laxative, as the Oleum ricini, or by an enema; the patient should be placed in bed, after a hot pediluvium, hip, or general bath. Poultices and fomentations to the

hypogastrium, hot applications to the feet, and mucilaginous and warm vaginal injections should be employed, followed by the exhibition of hot drinks, and diaphoretics.

Sometimes mild rubefacients may be employed, and if much pain, narcotics should be given.

Camphor is very universally tolerated, and so also hyoscyamus, lactucarium, belladonna, and others. Opium and its numerous preparations are the most effectual of all the anodynes; but they are so frequently the sources of immediate distress to nervous women, and when often repeated in protracted cases, have such dire consequences on the body and mind of the patient, that the practitioner should be prudent in their use, should omit them as soon as possible, and carefully warn his patient as to their abuse. When, unfortunately, a habit of the constant employment of this drug is generated, great judgment, firmness, and perseverance are requisite to accomplish its abandonment. It is the duty of the physician and friends, however, to destroy this habit; and it can be done safely and rapidly in a large majority of cases.

The same caution should be exercised as regards many of the powerful narcotics, sedatives, and anæsthetics, which modern observation and science are rendering so familiar to the practitioner. The cannabis Indica, aconitia, veratria, and the inhalation of ether, and of chloroform, however occasionally useful, or however frequently to be employed as *temporary* remedies, must, if continuously taken, be regarded as deleterious. Powerful impressions on the nervous system, whether from mental or physical causes, are not made with impunity. There is more or less of a collapse afterwards; more or less increase of nervous susceptibility. On some, a great shock once made leaves its impression for life. All stimuli are indirectly exhausting, and should be reserved for extraordinary and transitory circumstances.

Menorrhagia.—Though often treated as the result of debility, *menorrhagia* is doubtless, as maintained in this work, the result of irritation in almost every case, whether the patient be in an asthenic or sthenic condition, in a state of excitement or exhaustion. There is some local irritant, though often apparently trifling, and there is usually much morbid irritability. This pre-

disposition existing, any additional irritation, as the menstrual nisus, excites congestion; thence increased secretion—menorrhagia—or even effusion of blood—hæmorrhagia. The usual treatment, therefore, by tonics, stimuli, and astringents, by cold water externally and internally, by travelling by sea or land, is but palliative. It does good by resisting the exhausting effects of the discharge, but it has no effect on the local irritation, which is the "ipse morbus;" this remains intact.

Removal of the Local Irritation.—Therefore, while attention should at all times be paid to the general health of the patient, and while any tendency to asthenia should be obviated by tonics, nutritious diet, cool bathing, and other hygienic measures; yet the main object should be the removal of the local irritation and congestion.

The local irritant must be detected and relieved.

If any decided *inflammation* be found, appropriate local measures are important; but, perhaps, the caution may not be useless, that in all cases of chronic menorrhagia, even when dependent on phlogosis, general antiphlogistics are inadmissible. The general systems, vascular and nervous, are already too much exhausted, and demand nutritious diet, tonics, &c. So far from these endangering the increase of inflammatory action, they will have, indirectly, an opposite and beneficial influence by imparting tone and augmenting the efficacy of the "vis medicatrix naturæ."

If *displacements of the uterus* be found, even of a moderate degree, they must be recognized and removed. They are the most frequent cause of chronic menorrhagia, according to my experience; and hence, the permanent restoration of the organ, by pessaries, is more frequently and more decidedly useful than any other mode of treatment. It relieves the irritation, and of course, the congestion, which is the pabulum of the discharge. It is most gratifying to find during the employment of pessaries, the miserable and neuralgic sensations of the exhausted anæmic woman rapidly disappearing, and hope again reanimating the frame; while day after day a richer blood courses through the round of the circulation, imparting nutrition, strength, vigor, and flesh, and the countenance beams forth under the delightful sensations of a renovated existence.

These same principles and treatment by means of pessaries are

applicable not only to such cases in which the uterus is simply irritated without any alteration of its structure, but also to a very large number of cases, generally menorrhagic, occasionally hemorrhagic, which arise from *enlargements* of the womb, whether hypertrophic or indurated, or dependent on tumors in the walls or on the anterior surface of the uterus. Of course, polypi and polypoid growths on the interior of the organ are not embraced in this statement.

I regard very few practical mistakes greater than treating any or all such cases as inflammatory. Pain exists, it is true, not only in the uterus but in various other parts, and frequently of the most intense character; but this, it should be remembered, often exists without inflammation. In these cases it is dependent mainly on pressure. Relieve the pressure and the pain diminishes and disappears.

Case.—Twenty-two years ago I attended a lady, then thirty-eight years of age, who had been treated by the late Drs. Physick and Dewees for metritis, from which she apparently recovered. Some of the symptoms returning, and Dr. Dewees being absent, I took charge of her case. I found the womb enlarged and indurated from the previous inflammation, and accompanied by the usual symptoms of an irritable displaced uterus. These were relieved by a pessary, which was worn for some two years and then removed. Her health remained excellent until March, 1857, when, after some unusual exertion, she was seized with intense pain in the left hip, down the thigh, and in the lower part of the abdomen, &c., with more or less nausea and disorder of her digestive organs. Her friends and even her physicians, one of whom considered it as a decided case of carcinoma, became alarmed. In August I was called to see her, and upon examination I found the indurated uterus still large and heavy, without any other lesion than a partial retroversion towards the left sacro-sciatic notch. My prognosis was, therefore, very favorable, and afforded, at once, mental relief to the patient and her friends. Subsequent treatment fully confirmed the truth of this prognosis.

This is, perhaps, not the place to more than allude to another opinion, not so easily demonstrated as the one just mentioned, and requiring a great array of facts, and a most extensive and combined experience to verify; but which I verily believe to be true, and it has, for very many years, successfully guided my own practice.

The general declaration may be made, admitting some few exceptions from accidental causes, and from peculiar, specific, or even malignant tendencies, that *abnormal enlargements* of the uterus, and the *tumors* so frequently found imbedded in its substance, or implanted on its exterior surface, are innoxious. They form without the knowledge of the patient or physician; they often exist for many years, and grow to a great size without the consciousness of the patient; they are frequently first detected in post-mortem examinations of women who have died from other diseases, and even when so numerous as to attract attention during life, have been carried, in cases that I have known, for twenty and forty years with impunity.

So, also, *ovarian tumors*, when not complicated with dropsy, I have found to be usually of the same harmless character. In all such cases, there may be occasionally great suffering, and sometimes great apparent danger. These serious symptoms have often been attributed to active disease in the tumors, and have been supposed to depend upon their degeneration. This is rarely, however, the case; very generally the symptoms are neuralgic, not inflammatory, and arise merely from weight and pressure. Irritation, not only of the uterus, but of the anterior crural, obturator, sacral, and other nerves is excited; hence arises the irritability of the womb, of the pelvic nerves, of the spinal marrow and brain, with the usual secondary consequences. Hence, also, congestions of the uterus, menorrhagia, and hæmorrhagia, are consequences which often ensue, and not only increase the debility of the patient, but aggravate her nervous sufferings. Even in such cases of severity, death seldom results under any suitable treatment.

These neuralgic symptoms and their consequences are more frequently met with, when the tumors are comparatively small; for then they occupy the pelvic cavity, and irritate the large nerves of this passage: but when the tumors are so large as to rise out of the pelvis, like the uterus at the fourth month of utero-gestation, all unpleasant symptoms usually disappear, and the patient may enjoy excellent health for years.

All of these enlarged growths are, therefore, not directly, but indirectly, injurious. In themselves they give rise to no irritation; but cause irritability by pressure on sensitive tissues, disturbing their functions, and thus they secondarily do mischief.

The treatment, therefore, of the preternatural discharges from the uterus, dependent upon hypertrophic and other enlargements, should be predicated on this principle. By relieving the pressure, the irritation, the neuralgia, the congestions, and the discharges, disappear. By good diet, tonics, exercise, and cool water, the general system is strengthened, and the patient will usually be restored to health, though the morbid enlargements may remain unaltered for years.

Perhaps these views may appear to be novel, and far too sweeping, but I present them with much confidence, for they have been tested in a great variety of cases, and during many years. Large, as well as small tumors, whether uterine or ovarian, have ceased to excite irritation, when by means of pessaries, pressure has been removed from important organs. Of course cases will at times be met with, where active inflammation in the tumors, or the adjacent organs, alters the whole character of the complaint, and renders them imminently dangerous. In other cases, especially when long protracted, hemorrhagic discharges, or various complications, may arise from local or general disease, and scrofulous or cancerous tendencies. These are strictly complications, and are comparatively rare.

If there be any truth in the views now presented, the utter inefficiency of, and the positive mischief resulting from, rest, low diet, evacuating, and other exhausting processes for the discussion of heterologue tumors of the uterus, must be apparent. Nothing also can be anticipated from a perseverance in the employment of alteratives, including the whole list of narcotics, arsenical and mercurial medicines, in all the innumerable combinations by which they have been exhibited. Even iodine, on which so much dependence has been placed, frequently fails in making any impression on these new formations.

If it be true that such tumors usually exist for years without being recognized and the woman remains in good health; if they may be carried for thirty or forty years with impunity, and occasionally diminish and disappear, in the progress of life; if, when bad consequences result, they are almost universally of a nervous and not inflammatory character; and if the occurrence of inflammation or malignity be rare exceptions in their history; surely, there is no justification for resorting to the knife of the surgeon

to extirpate such tumors. It is difficult to imagine on what scientific ground the neck of the uterus has been dilated, or incised, the tumors laid open, or "enucleated," their cysts pencilled with caustic, and even the operation of gastrotomy performed, in order to remove these tumors from the surface or the tissues of the uterus!

Such things have been done, and have been reported sometimes as successful, and sometimes acknowledged as fatal. If the surgical principle be at all correct, that the less is to be preferred to the greater evil; that the life of the patient should not be positively endangered to eradicate a disease not necessarily fatal, all these operations for abnormal growths of the uterus are far from being justifiable.

Palliative Measures.—Although, in the treatment of menorrhagia, the main indication is the removal of the cause; yet when the discharge is severe or persistent, additional measures may be important. Not only a tonic treatment but even stimulants may at times be demanded. Internal astringents, also, have been freely given, but have generally failed to arrest the discharge. Secale cornutum in its various preparations has been found very useful, and may be given as well during the interval as during the flow.

Locally, the practitioner may resort to cold applications to the lower part of the abdomen when the discharge is protracted and the patient exhausted; he should take care, however, to preserve, at the same time, the warmth of the extremities. Cold water may also be thrown into the rectum and even into the vagina; assistance will also be derived from the various astringent washes to the vagina and cervix uteri. If the discharge prove protracted the tampon may be employed, either alone or saturated with astringent solutions. This tampon, although often successful, cannot be relied upon as much as in cases of hemorrhage. In chronic cases, advantage may be derived in some instances from the occasional passage of an uterine probe or bougie, which is supposed to act by promoting the contraction and condensation of the uterine tissue. In very obstinate cases, when the powers of the patient are sinking, injections may be thrown into the cavity of the uterus; tepid water is usually sufficient, but weak solutions of alum, sulphate of zinc, or other astringents may be employed. By some, solutions of nitrate of silver have, also, thus been used. Great

care, however, is required in all these uterine injections, as the organ is intolerant of the presence of fluids in its cavity, and hence severe pain, spasms, and, perhaps, inflammation might be excited.

LEUCORRHŒA is another complication of irritable uterus, which has often taxed the patience and science of the physician.

In all cases, purely *inflammatory*, much has of late years been done by attending to this pathological state, and prescribing not merely for the discharge, as had been the custom, but for the phlogosed condition of the tissues, which constitutes the real disease, of which the discharge is the mere consequence.

We have, however, contended that this inflammatory state is comparatively unfrequent; and that the cases, usually met with in practice, under the various names of weakness, the whites, fluor albus, leucorrhœa, &c., are the consequences, not of phlogosis, but of a simple congestive state of the uterine tissues.

Removal of the Irritation.—We have also illustrated that whatever irritates the uterus causes congestion, and is generally followed by a red or white discharge; and that this white discharge is so intimately connected with disturbed menstruation, that practically it may be regarded as a white menorrhagia. Hence all the practice already indicated for chronic menorrhagia is applicable to this functional leucorrhœa. Remove the irritable condition of the uterus and you will cure the leucorrhœa. The cause being removed, the flow ceases. The irritation being destroyed, there is no congestion, and, of course, no increased secretion or effusion.

As *displacements* are so commonly the cause of irritable uterus and its consequences, the fact that pessaries of suitable material, size, and form, are the best and most efficient remedies for most cases of fluor albus, receives a philosophical solution. They strike at the root of the whole mischief. They relieve the irritation, and, of course, the congestion and the discharge.

Palliative Measures.—All the usual general and local treatment for anæmic and exhausted cases of irritable uterus, are important adjuvants when leucorrhœa exists; for although this discharge is not the result of weakness, it aggravates the exhaustion by the quantity of fluid lost to the system. Here, not only cold vaginal injections, but almost every variety of astringent and alterative washes will be very useful, and contribute to

hasten a recovery. In some unusual cases of protracted leucorrhœa, with great relaxation of the uterine tissue, some of these washes may be thrown into the cavity of the neck, or even into that of the body of the uterus, with the same caution, however, as in analogous cases of protracted menorrhagia.

INFLAMMATION.

In the treatment of cases of irritable uterus, complicated with *inflammation* at the external orifice, canal or cavity of the uterus, great judgment and prudence are demanded.

ACUTE INFLAMMATION need not here be considered; all practitioners agree in keeping the patient quiet, and in endeavoring at once to subdue inordinate excitement by suitable and established modes.

CHRONIC INFLAMMATION.—In chronic *endometritis*, whether simply at the orifice, or extending into the interior, the difficulty of diagnosis is often great. And, even when the existence of inflammation is positively known, it is still more difficult to determine how far the symptoms, especially the pain and spasms, are dependent on an irritable or on an inflamed state of the tissues, on a displacement of the uterus it may be, or on the mere existence of phlogosis. Or, if both exist, it is no easy matter to establish what is their relative influence in producing the secondary or sympathetic disturbances of the system. These are delicate questions; but, nevertheless, they are of vital importance, as has been frequently urged and illustrated in these pages.

General Measures and Local Applications.—Without recapitulation, therefore, the practical conclusion may be at once insisted upon, namely, that while every moderate and judicious effort should be made to overcome such inflammatory congestions, especially by rest, warm vaginal washes, solutions—with or without laudanum or morphia—of borax, of alum, of the sulphate of zinc, of the sulphate of copper, of the nitrate of silver, of iodine, &c.; yet, much more will generally be necessary in all severe attacks of uterine affection, especially when accompanied by spinal and cerebral irritations, with their severe and terrible reflex influences.

Removal of the Irritation.—If the principles now inculcated be true, precious time is not to be lost with mere antiphlogistic washes, or "caustic touches." Pressure is to be removed, and to be kept removed, from the large nerves of the pelvis, and from the sensitive and inflamed cervix, by the introduction and continued use of a pessary, although the inflammation still exists. This is in opposition to received views and practice; but the fears of using pessaries have arisen from the destructive character of their materials, their improper form and size. When suitably constructed and adjusted, they free the cervix uteri from all pressure in any direction, and so far, therefore, from aggravating inflammatory action in its tissues, they constitute one of the most important indirect means of favoring resolution, for they prevent the constant attrition of the delicate sensitive cervix against the posterior walls of the vagina.

To my mind, there is no doubt that the protracted character of these superficial inflammations about the os uteri, together with the granular condition of the tissue, and the so-called ulcerations, existing for years in opposition to repeated applications of lotions and caustics, are maintained by the constant pressure and friction against the vagina, supported by the rectum, often containing scybala. Indeed, such attrition may truly be regarded, in many cases, as not simply an aggravating, but as an original cause of these cervical lesions, of which so much has been said and written. In all such, and many analogous cases, some variety of the ring-pessary is invaluable, and often a "*sine qua non*," as it supports the uterus at the root of the neck, and thus removes all pressure from the rest of the cervix.

All these observations are especially applicable to those cases where there had been even severe inflammation, but where all the phenomena have subsided, and those of irritable uterus alone remain.

RHEUMATIC AND GOUTY AFFECTIONS.

The treatment of irritable uterus complicated with *rheumatic, arthritic and cutaneous affections*, must be suitably modified by the general principles regulating metastatic diseases.

CHAPTER XII.

TREATMENT OF THE COMPLICATIONS OF IRRITABLE UTERUS—SECONDARY AND SYMPATHETIC AFFECTIONS.

A TOLERABLY full history was given of the *secondary and sympathetic symptoms of irritable uterus*, in order to illustrate the general, almost universal, influence exerted by it; to assist the inexperienced in detecting the character of these protean complaints; to draw broad distinctions between them and the inflammatory diseases they so frequently simulate; and to lay, therefore, a good foundation for therapeutical indications and treatment.

In their management, general principles will be sufficient for the educated physician. These have already been summed up in two important declarations. *First*, detect and remove the cause, if practicable. This is the radical treatment of all spinal and cerebral irritations. *Secondly*, diminish the morbid irritability of the cerebro-spinal system, by imparting tone to the whole body.

The well-informed medical practitioner can readily make any necessary modification of the treatment, when any special tissue or organ is involved. In all the neuralgic and spasmodic affections of the muscles of the extremities and of the body; in all the spinal and cerebral affections; in all the nervous irritations of the face, larynx, œsophagus, viscera of the chest, or in those of the abdomen; the manifestations will, of course, be very diverse: but they are mere varieties of nervous irritation; the essential treatment is the same in all, requiring merely judicious and scientific modifications, according to the tissues or organs concerned.

Great care in forming the diagnosis is demanded. The frequent complication of nervous with functional and organic diseases should always be borne in mind; so that, while the latter demands attention, the former may not be neglected.

Case.—I was lately consulted by a delicate southern lady, the mother of several children. She has been the subject, for five

years, of pulmonary symptoms, with cough and occasional hæmoptoe, and is a patient of a professional friend, who regards the case as one of "phthisis incipiens." She complains of debility, oppression about her chest, neuralgic pains, and weight about the pelvis. Upon a vaginal examination, I found an hypertrophied uterus, which was prolapsed, with flexion of the neck. By relieving this prolapsus, her other symptoms were greatly palliated, and she could take much more exercise; so that not only was there corporeal relief, but much hope excited that her life might be considerably prolonged, notwithstanding the decided evidences of tuberculosis.

Such instances are not infrequent. The practitioner who accustoms himself to analyze and arrange the phenomena of disease, is often surprised to find how large a portion belongs to the nervous system. If, instead of dismissing them with some transient prescription, it may be, as "nervous," he should treat them as veritable and important realities, having their own type and demanding their own treatment; he would then, not unfrequently, be agreeably surprised, by discovering that symptoms most alarming to the patient, if not to her physician, have vanished, that the local indications of organic disease are really moderate, and that an excellent prospect of tolerable health, even for years, may be rationally anticipated. These expectations are enhanced by the fact that, distressing and painful nervous irritations being dissipated, a better opportunity is afforded for conducting the treatment of the functional or organic disease.

These views should enlarge our ideas of the importance of the treatment peculiar for nervous diseases. The comfort, the happiness of patients, and the prolongation of life, are often the reward of assiduous scientific attention, even in incurable diseases of the brain, heart, and lungs. Sometimes, so decided is the change for the better, that the patients will hardly be persuaded that their cases are still critical and dangerous.

The consideration of these facts, in connection with those very frequently met with—where mere nervous diseases of the brain, larynx, lungs, heart, liver, alimentary canal, ovaries, uterus, &c., have been regarded as inflammatory or organic, and to which "simulative complaints" such constant allusion has been made—will give some idea of the mass of human suffering which may

be mitigated or annihilated by a careful analysis of the morbid phenomena, by tracing them to their source, by eradicating their causes, and by a judicious adaptation of remedial measures.

IRRITABLE RECTUM.

The symptoms, causes, diagnosis, &c., of *irritable rectum* have been detailed.

In *acute* cases, and wherever inflammation positively exists, the antiphlogistic treatment, with due restrictions, must be employed.

But in *chronic* cases, where there is great suffering and no decided marks of inflammation, all evacuating and alterative treatment must be abandoned. Laxatives are generally requisite to soften the feculent contents—not to purge—and thus mitigate the suffering, which is always greatly augmented by either a fluid or indurated stool. Warm hip-baths, fomentations and poultices to the anus, anodynes and liniments, particularly to the sacral region, are palliatives of importance. When they can be borne, large and warm mucilaginous injections to the rectum are very soothing, and operate favorably as a laxative. When these are inapplicable, small mucilaginous or unctuous enemata may be useful, especially with the addition of laudanum or any of the various narcotics. Occasionally, anodyne suppositories may be introduced, when injections give pain. The free use of cold water internally is very valuable as a constant resort, while the warm applications afford more temporary relief to the pain.

Nevertheless, much cannot be accomplished without a careful investigation as to the sources of mischief. This requires much attention; but whether it be inflammation, vermes, hemorrhoids, &c., the cause must be removed. My experience, however, leads me to believe, that very universally the cause is exterior to the rectum, and dependent on some unnatural pressure on this tube from enlarged ovaries or other pelvic tumors, or more frequently from a prolapsed or retroverted uterus. By rectifying such displacements by pessaries and other suitable measures, the most gratifying results have been obtained. Patients whose cases had been deemed incurable, and whose agonies had been horrible for years, even under the care of experienced and educated men, have

thus been fully and completely relieved. Astringent and anodyne lotions are important as adjuvants, especially when congestions and discharges from the mucous membrane continue. Hemorrhoids, should any exist after the rectal irritation is removed, may occasionally require the usual attention. All such cases must be carefully examined locally, lest the false notions of the patient be carelessly sanctioned by the physician.

IRRITABLE VULVA AND VAGINA.

The treatment of *irritable vulva and vagina* must be founded on the general principles so frequently enunciated. The symptoms are, however, so distressing in many instances as to demand instant attention, and perhaps sometimes stimulate the practitioner to an heroic treatment eventually mischievous.

As occasionally the result of *inflammatory action*, and frequently complicated with an erythematic inflammation of the vulva and vagina, the acute and sometimes even the chronic cases call for evacuating remedies. Hence, not only should the patient be placed at rest upon a couch or hard bed, but saline laxatives, refrigerants, and diaphoretics, should be given. Occasionally leeches are not to be neglected; they should be applied, not directly to the membranes interested, but to the hypogastrium, thighs, &c., as revulsives. These may be assisted by the relaxing influences of general and local warm baths, fomentations, and warm mucilaginous injections to the vagina, all of which favor relaxation and resolution. Cold ablutions and injections do not prove useful, as the reaction is often so great as to aggravate the symptoms. When the inflammation has diminished, preparations of opium and other anodynes, solutions of borax, nitrate of silver and iodine will often afford great relief as local applications.

In chronic cases of irritable vulva and vagina the causes must be carefully investigated and removed, not only inflammation as above alluded to, but *simple irritation* from the states of the bladder, uterus, and rectum—such as hemorrhoids, acrid discharges from the vagina and uterus, displacements of the uterus, ascarides, pessaries of improper materials, or too large, or foul from retention of the secretions.

Whatever may be the source of mischief, it must be carefully and perseveringly attended to. Every practitioner must speak from his own experience as to the frequency of any particular cause. I however would state, that in a very large majority of cases, irritable vulva and vagina is maintained by an irritable and displaced uterus; and hence, the most successful practice is to persevere slowly and judiciously in rectifying the displaced organ by means of pessaries, of proper material and form, scientifically adjusted. They operate mainly by removing the cause of irritation, of congestion, &c.; but they have, when properly managed, another influence which perhaps many would not have suspected. They have a decided tendency to diminish and obtund the vaginal sensibilities. The more they are employed, the more they are tolerated. Each successive vaginal operation is made with less pain and discomfort than the preceding. This is noticed by the patient as well as the physician. It is in perfect accordance with the experience of the surgeon in his operations upon an irritable urethra in the use of the sound and bougie. The principle had already been applied by some physicians to the vagina, when they recommended to their patients the use of bougies for an irritable vulva and vagina. In my experience, pessaries are far more efficient, and entirely free from the moral objections which have been justly urged against the use of the bougie.

In obstinate cases of mere irritability, other remedial agents are valuable; not only warm applications, poultices, &c., as temporary means, but, as more permanently useful, tepid, cool, and eventually cold washes, local and general baths, tepid and cool vaginal injections, if they do not produce pain, of injections of cold water to the rectum; also mucilaginous and oily injections to the vagina as well as to the vulva, the free local application of glycerin, laudanum, morphia, camphor, aconite, and other anodynes. The use of the carbonic acid gas in these and analogous cases has been proposed, and it is said, employed advantageously. In these chronic cases more stimulating applications are sometimes useful, as vinegar, alcohol, brandy, spirits of camphor, and even diluted spirits of ammonia.

When very obstinate, the following articles are perhaps more generally useful than any others, namely, the tincture and other

preparations of iodine, and the nitrate of silver. The former especially, more or less diluted, will often relieve the burning and itching when other means have failed; sometimes the relief is but temporary, requiring the constant recurrence to the wash; in others, its influence is more permanent. The strong recommendations and the alleged necessity of constant resort to the nitrate of silver, must be received "cum grano salis;" nevertheless this preparation is often useful. The best form in which to apply it, is the solution, as a wash to the vulva by means of a delicate brush, or mop, or by the syringe to the vagina. In obstinate cases, the solid caustic has been advised, and I have applied it to the whole circumference of the orifice of the vagina, causing temporary pain, sometimes severe, but also a subsequent diminution of suffering; yet this was seldom so marked as to induce a frequent return to its employment.

More, however, can be said in favor of the nitrate of silver, when applied to the *irritable painful condition of the orifice of the urethra*, especially when turgid and hypertrophied, as if a tumor actually existed. In these cases, occasionally, I have seen the caustic do great service; but here also patient and physician will often experience great disappointments.

IRRITABLE BLADDER AND URETHRA.

The treatment of *irritable bladder and urethra*, will often be prominently brought to the attention of the practitioner by the unceasing complaints of the poor sufferers.

Days and years may elapse with but slight mitigation of the torment; until the source of irritation be discovered and removed.

Removal of the Cause.—The bladder should be carefully examined, to ascertain whether there be any gravel, calculus, or foreign matters present; whether there be thickening or induration of the coats of this viscus or of the urethra; and whether there be any natural or preternatural contractions or strictures of the urethra. Special attention should be paid to the cystic excretions; to the presence or absence, as well as the character, of deposits from the urine—so as to determine how far the character of the kidney or cystic secretions are involved in the causation,

and if there be any nephritis, cystitis, or urethritis present. So also we must examine the condition of the orifices of the urethra and of the vagina, the state of the vagina, of the uterus, of the ovaries, of the anus, and of the rectum. Investigations as to every source of irritation, whether one or many, must be sedulously and perseveringly made, if there is any expectation of imparting permanent relief.

As formerly intimated, by far the most frequent cause of irritable bladder is the dragging or pressure on its body or neck by the uterus, when displaced, hypertrophied, or otherwise enlarged. In all such instances relief will be afforded just in proportion as this source of irritation is removed. If the displacement can be speedily obviated, the terrible sensations of cystic irritation disappear as if by magic; but if it be a slow and difficult process, the dysuria will be moderated, but will be more or less persistent until the displacement is removed. The supporters, however, which are to accomplish this desirable object, must be so arranged as not themselves to press upon or irritate the urethra or the bladder. This is often a serious difficulty; but, nevertheless, it does not invalidate the principle that the cystic irritation depends on such displacements, and is to be relieved by their removal. All other principles and modes of treatment, even when persevered in for months and years, by anxious, judicious, and experienced practitioners, have so often failed; and, in these very cases, relief has been afforded so quickly, effectually, and permanently by the judicious and scientific use of a pessary, that its employment must be urged in all chronic cases of irritable bladder connected with a displaced uterus. Indeed, under the most desperate circumstances, complete relief will often follow its adjustment. Many cases by way of illustration might be mentioned; one may suffice.

Case.—A gentleman, some time since, described to me the case of his wife. She was about thirty-five years of age, and had been tormented with dysuria for many months, which was accompanied with so much straining that blood occasionally was discharged. Some general directions were given at the time, and afterwards a long correspondence as to internal and external remedies, was conducted with the attendant physician, but to no permanent advantage. On her subsequent visit to Philadelphia, an enlarged and completely retroverted uterus was discovered, producing more

or less leucorrhœa and menorrhagia. Tonics internally, astringent and cooling washes to the vagina, with the rectification of the uterus by a pessary, afforded complete relief to the dysuria, congestion, and increased discharges; at the same time, her sensations of languor, pain, and weakness were so far removed, that exercise, before almost impossible, could be taken with impunity and advantage. She soon returned home, perfectly well.

In most cases time is required; and when great delay is experienced, it is due, not to any want of correctness in the principle, but simply to mechanical difficulties preventing the complete restoration of the uterus to its natural position in the pelvis.

Palliative remedies.—Fomentations, poultices, warm hip-baths, warm mucilaginous vaginal and rectal injections, with or without the addition of anodynes and antispasmodics; the use of laudanum and other analogous washes or ointments to the orifices of the bladder and vagina, may all be resorted to with more or less advantage.

Various injections to the urethra and bladder are useful. Solutions of morphia and other narcotics have been employed, and often with advantage. Weak solutions of the nitrate of silver are particularly demanded, when there are any indications of inflammatory action present.

Bougies and sounds are very valuable whenever any strictures, or obstructions exist in the urethra; they have also been much used on the principle of diminishing irritability of mucous membranes by gentle but repeated mechanical attrition. The fact, already alluded to, that the sound passed into the male urethra, blunts its sensibility, has led to the same experiment on the female with much success; and this, probably, would be still more universal if the original and aggravating causes were always first completely removed.

Besides the applications above enumerated, occasionally more powerful injections have been employed, as strong solutions of the nitrate of silver, the diluted spirits of camphor, aqua ammoniæ, spirits of turpentine, and also preparations of iodine. They are, however, all of uncertain value, and are liable to serious objections.

Something may be expected from drinks and internal medicines even in cases of pure irritability of the bladder, by increasing the quantity and altering the character of the urine. Those are

to be preferred which render it less saline, and of course less stimulating to the sensitive tissues of the bladder and the urethra. Thus the free use of mucilaginous fluids, and of mild diuretics, is very useful. The carbonates of soda and potash, the sweet spirits of nitre, the buchu, the uva ursi, the taraxacum, and especially the balsam copaiva, are excellent. Laxatives, especially the antacid and the oleaginous articles, have a similar effect, and also act beneficially by removing various sources of irritation from the stomach and bowels. Nevertheless, in protracted, painful cases, the chief dependence of the physician must be on the preparations of opium, per vaginam, urethram, seu rectum, until the cause can be detected and removed.

MORBID STATES OF THE OVARIES.

Attention has already been fixed on the difficulty of diagnosis in all cases of inflammatory and other morbid states of the ovaries, where there is not much enlargement of these organs. In the treatment, however, of acute *ovaritis*, fortunately this fact is of minor importance; as, whether it be the ovary or other appendage of the uterus, or the uterus itself, positive inflammatory symptoms demand rest, leeches and other antiphlogistic measures. The caution, however, was given, not to pursue this practice in chronic cases, under the idea of a pain in the region of the ovary, being indicative of ovaritis; especially in those numerous cases where no fever is present. For, judging from my experience in the treatment of such cases, it would seem that this pain is generally dependent on uterine displacements, which either directly or indirectly through the medium of the ligamenta rotunda, very universally excite pain in the right or left side above the groins. Such cases I have known treated for a long time for inflammation without advantage, and afterwards completely relieved by removing the uterine trouble.

Tumors of the ovaries, when still in the cavity of the pelvis, often irritate the uterus or the sacral, obturator or other nerves of the pelvis, by their weight and pressure, and thus excite all the symptoms of an irritable and displaced uterus. Sometimes they themselves become irritable and sensitive. They are, there-

fore, to be treated on similar principles. The pressure on the uterus and the floor of the pelvis is to be counteracted by mechanical measures per vaginam, so arranged that while this result is obtained, no irritation shall be produced. Perfect relief may be expected on this principle; while to treat such tumors as inflammatory, or to attempt their "discussion" by evacuants, counter-irritants, and alteratives of any character, would be useless and positively injurious on account of the confinement, to which the patient must be subjected, the loss of strength and consequent aggravation of her wretched, painful, and nervous affections. The patient should be strengthened by tonics, fresh air, good diet, and exercise, as in other irritable complaints.

If the tumors of the ovaries be large, so as to rise into the cavity of the abdomen, they are generally innoxious, for then, like the uterus after the fourth month of gestation, they are supported by the brim of the pelvis; so that no pressure is made on the delicate organs and nerves of the pelvis, and the tumors themselves are found seldom inflamed or sensitive.

In such cases it has been my practice for very many years, and there has been no cause for regret, to attend to the general health and strength of the patient, and to abandon all local treatment. If possible, let the patient forget the existence of the tumors, and she will usually enjoy that portion of health and activity which belongs to her age and sex.

The attempts to resolve such tumors, experience proves to be generally vain; and to extirpate them by the operation of gastrotomy is greatly to endanger life, for a disease which very rarely terminates fatally, and even then from accidental complications, which of course do not invalidate the general principle or the practical deduction.

IRRITABLE LYMPHATIC GLANDS.

The same principles are to be the guide of the practitioner in regard to those *small irritable tumors, probably of the lymphatic glands* which occasionally complicate irritable uterus. Much attention and perseverance will be required, in order at once to

relieve any uterine displacement which may exist, and also to prevent pressure from or against these irritable tumors. Such cases, as those already referred to, will thus be successfully managed.

IRRITATION OF THE PELVIC NERVES.

After the observations which have been made, the treatment of all those, often terrible, sufferings arising from irritations of the pelvic nerves, is apparent. Remove, if practicable, the cause of irritation, whether pressure of the uterus, the ovaries, lymphatic or other tumors of the pelvis, collections of feculent matters in the rectum, or pessaries or other foreign matters in the vagina, &c. Very generally this important object can be readily accomplished, to the indescribable relief of the patient. In some, unfortunately, even when purely neuralgic, the source of mischief cannot be detected, or if detected cannot be relieved. Generally such cases continue for years, and may probably gradually disappear under the revolutions of the animal economy; but art can afford no radical relief. Palliatives are the only remedies we can present to the disappointed sufferer.

Cases.—Two such individuals I am now watching over with painful interest; both of them are bedridden, one for some seven years, another for twenty years. In neither case is there any evidence of febrile excitement, and the general health is as good as is consistent with the confinement, loss of appetite and of sleep, with pain and nervous distress radiating from one organ to another.

Occasionally these said irritable states of the pelvic nerves are purely symptomatic of inflammatory or malignant diseases, and also of morbid growths, involving one or more of the soft or bony tissues of the pelvis. They are among the terrible sequelæ of scirrhus and cancer of the bladder, vagina, uterus, and rectum; of tumors immovably connected with the parietes of the pelvis; of alterations in the neurilemma, or in the substance of the nerves; of diseases of the bony canals of the sacrum, or of the sacrum itself.

Case.—In one case of horrible suffering, which eventuated in death, there was a falling in of the whole anterior surface of the sacrum, from the promontory downwards. This caries of the

sacrum was unaccompanied by any apparent external deformity, and was only detected upon the post-mortem examination.

All such cases, however, do not strictly come under the name of "irritable diseases." The neuralgia may be terrible, but it is to be relieved by removing the primary disease, whether inflammatory or organic. It is purely symptomatic. Precisely as a diseased tooth may produce neuralgia of the face, or a neuritis may excite neuralgia and spasms of branches of the affected nerve; so inflammatory or other diseases of the pelvic viscera may have neuralgic symptoms, which are to be relieved, in all such cases, by antiphlogistic, rather than by nervine remedies.

GENERAL REMARKS.

The prognosis, as formerly intimated, of pure irritable diseases is favorable. Death very seldom results; nevertheless years are often passed in great suffering; but still, the hope may always be held out to the patients, that as the sensibilities and functions of the economy alter in the progress of life, a recovery may be anticipated. Hence, as the peculiar excitements of the ovaries and uterus disappear towards the fiftieth year, nervous and hysterical diseases often vanish, or at least diminish in intensity.

No organic changes are necessarily connected with irritable uterus, unless "hypertrophy" be embraced by that term. The congestions, which so frequently ensue, are generally spontaneously relieved by the leucorrhœal and menorrhagic discharges; but this is sometimes only a partial relief, so that congestion is followed by an unusual development of the organ without apparent alteration of tissue.

The treatment of this hypertrophy is mainly on the grand principle, here so constantly inculcated, namely, the removal of the original cause of the irritable organ; the congestion disappears, followed by the cessation of leucorrhœa and menorrhagia, and more slowly of the hypertrophy. It is precisely analogous to the pregnant uterus; which is developed by the irritation and congestion excited by the fœtus, and gradually but surely returns to its pristine state after the child is delivered. Hence, as pessaries remove the causes, they are the best remedies for an en-

larged irritable uterus, and by their employment the displacement, pain, congestion, and the consequent development may be relieved. In such cases, they must be worn for a long time, as the uterus is heavy, and increased in size; which predisposes to a continuance or return of the local troubles. They may be assisted, perhaps, by the use of anodyne suppositories or washes to the vagina, by cool or cold ablutions internally to the uterus, and externally to the surface of the body, and perhaps, also, by the use of iodine and nitrate of silver to the uterus. No evacuants should be resorted to, but everything be employed to give tone to the general system, and increase the "vis medicatrix naturæ."

In some few cases of protracted suffering from irritable diseases, especially when improperly managed, or absolutely neglected, it has been mentioned that secondary complaints of a dangerous character may ensue. The powers of the patient may be greatly depressed by the want of air and of exercise, by the vaginal discharges, the pain and nervous distress, the nausea, the vomiting, and other dyspeptic symptoms. In all such, the patient may rapidly succumb under an attack of any acute disease.

In other instances, as intimated, there is not only a failure of strength and an increase of irritability, but such a deterioration of the blood and the various secretions, that death may possibly result from pure inanition, or be accelerated by erythematic or other inflammatory irritations of the mucous membranes, or the development, it may be, of tuberculous diseases. Nevertheless, we must not despair of such cases, if organic disease be absent. Indeed, much may be expected by a protracted, patient perseverance in a well directed treatment. Let the original uterine irritation be relieved, and much is already accomplished. The stomach will be more retentive, and the disgust for food diminished or removed. Simple but nutritious articles of diet may be given; digestion may be assisted by tonics, condiments, and, perhaps, by other stimuli. Every variety of palliatives for distressing and urgent symptoms, should be suitably employed, "pro re natâ." The patient may be borne into the open air, and exercise by gestation be very early resorted to, assisted by careful attention to the whole cutaneous surface, by means of frictions, liniments, and ablutions of various kinds. Let the mind and the heart, as well as the body be addressed, and great things may be

anticipated. The digestive powers improving, better chyle and blood will be elaborated; and of course more healthy secretions, greater strength, and a diminution of irritability, of mental, moral, and physical suffering will result, until the whole economy will become completely resuscitated. A new lease of life, with the usual enjoyments pertaining to humanity, will be granted to the patient, who was so lately in despair. That such results cannot always be expected in these unfortunate patients, should be to the practitioner but an additional stimulus to exert his best powers and his most untiring efforts to succeed, if possible, or at least to have the melancholy happiness of comforting and sustaining the moral and physical energies of his interesting patient.

PART II.

DISPLACEMENTS OF THE UTERUS.

CHAPTER I.

NATURAL POSITION AND SUPPORTS OF THE UTERUS.

From the foregoing analysis of nervous diseases in women, it would appear that irritable uterus is usually their *proximate* cause. It is, indeed, the "*ipse morbus.*" When it is present, there may ensue distress, neuralgia, spasms, congestion, leucorrhœa, menorrhagia, dysmenorrhœa, irritations of the bladder, of the rectum, of the sacral and other nerves, of the spinal marrow, and of the brain, with a corresponding disturbance of functions, and of the extensive reflex and sympathetic influences in almost every part of the economy. Whence, then, arises the irritable condition of this important organ, which plays such a rôle in the female system? The various predisposing and exciting causes have already been fully detailed. Of these, displacement of the uterus was mentioned as one of the most frequent and persistent, as being often the sole origin of the complaint, and, very frequently, maintaining the disease in opposition to the best remedial efforts. Most of these enumerated causes are so well understood, as, perhaps, to need no special elucidation; but displacements of the uterus have been, and still are, the subject of every variety of opinion in the profession. They are completely ignored by very many, and by them considered as of no consequence; while, by perhaps most of the modern pathologists, they are regarded as secondary, not primary—as consequential, not causative—and hence, as demanding no special treatment, but disappearing as their supposed cause is removed.

A very large majority of practitioners, not having their minds

directed to this subject, have very indefinite ideas as to the character or the treatment of malpositions of the uterus; and even among those who recognize, to a greater or less degree, their importance in a therapeutical point of view, there is great discrepancy of opinion upon numerous anatomical and pathological questions connected with them. The proper modes of relief, whether by medicinal or mechanical means, and, if by the latter, whether external or internal supporters, of what material, form, size, &c., have all afforded fruitful subjects for debate. Indeed, may it not be said that the principles involved in cases of displaced uterus, whether pathological or practical, have not yet been established to the satisfaction of the professional mind?

To complete, therefore, the analysis of the nature and treatment of irritable uterus, as thus far detailed, the causes, effects, and treatment of malpositions of this organ must be presented. If these be not understood, and if the principles resulting therefrom be not the guide of the practitioner, comparatively little good can result from the whole of this investigation. Having a firm faith in the truth of the principles and the success of the practice, the author offers his views, for examination by his medical brethren.

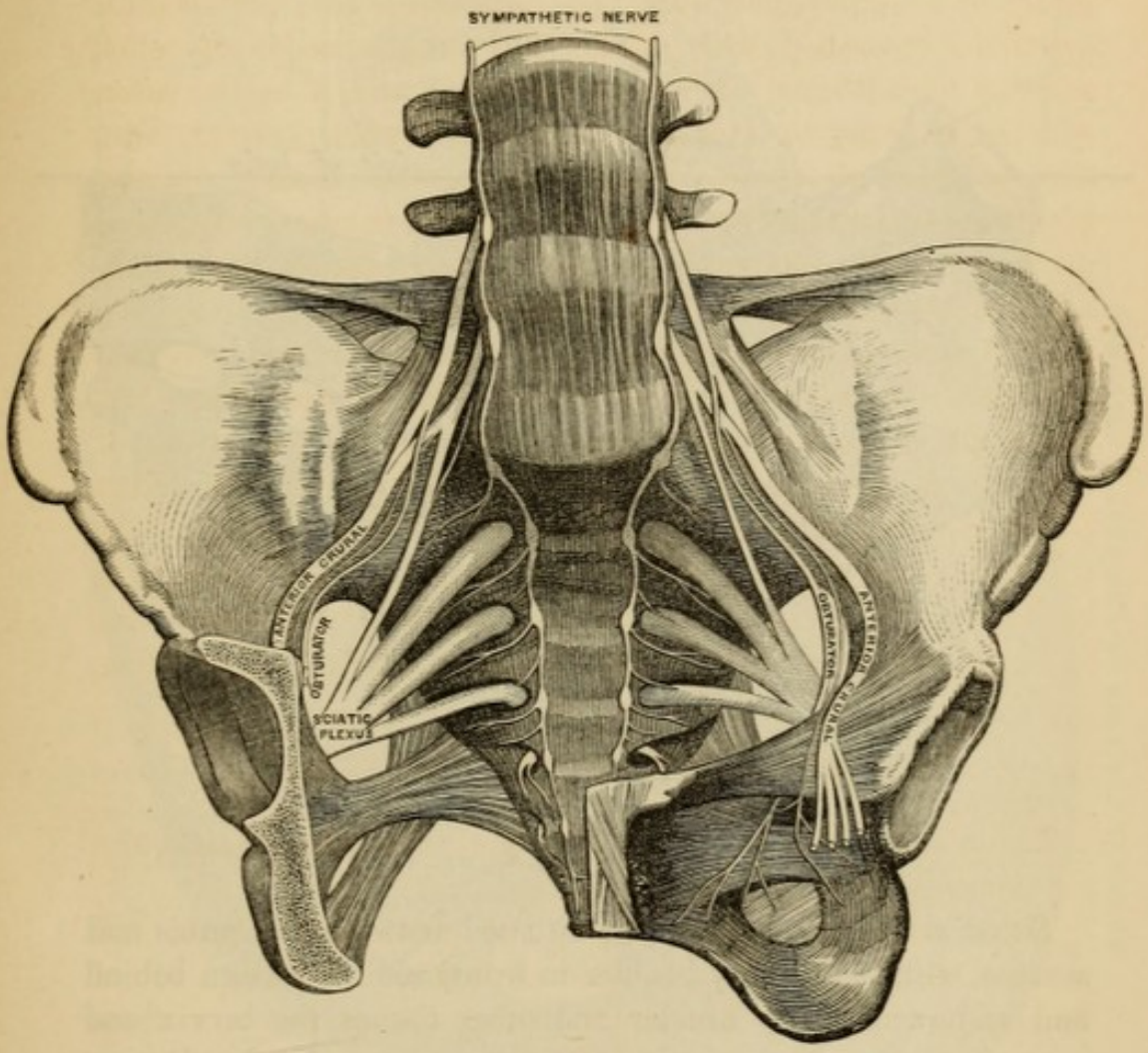
NATURAL POSITION OF THE UTERUS.

To understand this subject, some preliminary anatomical and physiological facts must be pointed out.

The Cavity of the Pelvis.—The composition, form, and position of the pelvis, as also its coverings and its linings, are of course known to all. The cavity of the inferior pelvis, with its fasciæ and muscles so arranged as to present a uniformly concave surface without diminishing its diameters, should be carefully studied; and the arrangement of the levatores ani muscles, which form the whole floor and much of the lateral portions of the pelvis, should always be borne in mind.

Pelvic Nerves.—It is also all-important, as will be hereafter seen, for the practitioner to notice the size and location of the pelvic nerves; especially of the anterior crural nerve from the lumbar plexus, pursuing its course along the margin of the superior strait to the groin; of the obturator nerve from the same plexus, descending near the sacro-iliac symphysis for about an inch

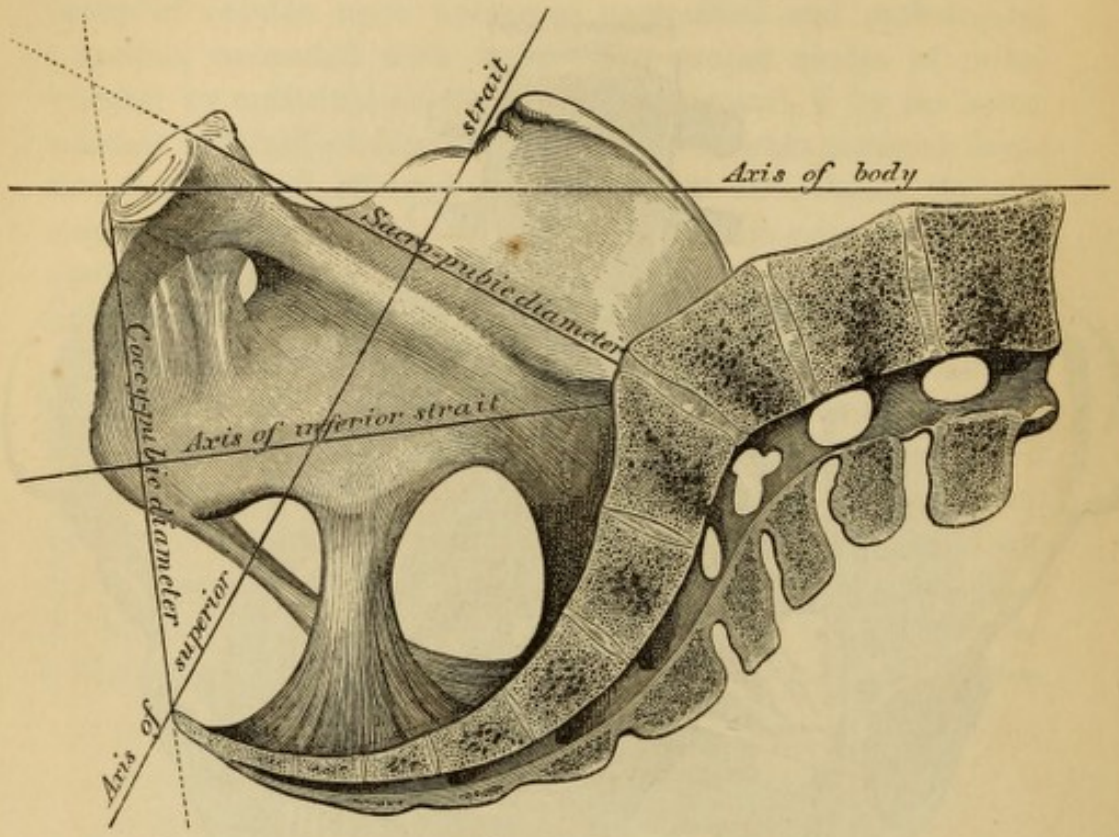
below the superior strait, and then coursing under the superior margin of the levator ani muscle, to make its exit through the obturator foramen to the inner muscles of the thigh; of the three or four superior sacral nerves, on either side, coming out of the



PELVIC NERVES.

foramina on the front of this bone, and pursuing a lateral course in grooves to the great ischiatic foramina, to form the sacro-sciatic plexus, the largest in the body; and of the inferior sacral nerves, also from foramina on the anterior surface of the sacrum, and distributed to the important tissues in the coccygeal region. Attention should also be fixed upon the lower portions of the sympathetic nerve, with its lumbar and sacral ganglia, and their free communications with the cerebro-spinal nerves.

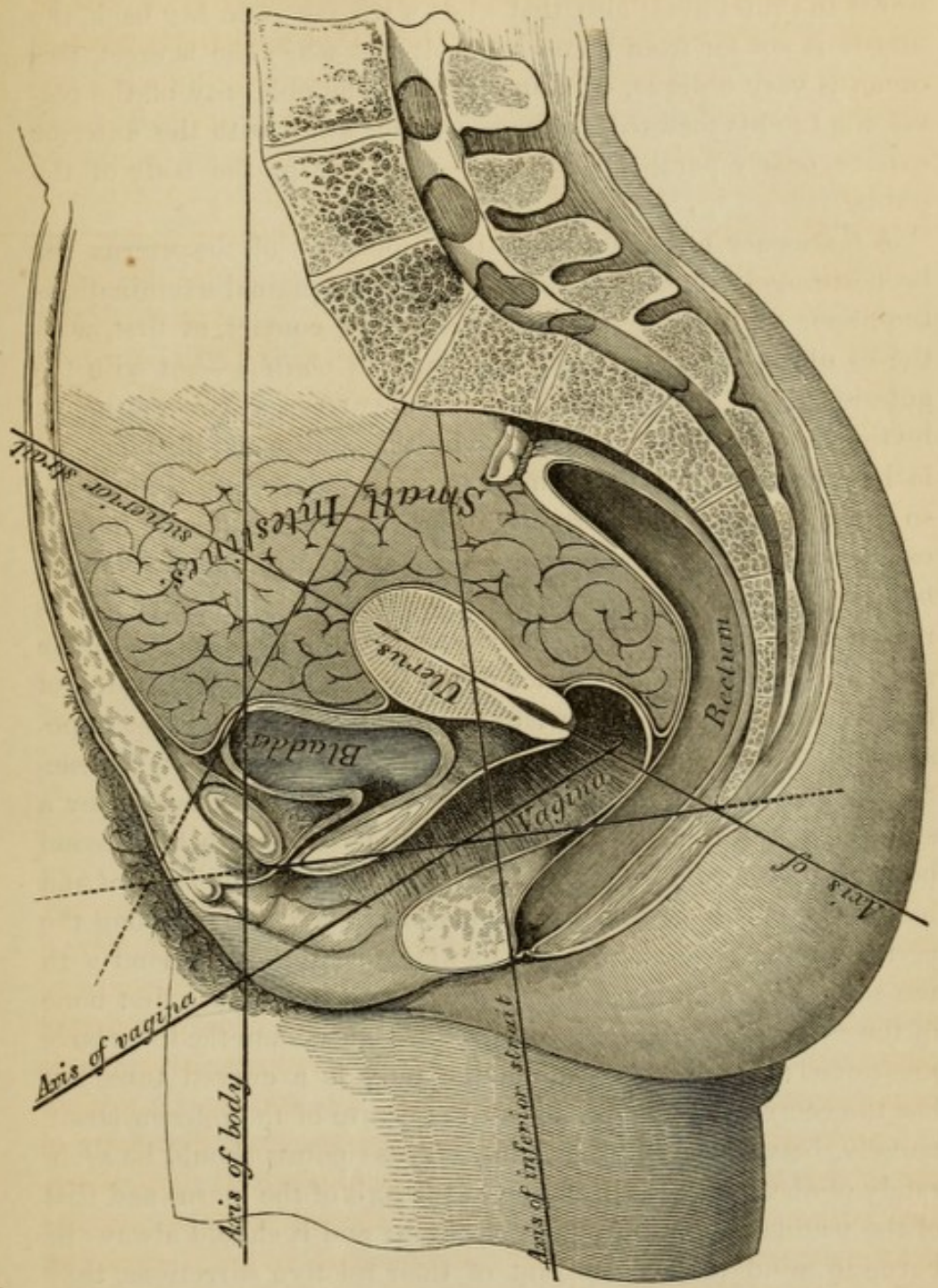
THE UTERUS.—In the midst of the pelvic cavity is placed the uterus, a flattened cone, measuring from two and a half to three inches in length, about one and a half transversely at its base or fundus, and one inch from the anterior to the posterior surface.



AXES OF THE BODY AND PELVIS.

Situation and Direction.—It is situated between the pubis and sacrum, with the urinary bladder in front, and the rectum behind and underneath. By areolar and other tissues, the cervix and a small portion of the body of the uterus are closely adherent anteriorly to the bladder, so that the motions or position of one organ must influence that of the others.

The longitudinal axis of the uterus, passing from the centre of the fundus to the os uteri, may be said to correspond to the direction of the axis of the superior strait of the pelvis; *id est*, to a line drawn perpendicular to the plane of that strait, which, if extended, will strike inferiorly the os coccygis, and superiorly the linea alba of the abdominal muscles, some distance below the umbilicus. This parallelism of the axis of the uterus with that of the superior strait, when the organ is *in situ naturali*, and the necessary con-



NATURAL POSITION OF THE PELVIC VISCERA.

sequences, should never be forgotten in practice. For, it follows that the os uteri points towards the coccyx, and the fundus towards the linea alba; also, that when a woman is on her back, the uterus is not far from being vertical; but when she is erect, this organ is very oblique, corresponding to the obliquity of the pelvis, the fundus forward, the os uteri backward, with the anterior surface nearly parallel to the inner surface of the body of the pubis.

A necessary consequence of this obliquity of the uterus has been strangely overlooked, namely, that in vaginal examinations the finger or instrument does not come in contact, at first, with the os uteri—*the uterus being in its normal position*—but with the anterior part of the neck and body of the uterus, as covered below by the vagina alone, or, higher up, by the vagina and bladder. To feel the os tincæ, the finger must be passed deep into the vagina, so as to get under the extremity of the neck of the uterus; for, the os does not in any degree present towards the orifice of the vagina, but towards the posterior perineum, the region of the coccyx. This region is the bottom of the pelvis, and directly opposite to the superior strait. But the orifice of the vagina is under the arch of the pubis, on the *anterior* surface of the pelvis, and of course opposite, not to the superior strait, but the second bone of the sacrum. The axis of the vagina, moreover, is not represented by a straight line drawn from the centre of its orifice to the second bone of the sacrum, for this tube, instead of passing *upward* and backward, passes *downward* and backward, and *curves* along the perineum and rectum. Again, its axis does not correspond with the axis of the inferior strait, for this, as it strikes the first bone of the sacrum, and inclines upward even more than the line above mentioned; besides, the vagina not only is a curved tube, but has the centre of its orifice above the centre of the inferior strait, namely, between it and the pubis. These points should be accurately observed, for the direction of the axis of the uterus and that of the vagina should never be forgotten; and it should always be borne in mind that, on account of their relative directions, they meet each other at an *acute* angle. The bladder occupies this angle, between the uterus and vagina, so that the acuteness of the angle varies, being increased when the bladder is emptied, and lessened when it is distended.

It should also be noticed that the uterus, in its normal position, projects, anteriorly, about one quarter of an inch into the vagina, so that the os uteri, its labia, and the lower extremity of the cervix, are the only portions of the uterus which can possibly be ocularly examined by means of specula. The rest of the neck and the whole body of the uterus are above and exterior to the vagina, floating among the soft tissues of the intestines and bladder. Some of the small intestines fall upon the front; but the mass of them upon the posterior portions of the organ. Probably in no other location could this viscus be so free from injury; it is not in contact with any solid or hard substance, but is suspended in the midst of tissues, which, from their construction, and their pultaceous, watery, and gaseous contents, afford a secure nidus, not only for a healthy uterus, but even for one morbidly sensitive.

Mobility of the Uterus.—The uterus is a movable organ. It has a pendulum-like motion between the pubis and the sacrum, the fundus being pushed backwards by the distension of the bladder, and forwards by the weight of the intestines, when the bladder is empty; so that the axis of the uterus does not always coincide with that of the superior strait. The uterus also descends to a certain extent, when any straining effort is made, and is drawn up by the strength and elasticity of its attachments.

SUPPORTS OF THE UTERUS.

From its location in the inferior part of the body, the uterus is, however, subjected to great pressure from the weight of the small intestines, the mesenteric attachments of which allow them to sink around the uterus to the lowest part of the pelvis. This pressure is increased by feculent accumulations in the large intestines, especially in the sigmoid flexure of the colon; by tympanitic distensions; by adipose deposits in the omentum, mesentery, &c.; and especially by the contraction of the muscular parietes of the abdomen in all the efforts of standing, walking, running, straining in defecation, vomiting, sneezing, coughing, lifting weights, &c. It is no wonder, therefore, that we hear of displacements of the uterus; but rather, that the natural position can, in any individual, be maintained against such great and constant

weight and pressure. This astonishment is not diminished when we find that the strong and hard working women are, perhaps, less liable to displacements than the delicate and feeble.

The interesting question, partly mechanical, and partly physiological, arises—how can the uterus be maintained in its position, in opposition to such powerful sources of depression? The answers given to this important query have, perhaps, not as yet been entirely satisfactory, if we may judge from the discrepancies of opinion among medical men, and the hints which are occasionally still thrown out by anatomists and practitioners.

What are the natural supports of the uterus? How are they arranged so as to maintain it in the direction of the axis of the superior strait, with its body floating among the intestines, the fundus not impinging against the pubis, or against the sacrum? nor the vaginal extremity injuriously pressing against the floor of the pelvis, during all the varying motions and efforts of the body?

There can hardly be a doubt but that the proper position of the uterus is maintained chiefly by the ligaments, as will be hereafter shown; although these have been by many deemed insufficient.

The Vagina.—The idea that the vagina is the chief support of the uterus has been, and is still maintained. To contract, strengthen, or diminish the size of the vagina, even by surgical operations, has even been regarded as an important means in the treatment of displacements of the uterus. All this is contrary to just theory and positive experience.

The vagina is a soft, flexible, and distensible canal of a flattened form, having no firm attachments, excepting at its lower extremity. Experience also shows that it accommodates itself to the ever varying position of the cervix and body of the uterus, connected with its upper or sacral extremity. It, therefore, is lengthened out in pregnancy; it is shortened or curved in the various displacements of the organ; sometimes it even protrudes at the vulva, and descends with the uterus between the limbs. Moreover, even if the vagina was a straight column, and the uterus pressed directly upon it, the tube, from the weakness of its walls, would yield and sink under the weight; but the vagina is curved, and meets the uterus at an acute angle, and can therefore have

no effect in preventing the descent of the organ towards the perineum, or the falling of the fundus anteriorly or posteriorly. Even if it were a rigid tube, fixed as it is only at its lower extremity, the uterus attached to its upper portion could sink low towards the coccyx, or the fundus might incline towards the pubis, or the sacrum; but, being soft and very flexible, there can be little or no support given by this canal.

Observation confirms this statement: women who have borne children have a very relaxed and distensible vagina, and yet generally there is no displacement of the uterus; while, on the other hand, in very many who have had no children, and even in virgins, when there is great contraction and tonicity of the vagina, displacements are observed. In cases also of atresia vaginæ, when, from inflammation, adhesions, induration and contraction of the tube have ensued, even in such, we meet with displacements of the womb.

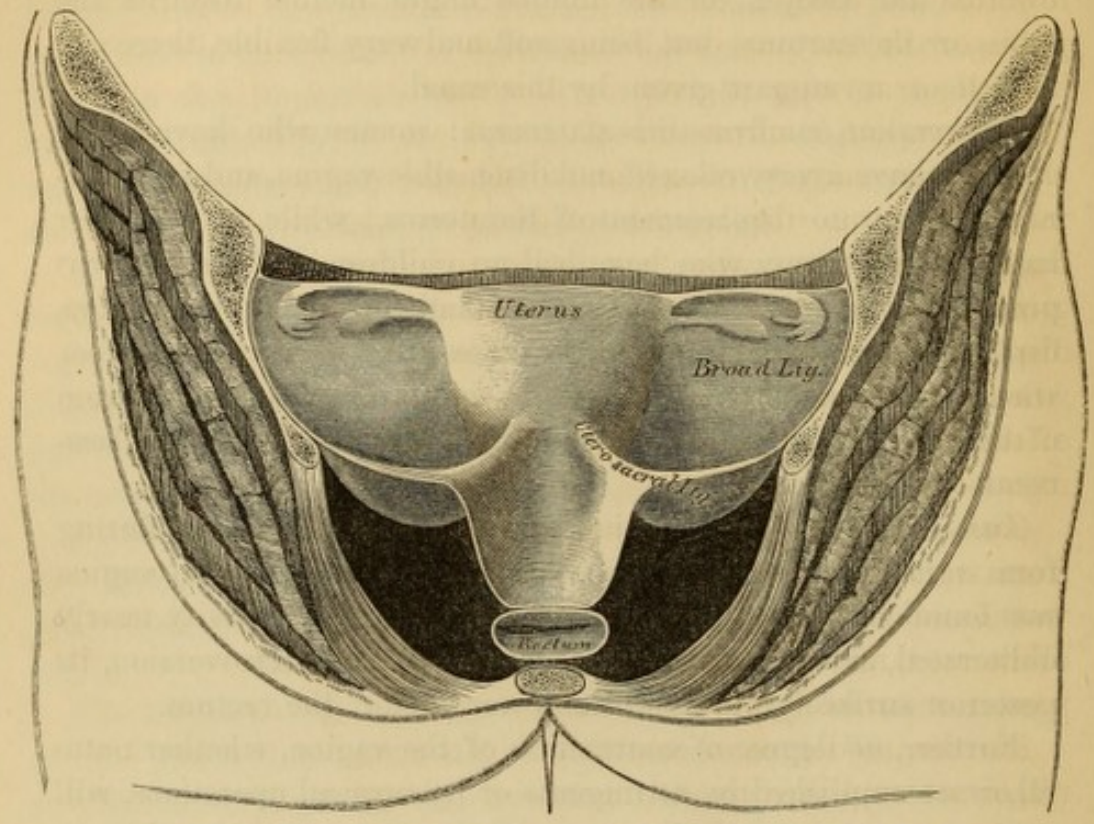
Case.—In a case of this kind, where a lady had been suffering from spinal and cerebral irritation, for many years, the vagina was found contracted to half its natural length, its cavity nearly obliterated, and the uterus in a state of partial retroversion, its posterior surface lying upon the lower part of the rectum.

Further, no degree of contraction of the vagina, whether natural, or accomplished by astringents or by surgical operations, will prevent or cure any displacement of the uterus, so as to place or retain its axis in the direction of that of the superior strait of the pelvis. The only apparent exception is that of procidentia uteri, where the organ has projected out of the body: in such cases, by contracting or obliterating the canal of the vagina, or by closing the vulva, the uterus may be kept within the body; but even then, its proper position in the pelvis will not be gained, and the patient may continue to suffer.

LIGAMENTS.—That the uterus is maintained *in situ naturali* by its ligaments, assisted by several accessories, will probably be acknowledged, if careful attention be paid at once to the oblique position of the organ and the modus operandi of these supports.

Broad Ligaments.—The broad ligaments, or *ligamenta lateralia*, are formed of two laminæ of the peritoneum, stretching along

each side of the uterus, from the Fallopian tubes to the insertion of the vagina, and laterally to the sides of the pelvis; they are greatly strengthened, not merely by areolar tissue, but also by arteries, veins, absorbents, and nerves, which run between the

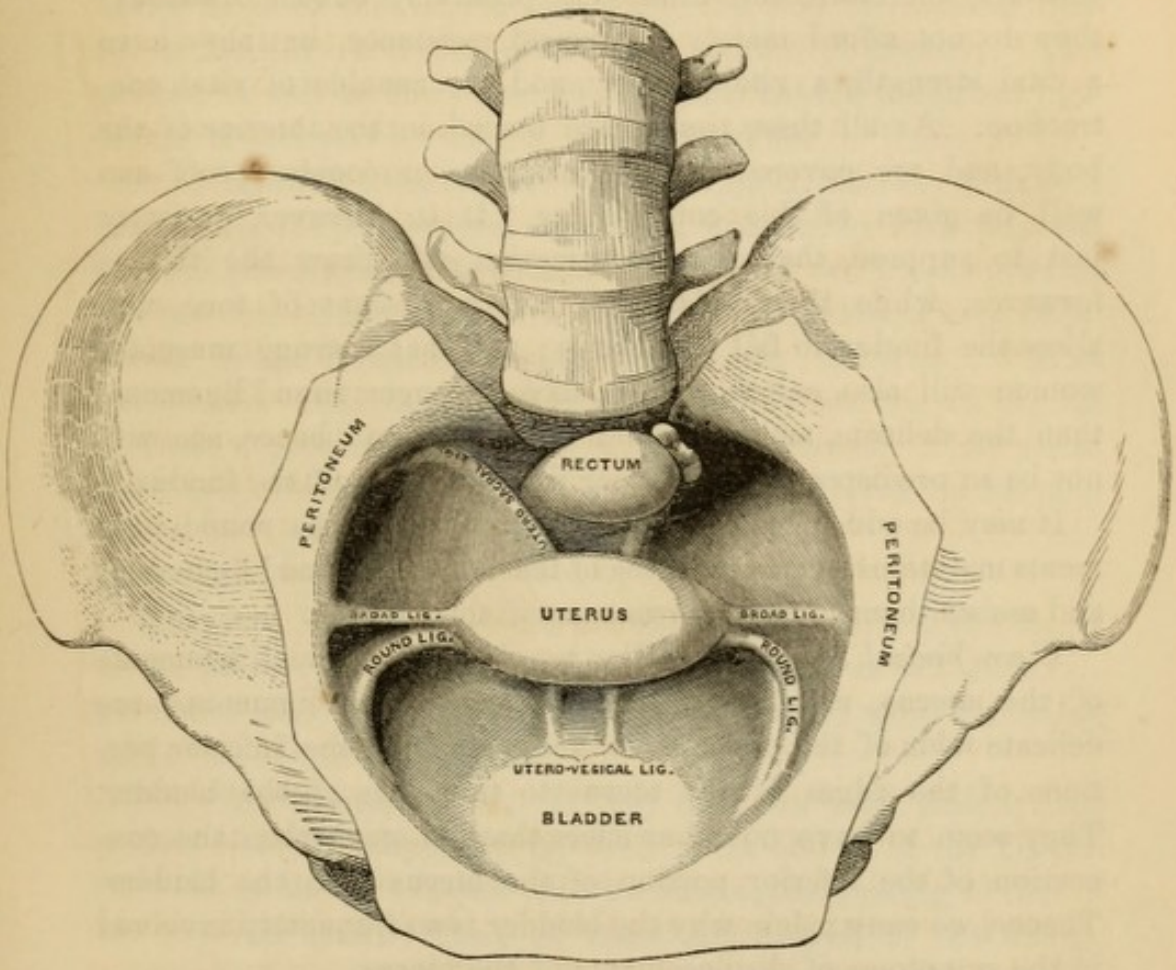


POSTERIOR VIEW OF THE UTERUS AND ITS LIGAMENTS.

laminæ. These ligaments are, therefore, dense and strong tissues. Their attachment to the sides of the pelvis, will be found to correspond to a line drawn parallel to the anterior margin of the great sacro-sciatic notch. This line is nearly vertical when the woman is on her back, and therefore oblique when she is erect. Thus, the uterus has not merely a strong support from these broad ligaments, suspending it in the central portions of the pelvis, but by them its obliquity is maintained. The outer attachments are fixed to the sides of the pelvis, and this being oblique in the erect position, gives the same obliquity to the ligaments and to the uterus between their folds.

Round Ligaments.—The round ligaments, or *ligamenta rotunda*, are connected with the cornua of the uterus, immediately below the origin of the Fallopian tubes. They are situated between

the laminæ of the broad ligaments, and run somewhat obliquely in contact with the anterior layer, through which they are visible, to the sides of the pelvis. They gradually rise towards the superior strait, in an anterior direction, so as eventually to



VIEW OF THE UTERUS AND ITS LIGAMENTS IN THE DIRECTION OF THE AXIS OF SUPERIOR STRAIT.

reach the internal abdominal rings; they then pass along the abdominal canals, through the external abdominal rings, and are lost in the fibrous tissue of the mons veneris. The line of direction is obliquely outwards and forwards, from the upper portion of the uterus to the internal abdominal rings. This, therefore, is the direction of their force or resistance, and covered as they are by the anterior peritoneal laminæ of the broad ligaments, they must, if at all operative, maintain the obliquity of these ligaments, and also of the uterus. By them the fundus of the uterus, and the anterior superior folds of the broad liga-

ments, are kept forwards. The fundus cannot fall backward while their action is perfect.

These cords are not, however, strictly ligamentous; but, as is now well known, they contain muscular fibres. When they contract, therefore, the fundus is positively drawn forwards; they do not afford merely a physical resistance, but they have a vital strength, a vital tonicity, and are capable of vital contraction. As all these tissues are buried in the interior of the body, and are covered by the intestines, no ocular proof can well be given of this contractility. It is, however, perfectly just to suppose, that their contraction will draw the fundus forwards, while their relaxation, or their want of tone, will allow the fundus to fall backwards; and that a strong muscular woman will also, *cæteris paribus*, have stronger round ligaments than the delicate, asthenic child of luxury, and hence, she will not be so predisposed to posterior displacements of the fundus.

It may be added, that this muscular power in the round ligaments maintains a certain degree of tension in the broad ligaments, and assists them in the performance of their duties.

Utero-Vesical Ligaments.—The two inferior anterior ligaments of the uterus, usually termed the *utero-vesical* ligaments, are delicate folds of the peritoneum, and pass from the inferior portions of the edges of the uterus to the sides of the bladder. They seem to have no other effect than to strengthen the connection of the inferior portion of the uterus with the bladder. Thence, we can explain why the bladder is so frequently involved in the symptoms of displacements of the uterus.

Utero-Sacral Ligaments.—The inferior posterior ligaments of the uterus, the *utero-sacral* ligaments, are far more decisive in their formation, and important in their influences. In dissections, after the small intestines are removed from the pelvis, these ligaments are immediately recognized, extending from the sides of the cervix uteri, posteriorly to the sacrum on either side of the rectum. They diverge from each other as they approximate the inferior portions of the sacrum, so that the rectum lies between them. They consist of two laminæ of peritoneum, containing between them some muscular fibres from the uterus, so that they also have tonicity and some power of contraction. The peritoneum, on the posterior surface of the uterus, continues along the

neck of the uterus and the upper third of the vagina; it is then reflected between the utero-sacral ligaments to the anterior surface and sides of the rectum. Thus, a deep pocket or "cul-de-sac," is formed behind the womb, having this organ and the upper third of the vagina anteriorly, the two utero-sacral ligaments laterally, and the rectum and sacrum posteriorly. This pocket, as well as the whole of the space behind the broad ligaments, is occupied by coils of small intestines.

It is manifest from the above description, that any influence exerted by the utero-sacral ligaments, whether by their physical or vital powers, must be to keep the neck of the uterus towards the sacrum. Thence, the lower part of the uterus is kept backwards by the resistance of the utero-sacral ligaments. The os and cervix uteri cannot of course approximate the os vaginæ without a previous relaxation of these ligaments. They assist, therefore, in maintaining the obliquity of the uterus, by keeping the os uteri pointing towards the coccyx.

General Remarks.—Such are the chief supports of the uterus in the pelvis; and, the more they are examined as to their structure, and as to their location and operation, the more admirable and efficient will they appear.

They are all suspensory. If they maintain their tonicity, the uterus remains suspended by their joint efforts in the central portions of the pelvis, and with its axis corresponding to that of the superior strait. They all resist any descent of the uterus, while the falling back of the fundus is powerfully counteracted by the round ligaments, assisted by the utero-sacral, keeping the neck of the organ backwards. This effect is increased by their simultaneous resistance in opposite directions, as the one acts upon the superior, the other on the inferior extremity of the organ.

If these ligaments were perfectly rigid, like bone or metal, the womb would be fixed in its central position, with the os uteri towards the coccyx, and its fundus towards the linea alba. But as they are all pliable, and some of them muscular in their structure, they allow some degree of mobility to the uterus, and, within certain limits, by their physical and contractile powers restore it again to its proper position, when it has been displaced. The uterus, therefore, being a movable viscus, may descend when

much pressure is made from above, and its fundus may be pushed backwards, from distension of the bladder, or forwards when the bladder is empty, by distension of the rectum, the sigmoid flexure of the colon, and the small intestines. When these causes are not operative, it can resume its proper position from the action of its ligaments, and of course the more readily if these ligaments retain their natural tonicity, as in the young and vigorous, who have not borne children.

The immense utility, indeed the absolute necessity, of this mobility of the uterus, must be evident on the least reflection; but, unfortunately, it has been too frequently forgotten, as will hereafter be shown, in the treatment of its displacements.

ACCESSORY AGENTS.

Besides the ligaments, which are the main supports by which the uterus is suspended in the pelvis, and maintained in its oblique position as regards the axis of the body, there are *accessory agents* of considerable importance, which have not generally been recognized.

Pelvic Fascia.—This aponeurotic membrane, which may be considered as continuous with the fascia iliaca, and which receives numerous fibres from the tendon of the psoas parvus muscle, descends from the linea ilio-pectinea, or superior strait of the pelvis, closely adherent to the bones of the pubis and ilium, until it reaches the upper margin of the thyroid foramen. Here it appears to divide into two laminæ; the one, continuing on the side of the pelvis, and over the obturator internus muscle, forms the obturator fascia, &c.; the other, or more internal, passes over the levator ani muscle to the vagina and rectum. Anteriorly, portions of this internal lamina are reflected to the bladder, thus forming a part of the utero-vesical ligaments; and laterally, reflections pass to the sides and superior surface of the vagina, and to the neck of the uterus above the insertion of the vagina; while posteriorly, beyond the uterus, some fibres go to the utero-sacral ligaments, increasing their strength and efficiency.

THE LEVATORES ANI MUSCLES arise between the two laminæ of the pelvic fascia, from the symphysis pubis to the spinous process of the ischium. This origin is marked at the superior portion by a circular white line. These muscles, from this extensive origin, descend to the rectum, anus, &c., and constitute, of themselves, the muscular floor of the pelvis, while their aponeurotic covering, the internal lamina of the pelvic fascia, as just mentioned, extends to the vagina, the neck of the uterus, and to the utero-sacral ligaments. In females who have not borne children, this floor has considerable firmness with much elasticity, and, involving as it does the cervix uteri, contributes something to the maintenance of the central position of the womb in the pelvis. Even after child-birth, it contracts so much that its mechanical influences are still important. This floor, covered internally by peritoneum, receives all the pressure from the straining efforts of the woman, except that which is communicated to the rectum in the peritoneal cul-de-sac between the utero-sacral ligaments.

PRESSURE OF THE SMALL INTESTINES.—Another and still more influential agent in maintaining the natural position of the uterus, and especially its obliquity, is the *pressure of the small intestines* upon this organ. To explain this paradoxical assertion, a few undeniable facts must be remembered.

The mesentery, connecting the small intestines with the posterior part of the abdomen, admits of so much mobility of these intestines as to allow them to fall freely into the cavity of the pelvis, which they do whenever this cavity is not fully occupied. Hence, they are found in front and also behind the broad ligaments; much the larger portion is usually behind, where there is more space, owing to the hollow of the sacrum, and the deep pocket or cul-de-sac between the utero-sacral ligaments back not only of the uterus, but of the upper third of the vagina. The intestines descend not merely from gravity, but are pressed firmly into the unoccupied portions of the pelvis by the contraction of the muscular walls of the abdomen in every movement of the individual. The impaction becomes greater the more powerful the contraction, as in ascending heights, running, straining, &c.

Hence, it clearly follows that the small intestines behind the

uterus, when this organ is *in situ*, and the bladder not inordinately distended, act as an almost insuperable impediment to retroversion of the uterus; while those folds of the intestines which are anterior to the broad ligaments, together with the bladder, prevent anteversion of the uterus. The natural obliquity of the womb is, therefore, maintained by the weight and pressure of the intestines. They not only afford the softest nidus or bed imaginable for it, but serve to sustain its proper position by presenting barriers to its displacement either anteriorly or posteriorly. If, however, the pressure on the uterus be very great, it may be forced directly downwards, constituting, technically, a prolapsus uteri.

OBLIQUITY OF THE PELVIS.—There is, however, another anatomical fact which greatly neutralizes even this tendency to direct descent.

It is well known, but should be more constantly borne in mind, that the *obliquity of the pelvis*[1] is so great that, when a woman stands erect, a vertical line representing the axis of the body will, in its descent, touch the anterior surface of the third lumbar vertebra, and, falling into the pelvis, will strike against the bodies of the ossa pubis. It necessarily results that the pressure transmitted through the intestines, occupying the lower part of the abdomen, must be in the same direction, and therefore their direct impulse is against the pubis. It follows, also, that this pressure of the superincumbent viscera does not impinge directly on the top or fundus of the uterus *in situ*, but on its posterior surface. The tendency, therefore, of all the pressure from above, the accumulative weight of the superincumbent viscera, assisted by the powerful contractile effort of all the muscular parietes of the abdomen, is to push the fundus of the uterus directly forwards towards the pubis, and of course to produce the ascent of the cervix uteri towards the hollow of the sacrum, in other words, to cause "anteversion." But, the presence of the bladder and small intestines in front of the broad ligaments prevent the forward proclivity of the fundus; and the packet of intestines behind, in the cul-de sac of the peritoneum, between the rectum and vagina, &c., prevent

[1] See diagram, p. 237.

the ascent of the cervix. In other words, the displacement of the uterus, when the organs are healthy and in a natural position, is resisted by the very weight and pressure from above, which, under other circumstances, might, and often does, cause its displacement.

GENERAL REMARKS.

Such are the admirable provisions made for the sustentation of the uterus. They are, indeed, so effectual that no bad effects usually result among healthy and laborious women, whether in savage or civilized life, though they are daily on their feet for many hours, and are constantly making great muscular effort in their various occupations.

The fundamental principles, alluded to, are the obliquity of the pelvis, necessitating the obliquity of the uterus, the parallelism of this organ to the pubis, and of its long axis to the axis of the superior strait. This obliquity is maintained by the similar oblique attachments of the ligamenta lateralia, and the conjoint action of the ligamenta rotunda with the ligamenta utero-sacralia, the one keeps the fundus towards the pubis, and the other the cervix towards the sacrum; while the pressure of the intestines surrounding the uterus is so directed as to form a barrier to the anterior and posterior displacements, and, even by the indirectness of its action, to prevent a prolapsus uteri. All these agencies, acting in concert, maintain the obliquity of the uterus as regards the axis of the body, and yet permit a certain degree of motion to this organ. Thus, when the bladder is distended, it is pushed backwards towards the sacrum; when this viscus is emptied, and the intestines, particularly the sigmoid flexure of the colon and of the rectum, are distended in the ever-varying condition of the alimentary canal, the uterus will be pressed towards the pubis. So, also, in all the muscular movements of the body, the womb will be more or less depressed, but will again rise as soon as the effort has ceased. The ligaments of the uterus are so elastic and yielding as readily to allow these necessary movements with impunity; and, at the same time, have such strength and contractility as to bring the organ back to its normal oblique position.

CHAPTER II.

VARIETIES OF DISPLACEMENTS OF THE UTERUS, AND THEIR CAUSES.

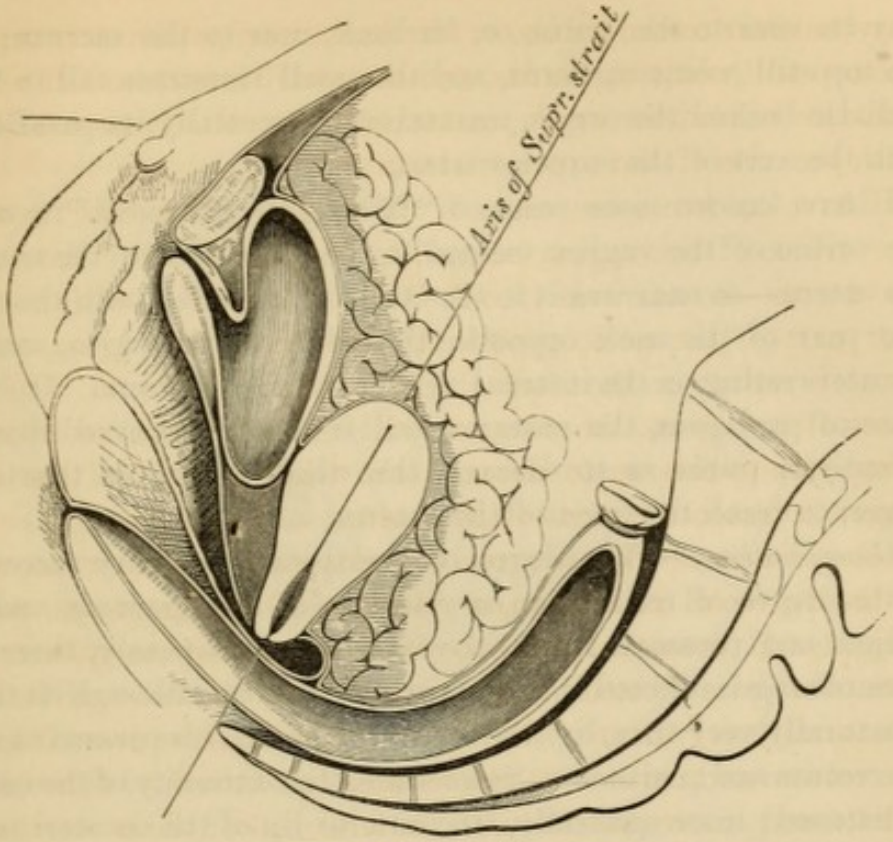
THE natural position of the uterus, as just described, is perfectly consistent with the welfare and comfort of the individual; any material departure from it must be regarded as unnatural, and may sooner or later cause discomfort, or positive mischief. Such deviations are usually termed *displacements* of the uterus.

VARIETIES.

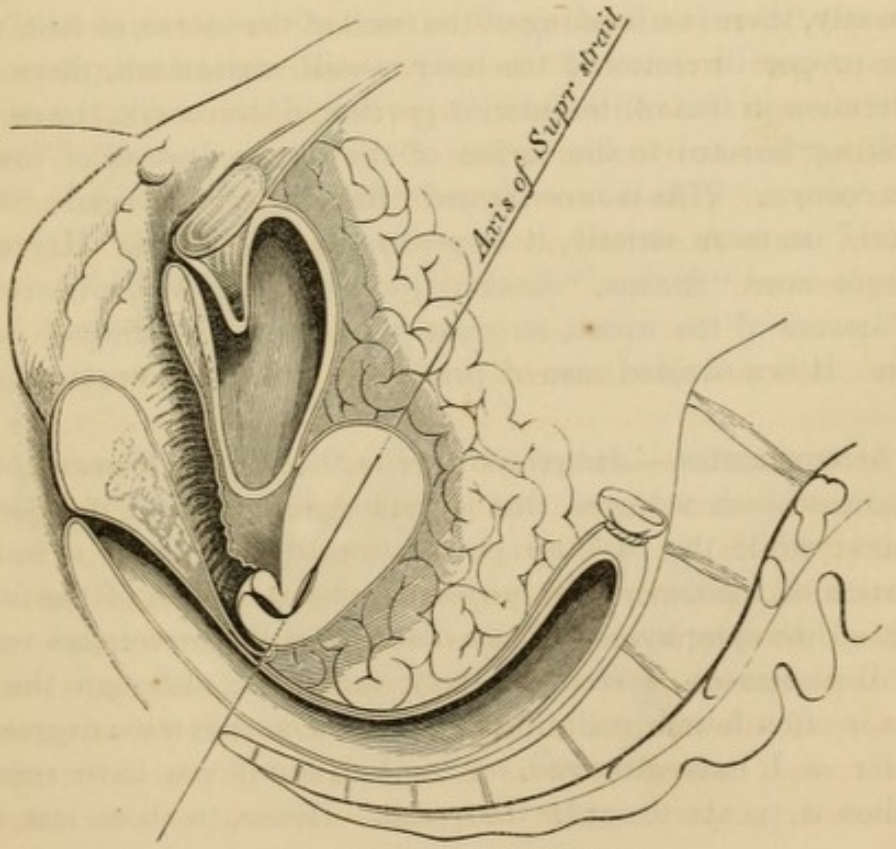
There are several varieties of displacements, which have been well and systematically arranged under *four* general heads or divisions, viz., Prolapsus, Anteversio, Retroversio, and Procidentia Uteri. Each variety, with its complications, should be well defined and clearly comprehended.

No allusion is here made to lateral and upward displacements, as they will be noticed among the complications arising from pelvic tumors.

PROLAPSUS.—By *prolapsus uteri* should be understood the simple descent of the organ, so that the extremity of the neck of the uterus impinges unnaturally on the posterior wall of the vagina, and yet the axis of the uterus does not materially depart from its parallelism with the axis of the superior strait. It embraces, therefore, merely those cases of displacement where the fundus continues to point towards the linea alba. If the top or fundus be anywhere between the bones of the pubis and the promontory of the sacrum, without pointing against the os pubis in front or the sacrum posteriorly, and the neck presses firmly on the bottom of the pelvis, it is a case of prolapsus. The uterus



PROLAPSUS.



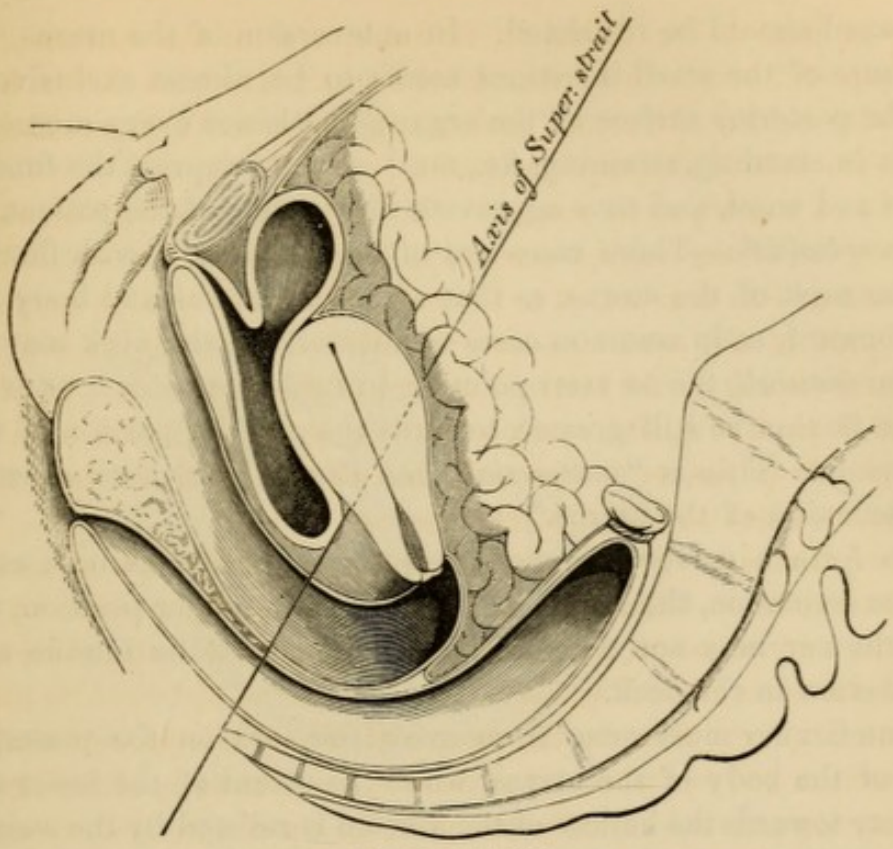
PROLAPSUS WITH FLEXION.

may be near to the pubis, or, far back, near to the sacrum; but the top still points upwards, and the small intestines fall in front and also behind the organ, maintaining essentially its parallelism with the axis of the superior strait.

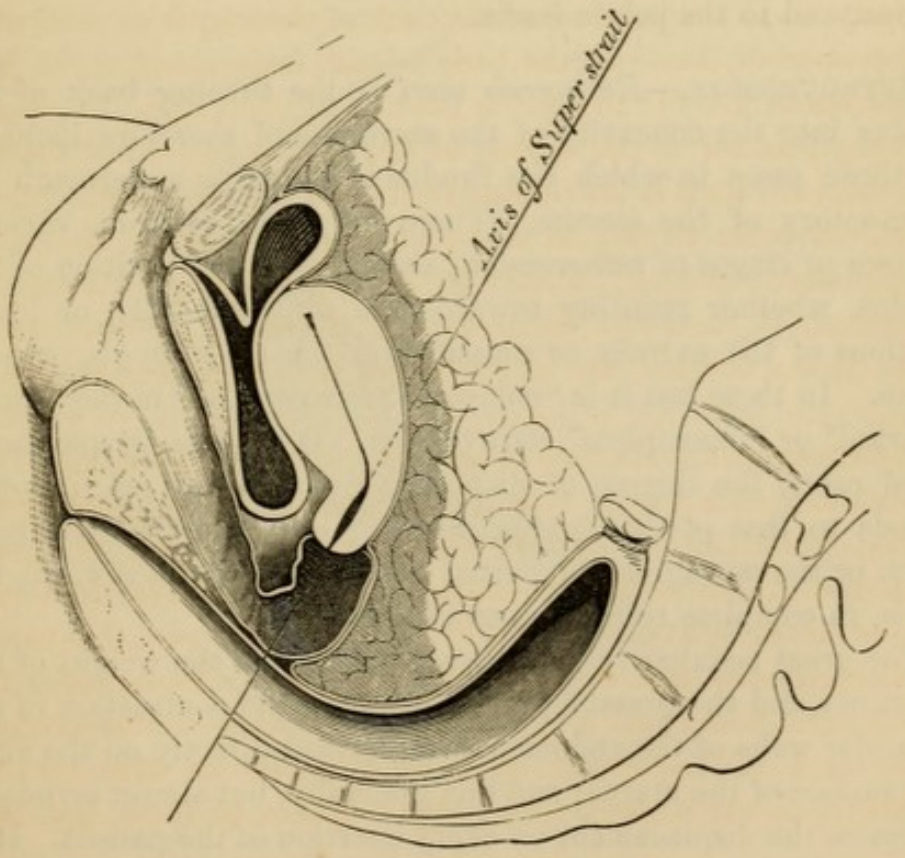
I have known some cases of "falling of the womb," in which the orifice of the vagina seemed to be obstructed by the neck of the uterus—so near was it to the body of the pubis, with the anterior part of the neck opposite the orifice of the vagina, and the os uteri resting on the internal surface of the perineum. In other cases of prolapsus, the anterior wall is so far removed from the symphysis pubis, as to demand the whole length of the index finger, to reach the front of the uterus.

Complications.—The degree of prolapsus must vary according to the degree of relaxation, or yielding of the ligaments, and the weight and pressure from above. Not unfrequently, therefore, some change is effected in the form of the uterus, although its tissue is naturally very firm, by the force with which it is pressed against the rectum and perineum. Sometimes, the extremity of the cervix is flattened; more generally, the anterior lip of the os uteri seems to be prolonged, and the posterior lip flattened. Still more frequently, there is a bending of the neck of the uterus, so that, while the proper direction of the body is still maintained, there is an alteration in that of the inferior portion of the cervix, the os uteri looking forward to the orifice of the vagina, instead of towards the coccyx. This is now termed "flexion" of the womb, "flexio uteri," or more strictly, it is *prolapsus with flexion.* Hence, the simple word "flexion," should always be associated with the idea of descent of the womb, so great as to cause a bending of its tissue. It is a decided case of prolapsus, with this complication.

ANTEVERSION.—*Anteversio uteri* is the falling forward of the fundus to such a degree, that it impinges against the bladder and pubis; while the os uteri points towards the lower or middle portion of the sacrum, in proportion to the descent of the fundus behind the symphysis. If this description be correct, this variety of displacement is comparatively rare; for, although the fundus is often found inclining forward to a considerable degree, yet, as far as I have observed, no morbid symptoms have resulted, unless it points towards the pubis. Hence, to these last cases



ANTEVERSION.



ANTEVERSION WITH FLEXION.

the word should be restricted. In anteversion of the uterus, the pressure of the small intestines seems to be, almost exclusively, on the posterior surface of the organ; and hence every muscular effort in standing, straining, &c., must serve to depress the fundus more and more, and thus aggravate the distress of the patient.

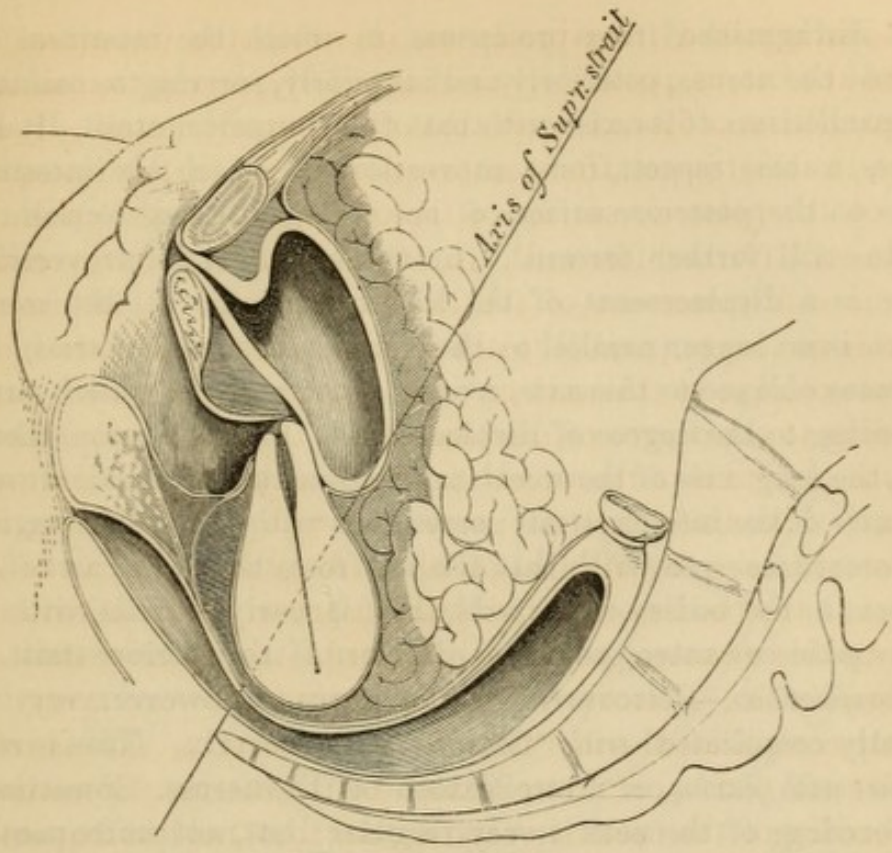
Complication.—These cases are often complicated with flexion of the neck of the uterus, so that while the fundus and body are far forward, as in common cases of anteversion, the neck may be *in situ naturali*, the os uteri pointing towards the coccyx, or even, if the flexion be still greater, towards the anterior portion of the perineum. This is "*anteversion with flexion*," or more shortly, "anteflexion of the uterus."

To form a correct diagnosis requires attention, as on a careless examination, the neck being found in its proper position, the practitioner may not notice the displacement of the fundus, and the flexion in the neck.

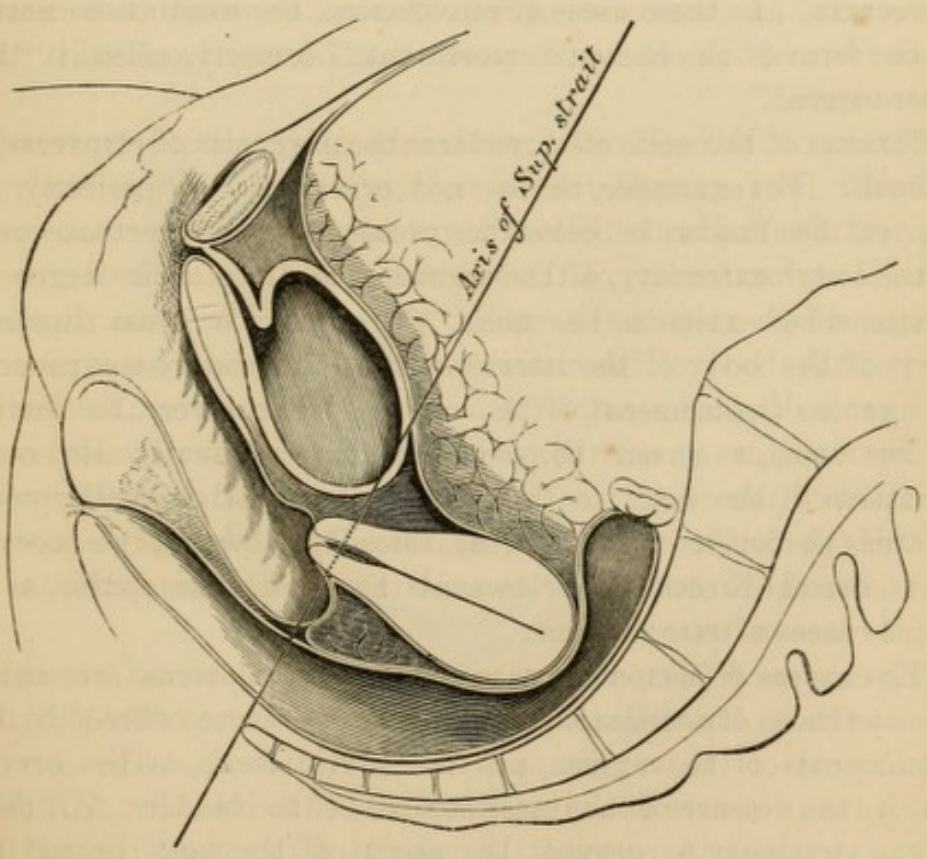
Anteflexion must arise from great pressure on the posterior part of the body of the uterus, while the ascent of the lower extremity towards the hollow of the sacrum is resisted by the weight of the intestines behind, by the attachments of the cervix to the vagina, and to the pelvic fascia.

RETROVERSION.—*Retroversio uteri* is the turning back of the fundus into the concavity of the sacrum, and therefore includes all those cases in which the fundus is below, or underneath the promontory of the sacrum. There may be, therefore, various degrees or stages of retroversion, according to the position of the fundus, whether pointing towards the upper, middle, or lower portions of the sacrum, or pressing on the os coccygis, or perineum. In these last it is "complete" retroversion; in the former, "partial" or "incomplete" retroversion. Of course, in uncomplicated cases, the degree of displacement of the os uteri, corresponds to that of the fundus, pointing either towards the perineum or the os vaginæ, in partial retroversions, and towards the pubis, in complete retroversions of the organ.

The great peculiarity of retroversion is, that the weight of the intestines, and the pressure, therefore, from the contraction of the muscular walls of the abdomen, are received directly on the anterior surface of the uterus; and this gradually, but almost certainly, increases the displacement on every exertion of the patient. It is



RETROVERSION.



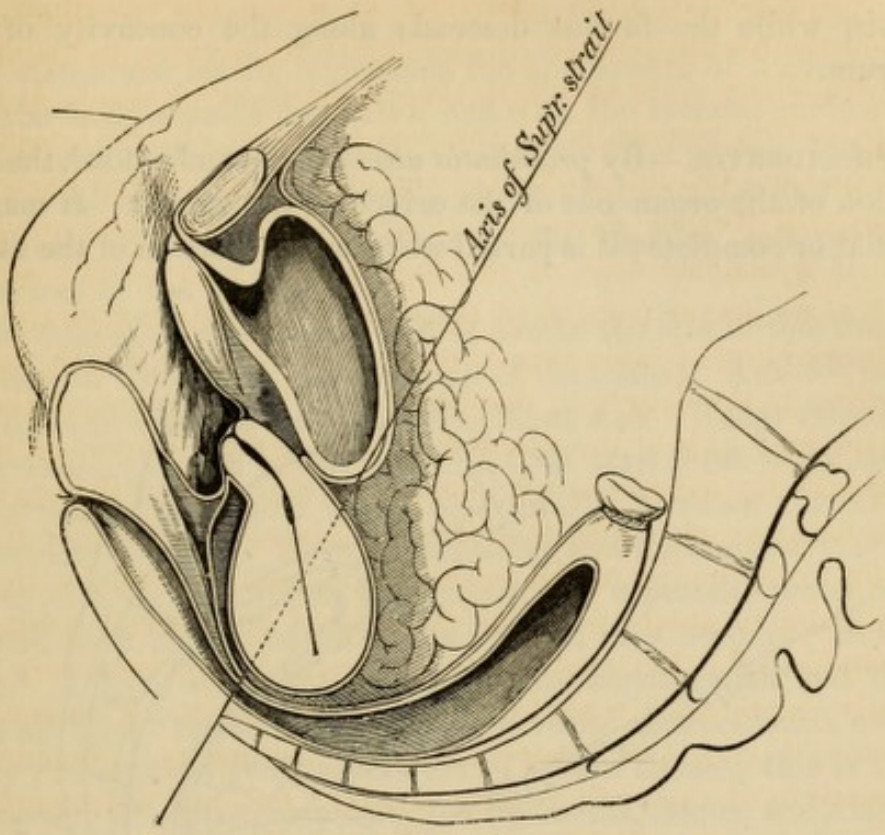
PARTIAL RETROVERSION.

thus distinguished from prolapsus, in which the intestines fall around the uterus, posteriorly and anteriorly, serving to maintain the parallelism of its axis with that of the superior strait. It also differs, in this respect, from anteversion, in which the intestines press on the posterior surface of the organ, and tend to push the fundus still further forward. In anteversion and retroversion, there is a displacement of the longitudinal axis of the womb, which is no longer parallel to the axis of the superior strait, but becomes oblique to this axis, crossing it at an angle, which varies according to the degree of displacement. In retroversion, therefore, the long axis of the womb may be sometimes coincident with the axis of the inferior strait; sometimes with that of the vagina; and sometimes even with that of a line from the lower part of the sacrum to the bodies of the pubis, that is, nearly parallel with the coccy-pubic or antero-posterior diameter of the inferior strait.

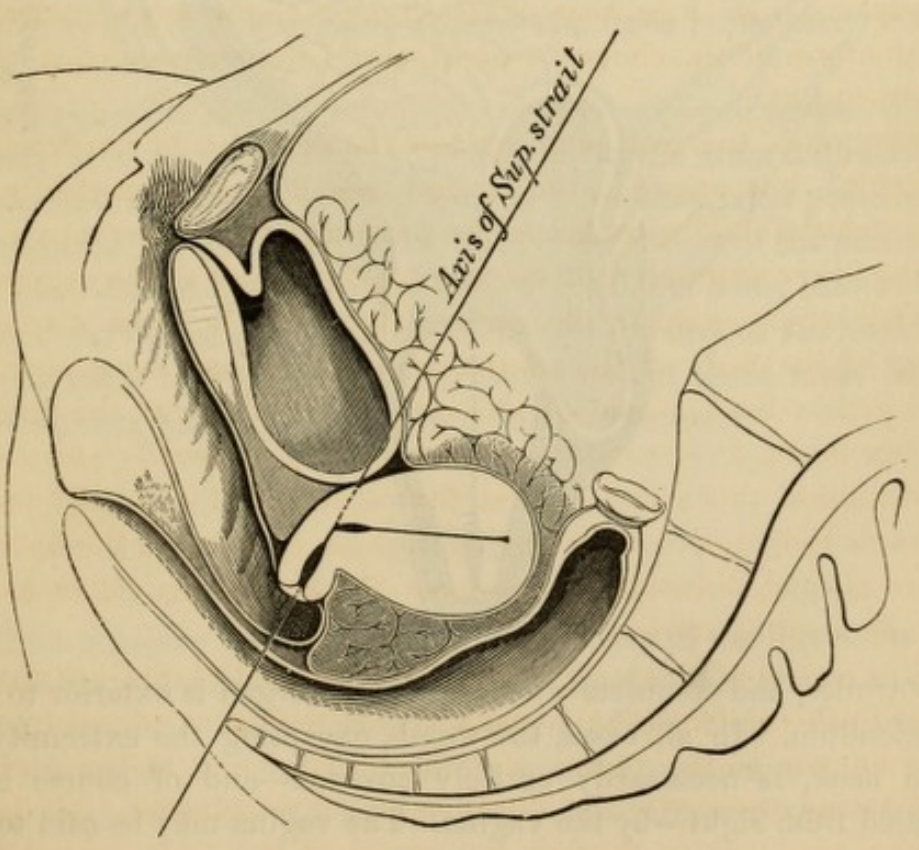
Complication.—Retroversion of the uterus is, however, very frequently complicated with "flexion" at the cervix. This is *retroversion with flexion*, or "retroflexion" of the uterus. Sometimes, the bending of the neck is very regular; but, not unfrequently, it is abrupt, well marked, and usually towards the upper third of the cervix. In these cases of retroflexion, the womb is so nearly of the form of the chemist's retort, that I formerly called it "the retort-uterus."

Flexion of the neck often renders the diagnosis of retroversion difficult. For example, the os and cervix may be perfectly *in situ*, yet the fundus be below the promontory, and perhaps even at the lower extremity, of the sacrum, according to the degree of flexion which exists in the neck. There may be great displacement of the body of the uterus, with all its bad consequences, and yet no displacement of the cervix. If, however, the fundus be low down, at or near the perineum, there is usually also some deviation of the neck; so that the os uteri will generally point towards the orifice of the vagina, instead of towards the coccyx —its normal direction—or towards the symphysis pubis, as in simple cases of retroversion.

The causes of flexion in cases of retroverted uterus, are analogous to those of anteflexion, namely, the resistance offered by the attachments of the vagina, and the pelvic fascia, at the cervix, and by the pressure of the intestines and of the bladder. All these have a tendency to prevent the ascent of the neck behind the



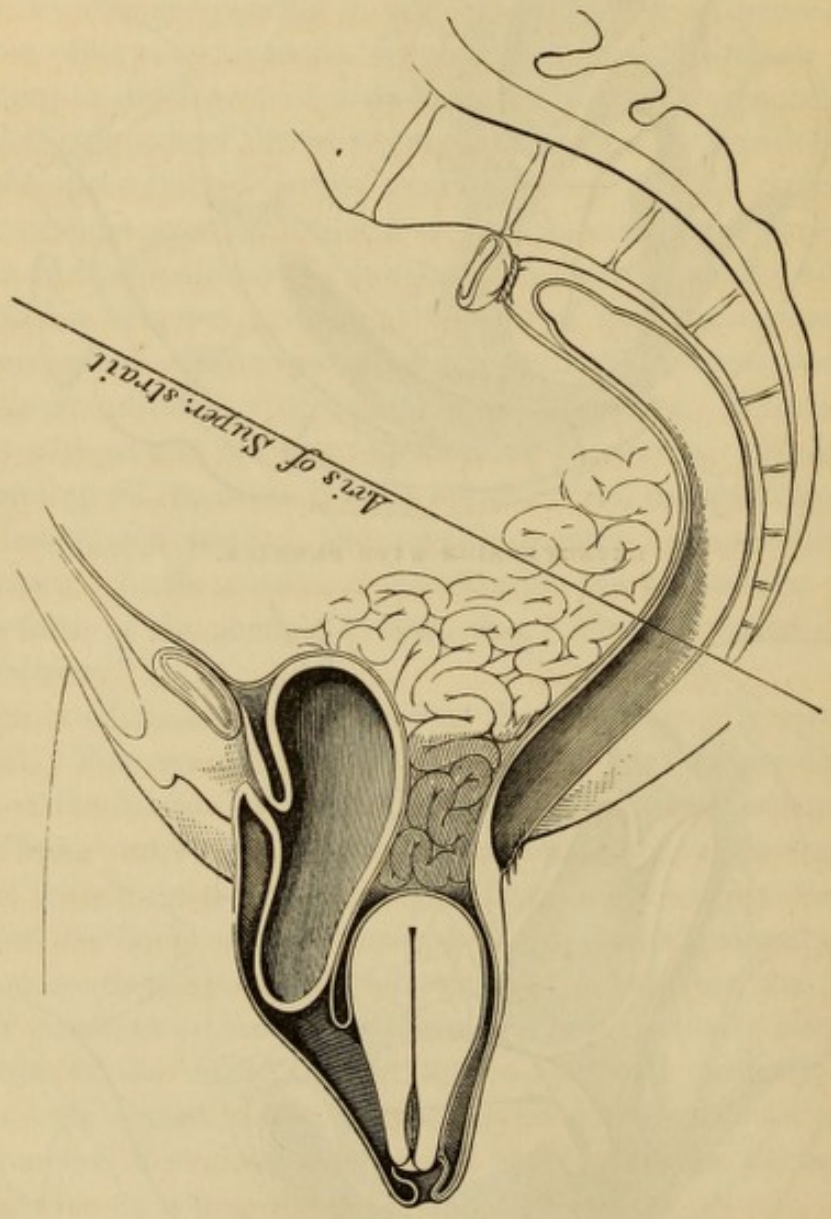
RETROVERSION WITH FLEXION.



PARTIAL RETROVERSION, WITH FLEXION.

pubis, while the fundus descends along the concavity of the sacrum.

PROCIDENTIA.—By *procidentia uteri* is to be understood, the projection of the organ out of the orifice of the vagina. It may be partial or complete; it is partial when only a portion of the uterus



PROCIDENTIA.

protrudes, and complete when the whole organ is exterior to the pudendum. In all cases, the womb, excepting the extremity of the neck, is necessarily entirely covered—and of course concealed from sight—by the vagina. The vagina may be said to be

inverted; instead of forming a canal to the womb, with the mucous membrane inside, it presents the appearance of a conical or globular body outside the vulva, and with the mucous surface on the exterior. It may contain not merely the uterus, but frequently the ovaries, with large portions of the round and broad ligaments, of the small intestines, of the bladder, and perhaps sometimes of the rectum.

The degree of procidentia, and of course the size of this tumor, depends on the degree of relaxation of the tissues. Authors mention cases in which it was of an enormous size. Under these circumstances, exposed as the vagina and os uteri must be to external irritation, the whole tissue, occasionally, becomes altered by inflammatory action. Hence, thickening and indurations may result to such an extent that the procidentia, especially when complicated with enlargements of the uterus, may become "irreducible." I have seen many cases of this displacement, but they have all been "reducible." The occurrence of procidentia necessarily presupposes great relaxation of all the tissues; this is true, not merely of those composing the ligaments, fasciæ, and vagina, but also of those belonging to the perineum and vulva. Hence, it is observed chiefly in aged women who have borne many children.

It is generally stated that procidentia follows a prolapsus. Yet, strictly, it is not prolapsus—mere descent in the normal direction of the axis of the uterus—but retroversion, that must precede a procidentia. The fundus must fall into the hollow of the sacrum, and even descend to the inferior portion of this bone, before the axis of the uterus can become coincident with that of the vagina. A prolapsus may precede a retroversion; but there must be a retroversion, before there can be a procidentia uteri.

CAUSES.

If we consider merely the apparent delicacy of the ligaments of the uterus, a displacement of this organ would seem almost inevitable, even under the ordinary motions of the body; but when we remember the obliquity of its position, maintained, as has been explained, by the harmonious co-operation of the lateral,

anterior, and posterior ligaments, and also by the pressure of the bladder and intestines in front and behind, we would infer that displacements should be of rare occurrence. This idea is confirmed by the acknowledged fact, that a very large proportion of women have no suffering from this source, and that multitudes are engaged in the most active and laborious occupations with perfect impunity.

Nevertheless, displacements do at times occur, existing, it may be, without any perceptible injury, but frequently producing or maintaining the most severe suffering, mental and corporeal, to which the human system is liable.

An investigation of the causes becomes, therefore, all-important. They may be divided advantageously under the two general heads of *predisposing* and *exciting* causes. The former should be considered separately, although operating also very constantly as exciting, as well as predisposing causes.

Predisposing Causes. *Relaxation of the Ligaments and of the reflected Pelvic Fascia.*—The actual condition of these tissues is not perhaps a subject of positive demonstration, as they are situated within the body, and can neither be seen nor felt. We may safely conclude, however, that in states of great general weakness, languor, and relaxation of the system, the ligaments, which are partially of a muscular character, partake of the general exhaustion.

We know, moreover, that during pregnancy all these ligaments are exceedingly elongated, as well as developed. Of course, for some time after parturition they remain long, and much relaxed. Hence, most married women date the commencement of their sufferings from a particular abortion, or confinement at term. On this account, pregnancy is to be regarded as predisposing to displacements of the uterus.

Increased Size and Weight of the Uterus.—The action of this cause is obvious, for the larger size necessarily presents a broader surface to the superincumbent viscera, and the heavier the organ the greater the strain upon its supports. The frequency and the great influence of this cause has not been sufficiently regarded.

Although the ligaments may be as short and firm as natural, yet, in the early stages of pregnancy, every one considers some displacement of the organ as almost inevitable for a few weeks.

Also, there is a strong predisposition to displacement after delivery, especially about the tenth day, when the organ is large and heavy, and has descended completely into the pelvis. This, in addition to the relaxation of the natural supports of the uterus, is another and a very powerful reason why females look upon their confinements as the original cause of their troubles.

There are various other sources of enlargement of this organ, all of which, therefore, directly or indirectly, facilitate its displacement. Such are hypertrophies, indurations from inflammatory action, cancerous or other malignant diseases, physometra or hydrometra, intra- and extra-uterine tumors, or tumors in the substance of the organ. In many of these cases, there is a constant displacement; but in others it takes place only while the woman is in the erect position, and then excites such sensations of weight and pressure as to prevent her from taking much exercise.

Distension of the Abdomen.—A predisposition to displacement often arises from pressure made on the uterus by distension of the abdomen, due, for example, to constipation, to intestinal or peritoneal tympanites, to ascites, to a distended bladder, to enlargements of the ovaries, of the glands of the mesentery or of the pelvis, to increased size of the liver, kidneys, omentum, &c., and to extra-uterine pregnancy.

Pressure on the Abdomen.—These causes operate virtually in the same manner as the last mentioned, and are dependent on all those circumstances which diminish, or have a tendency to diminish, the size of the abdomen. The peritoneal "cavity," so called, is in reality a plenum. Every agent which tends to diminish its size acts as a compressor to the viscera. Hence all pressure, from the tight dresses and corsets to which women are so strangely devoted, from the weight of the garments tightly secured around the waist, from abdominal or "utero-abdominal" supporters, must act as a depressing force on the body of the uterus, and constitute at least a predisposing cause of uterine mal-positions.

Leucorrhœa, &c.—Much has been written of leucorrhœa, of relaxation of the vagina, perineum, &c., as facilitating displacements of the womb. These are of no consequence, except as they may evince a corresponding relaxation of the internal tissues. For the uterus is maintained *in situ* by its ligaments, &c., as above

shown, and not by the vagina; so that relaxation of this canal may be, and often is, very great, without any departure of the uterus from its natural position.

EXCITING CAUSES.—The predisposing causes, now enumerated, may exist for a long time, in many individuals, without the occurrence of any decided displacement. This is especially the case when the individual lives a quiet life, without the necessity of much muscular exertion.

Nevertheless, these *predisposing causes* are often adequate, of themselves, to effect a displacement. If there be a relaxation of the ligaments, the natural weight of the organ and the usual pressure from the intestines will force the uterus out of its position. This will more readily occur if motion be resorted to soon after parturition, when the organ is larger and heavier than usual, and its ligaments are elongated.

Also, even when the ligaments are of their proper length and tonicity, an increased size of the womb from any cause, an augmentation of the contents of the abdomen, or a diminution of its cavity from pressure externally, may, separately or conjointly, by their steady, constant influence week after week, or even year after year, gradually effect a displacement. Doubtless this is often the case.

Muscular Effort.—Displacements, however, generally occur more rapidly, and sometimes even instantaneously, in consequence of a fall, a severe blow, a concussion affecting the abdominal viscera, or more frequently from some violent muscular effort. This may happen even when no predisposition exists, but much more readily when there is such a predisposition.

Many individuals, therefore, trace the commencement of their sufferings to *straining efforts* in micturition or defecation, especially when made soon after parturition.

Others attribute the accident to a long, fatiguing walk, to running, or jumping, to prolonged or violent dancing, to an effort made in raising weights or carrying burdens, to ascending stairs or heights, to violent sneezing, coughing, or vomiting; indeed, to *any sudden or powerful contraction of the abdominal muscles and diaphragm.* For by each of these, all the viscera are simultaneously compressed, and often with great force. The uterus, situated in

the inferior portion of the body, must receive all such impulses. No wonder, then, that its ligaments and supports often yield under these reiterated impressions, and permit the organ to recede from its proper position.

Tumors, &c.—Anteversion or retroversion, with or without prolapsus, may not unfrequently be caused by the development of *heterologue tumors*, on the anterior or posterior portions of the uterus. When on the posterior surface the fundus will be inclined forward, and when on the anterior surface it will generally be inclined backward. Such cases of displacement are often incurable, the cause being permanent, although they may be greatly palliated.

Displacements are also often determined by other developments, as by *osseous growths from the pubis or the sacrum, by enlarged glands, by the cyst of an extra-uterine pregnancy, by abscesses, and other tumefactions in the pelvis.* They are still more frequently the result of *ovarian enlargements.* A small ovarian tumor in the pelvis may cause a "lateral displacement" of the uterus, noticed by some authors, but of no great importance, as the symptoms resulting belong rather to the displaced or enlarged ovary than to the womb. But, of course, anteversion and retroversion also are not unfrequently the consequence of such ovarian enlargements when they press on the anterior or posterior surface of the uterus.

THE CHARACTER OF THE DISPLACEMENT must depend on a combination of circumstances not to be easily understood. Some speculations on this subject may, however, be broached.

If the bladder or the rectum be not much distended, the small intestines will be driven, by the muscular exertions, so equably behind and before the uterus, that retroversion or anteversion will probably not occur; but *prolapsus* or descent of the uterus will result, the axis of the organ not materially departing from its parallelism with that of the superior strait.

If the bladder should be empty, and the sigmoid flexure of the colon and the rectum be much distended, the fundus may be precipitated against the pubis, and *anteversion* result.

Should, however, the bladder be distended, and the rectum empty, then any sudden impression would almost inevitably force the fundus of the uterus under the promontory of the sacrum, so

that a partial, and eventually a complete, *retroversion* would be produced.

In cases of great relaxation of the tissues of the pelvis and of the perineum, continued succussions from the abdominal parietes would eventually cause a partial or complete *procidentia uteri*, with the consequent displacements of the bladder, intestines, &c. Procidentia will be, as already shown, the immediate result not of a prolapsed, but of a retroverted womb.

Some practitioners have attempted to account for the occurrence of anteversion or retroversion of the uterus by the hypothesis that in congestion, inflammation, or induration of the anterior half of the organ its size and weight are so increased that it falls forward, thence *anteversion;* but if the posterior half be similarly affected, then its greater size and weight cause *retroversion!* Hence, inflammation and induration are the cause of such displacements; and being removed, the displacements disappear!

It would certainly be very difficult for an educated pathologist to imagine that during life any congestion or inflammation could be confined to one-half of an organ so vascular as the womb; and perhaps it would be more difficult for an accurate and experienced anatomist to demonstrate, upon a post-mortem examination, an induration from inflammation affecting merely the anterior or the posterior segment of the uterus. If, however, these hypotheses, or anatomical researches be confirmed, would the laws of mechanics justify the supposition that anteversion in the one case, or retroversion in the other, would result? We trow not. The increased weight, if it had any influence as regards these displacements, would, owing to the natural obliquity of the uterus, be always in an anterior direction, where it would be received by a packet of the small intestines, and by the often distended bladder. But it should be remembered that in these supposed cases there is an increase of size also, which would actually necessitate a directly opposite result to that maintained by these authorities. It is evident, upon a little thought, that if the anterior portion of the uterus be augmented in size, the fundus uteri must necessarily approximate the sacrum more and more as the swelling of this surface increases, and presses upon the bladder and pubis, thus predisposing to, or actually causing, not an anteversion, which was anticipated, but a *retroversion* of the organ. So also, if the

posterior portion be enlarged, the fundus will as inevitably be pushed forward, so that a tendency to *anteversion*, not to retroversion, would ensue.

If this view needed confirmation, we have a demonstration of its truth in preternatural conditions of the uterus; for example, in cases where a tumor or tumors of larger or smaller growth are developed on the anterior part of the organ, the fundus is found tending to the sacrum in proportion to the size of the tumor. But if the tumor be on the posterior surface the fundus as necessarily inclines forwards, towards the pubis. The supposition, then, that anteversion or retroversion is the result of simple weight, may be considered as altogether gratuitous.

CHAPTER III.

SYMPTOMS OF DISPLACEMENTS OF THE UTERUS.

THE *symptoms* of displacements of the uterus constitute a difficult subject of investigation, if we may judge from the various and discrepant opinions of scientific and experienced pathologists. Many ignore all these malpositions, regarding them of no importance in theory or in practice. They say that if the disease be cured, the displacement will disappear or excite no trouble. Others are disposed to refer every morbid phenomenon simply to the malposition, intimating that a woman cannot feel well when the organ is not in its normal position. Between these extremes there is every modification of opinion, and, of course, of practice. These will not be examined in detail, but the author will merely state the results of his analysis of the symptoms. This will be done with the more confidence as the views and principles enunciated were not formed "à priori," but have been derived from careful clinical observations, made during a laborious practice extending through many years. The principles thus practically deduced, have been tested therapeutically so frequently, that the author feels at liberty to record them positively, as general facts, of great importance as guides for the practitioner, but of course modified by the innumerable circumstances and idiosyncrasies of individual patients.

DISPLACEMENTS MAY EXIST WITH IMPUNITY.

The *first* general declaration to be made is, that displacements of the uterus exist in innumerable cases, with apparent impunity. There may be no decided symptoms to intimate that the accident has occurred. The woman may feel well, and all her functions may be easily and comfortably executed. In various tempera-

ments, and in all classes of society, such cases may be met with; but, they occur chiefly in the strong and laborious, in those of a cold, phlegmatic temperament, and in northern countries. In all such, the nervous system is not very sensitive. It is strong, but not excitable.

Since suffering may exist without displacement, and the displacement frequently without suffering; many pathologists have concluded that there is no mutual dependence of the one upon the other, and have attempted to relieve the suffering, while they allowed the displacement to remain.

Experience—at least my experience—is, however, so directly in opposition to this practical deduction, that it is impossible to admit it. It is very difficult to relieve the suffering, if the displacement continue. It can be usually palliated, even to such a degree, sometimes, that the patient is perfectly comfortable in the recumbent position, or even while she takes moderate exercise; but "relapses," as Dr. Gooch has observed, are frequent on the least motion, sometimes even by walking across the room, or by a drive in a carriage. In other cases, no palliation can be secured; the patient becomes a martyr to constant and occasionally increasing agony, involving the functions of mind and body.

Case.—I have lately taken charge of an unmarried lady, with a retroverted uterus, but who was treated for "spinal neuralgia," of long duration. She was forced, a long time since, to resort to crutches; she has now been confined to her bed for nearly ten months, but the pain, nausea, and vomiting, constantly increased, so that for the last month, nothing was retained on the stomach but brandy, and the retching so constant and distressing, as to forbid sleep night or day. She became greatly exhausted; in despite of the best efforts to palliate, from as excellent a medical practitioner as our city can afford.

Such cases are by no means unfrequent. Ladies often suffer five, ten, fifteen, twenty years, or even longer, under any and every treatment, if the displacement be permitted to remain unrelieved.

The reverse, according to my observation, is also true, that if the displacement be completely relieved, the suffering disappears with the most marvellous rapidity. The practical difficulty is the perfect restoration of the displaced organ. When, however, this is accomplished, the relief to suffering follows very universally, "excep-

tio probat regulam." Indeed, the mitigation of suffering is, generally, in proportion to the degree in which the displacement has been moderated. In the case above mentioned, upon the removal of the displacement, the nausea and retching disappeared at once; sleep followed; and the ability to receive food, good digestion, increase of color, of flesh, and of strength, succeeded each other with wonderful rapidity. The alcoholic potations, and the narcotics, were entirely abandoned in a short time, although the retroversion was far from being completely obviated. The whole of the daily experience of the author for many years confirms this opinion. Numerous exceptions—apparent and real—will of course be found; but they, by no means, invalidate the general proposition.

Hence, although displacements may exist with more or less impunity in the strong, and in the cold and phlegmatic temperaments, whose nerves seldom vibrate even to powerful impressions; yet, in the delicate, luxurious, sensitive woman, whose mind and body feelingly respond to every transient impression, such malpositions become the source of every kind and variety of nervous irritation. Even in the non-irritable woman, if morbid irritation exist, conjoined with displacements, it will be exceedingly difficult to relieve the former, without paying attention to the latter; but, it becomes very easy if the malposition be first obviated. This proposition, that displacements are frequently the causes, original or secondary, of uterine suffering, and not mere nullities, will be continually illustrated in the course of these observations.

DISPLACEMENTS GENERALLY CAUSE INCONVENIENCE.

The *second* general deduction to be made is, that in a large number of women in civilized life, who have displacements, more or less inconvenience results, even where the uterus is by no means very sensitive. These symptoms of displaced uterus are generally quite positive; some are *local*, and relate to the pelvis and its contents; others are more *general*, and disturb distant tissues and organs.

Local Symptoms.—The most frequent and characteristic of the *local* disturbances are sensations of fulness, of pressure, and of

weight at the lower portion of the pelvis. They are often referable to the rectum, as if it was distended, and as if the bowels must be moved, even when the rectum is empty. This sensation has often been attributed to internal hemorrhoids, when they do not exist. In many, there is a feeling of great relaxation of the perineum and vulva, an "open feeling," as if all the viscera must immediately escape. Often there are analogous sensations about the urethra, with frequent inclination to micturate.

In the hypogastrium, there is also a sensation of emptiness, of sinking, of weight, of bearing down, and of inability to stand or even to walk.

There are sensations of weakness, of aching, or of positive pain, in "the small of the back"—the upper portion of the sacrum—and extending to the coccyx, down the limbs, and around to the groin or iliac regions.

These and analogous disturbances are aggravated by standing, walking, or any muscular effort, and generally disappear when the patient is at rest, especially in the recumbent position.

Sometimes the uterine functions are not disturbed; but not unfrequently there is dysmenorrhœa, which is often very severe and at every menstrual period, even when during the intervals the patient feels comfortable, and able to take her usual exercise. In other instances we have leucorrhœa, menorrhagia, or both. In some cases these functional disturbances are almost the sole indications of a displaced uterus, and remain indomitable till the displacement is relieved.

General Symptoms.—The *general* disturbances have reference chiefly to the nervous system. The vascular system is not much involved.

The most frequent of these general symptoms is a sense of languor, lassitude, and "weakness." It is an effort to make any exertion: a short walk produces great fatigue. There is a great indisposition to rise in the morning, with a strong inclination to sit or lie down on every occasion. If on a journey, such patients, after making a slight exertion, often feel as if it were impossible to move any further; and they must rest for some twelve, twenty-four, or forty-eight hours, to recover strength. With this lassitude, there are often uneasy sensations, not unfrequently pain in

the dorsal or cervical portions of the spinal column. Sensations of lightness in the head, and a disposition to headache at all times, are generally experienced: frequently severe pain is felt in the temples, eyes, face, top of the head, and also towards the base of the cranium.

The mind is often indifferent, and cannot be interested; the memory fails; and the patient's interest in the common business of life, and in her relations and friends, is much diminished. Sometimes she is peevish, irritable, restless, and excitable.

These miserable disturbances are perfectly consistent with not only good, but excellent, organic health. The patient may be well supplied with good blood, may have an excellent circulation, free secretions, perfect nutrition and development. In other instances, from confinement, loss of appetite, &c., there is more or less anæmia, but still no actual disturbance of the organic functions. Often the hands and feet are cold and pallid; the face and head are frequently hot and flushed. These alternations of temperature are often very rapid, appearing and disappearing at short intervals; but they can always easily be distinguished from fever, to which, indeed, they have but few points of resemblance. The disposition to languor, to coldness or chilliness, generally occurs in the mornings, while the vascular excitement is usually in the evenings; so that such patients, although perhaps most miserable in the early part of the day, are often bright and happy in the evening.

Conclusions.—That these local and general symptoms, and many others of a similar character, are indeed the result of a displaced uterus, even when there is little or no increased sensibility of this organ, is proved by the facts, that they are often coexistent with the displacement; that there is generally no other local disturbance; and especially that, the displacement being removed, the symptoms disappear. When this is accomplished, the patient feels light, can stand erect, can move with ease and freedom, can take even long walks, becomes interested in her books and friends, is cheerful and amiable, and is prepared for the performance of the duties and the enjoyment of the pleasures of life.

SYMPTOMS AGGRAVATED IF THE UTERUS BE SENSITIVE.

The *third* observation in this process of analysis is, that when from displacements of the uterus alone, or from other causes, physical, intellectual, or moral, the uterus becomes morbidly sensitive, we then have a great aggravation of the above detailed symptoms, and a more or less full development of those local and general phenomena of pelvic and cerebro-spinal irritation, which have been detailed in the first part of this work, as the evidences of uterine and sacral irritation. These, therefore, with all the severe reflex influences on the various organs of the economy, need not be repeated. They may, to be sure, exist in men as well as in women; but in the former they are exceedingly rare, while in the latter they are very frequent. Although sometimes, of course, unconnected with displacements, yet they are so frequently coexistent and inseparable, as to defy the best ordered and most systematic treatment as long as such displacements are allowed to remain; but they rapidly vanish even under very simple treatment, when the malpositions are corrected.

PRACTICAL DEDUCTIONS.—The *practical deductions*, as confirmed by long-continued experience, seem to the author inevitable, that malpositions of the uterus are so intimately connected with all the phenomena of irritable uterus, as original or aggravating causes, as to make their removal generally absolutely necessary for the restoration of the organ, and of the cerebro-spinal system to its normal state; that dysmenorrhœa, menorrhagia, and leucorrhœa, the pelvic sufferings, the inability to walk or stand, the spinal and cerebral irritations, with all the occasional but terrible disturbances of the larynx, lungs, heart, stomach, liver, kidneys, and bowels—especially the rectum—can hardly be completely relieved, and sometimes not even palliated, if the displacement be permitted to remain; but, on the contrary, if this be removed, recovery will generally quickly follow.

There are, perhaps, many cases of cerebro-spinal irritation, of "hysteria," as such complaints are usually named, in which no displacement exists; and that, many possibly may be found, even

where there is no uterine irritation of any kind—inflammatory or otherwise—no one will deny. Beside these cases, there have occurred to the author, and doubtless to others, those in which the displacement had been completely relieved, yet the local and general symptoms, although palliated, still persisted. This persistence is very often due to our ignorance of the sources of sacral irritation; as, from pessaries in the vagina, from enlarged and displaced ovaries or other pelvic tumors, from some state of the rectum, of the tissues in the region of the sacrum, or of the bone itself. There must be a local irritation to disturb the nerve centres; it is generally in the pelvis, although it may exist in any tissue or organ of the body. A case of the kind has just been mentioned to me by my son at the Pennsylvania Hospital, where hysteria had evidently been excited by the irritation of a diseased knee-joint. It seems impossible, at least for the author, to conceive of spinal or cerebral irritation without a local cause. There must be an irritant acting on the irritability of a tissue to produce irritation.

DIAGNOSIS.

The *diagnosis* of displacements of the uterus cannot be satisfactorily determined merely from the symptoms, however accurately studied. There are so many morbid sensations in nervous women, so much exaggeration in their description of their feelings, and withal, so many other causes of pelvic irritation, especially perhaps in young females, that a physical examination becomes positively necessary to verify or to contradict our suspicions. The same difficulty of forming a diagnosis from symptoms alone, every obstetrician knows, exists in the case of pregnancy. The mere sensations of the patient often deceive her even to the supposed full period of utero-gestation; or the symptoms, even when carefully examined, frequently mislead the practitioner. Dropsies and other swellings have been mistaken for pregnancy; and on the other hand, pregnancy has often been the sole cause of disturbance, when the woman had been treated for months on account of other developments.

In both cases, some approximation to the truth can occasionally be made by a careful analysis of the symptoms; but vaginal exa-

minations are still more imperative to detect the presence and to determine the variety of displacement, than to ascertain the existence of pregnancy.

SPECIAL SYMPTOMS.—*Anteversion* of the uterus might be anticipated when, with other intimations, there is a great sensation of pressure in the pubic region, with almost constant uneasy sensations in the bladder, and a frequent disposition to pass urine, which is usually done without much pain or difficulty, and with temporary relief. There is generally also a sensation of fulness about the vulva. Similar disturbance of the functions of the bladder exist however, very frequently, also in retroversion of the uterus.

In *Prolapsus* uteri, the symptoms of sacral irritation are trifling, or altogether absent. There is a sensation of weight at the perineum or rectum, as if a stool was demanded, or as if hemorrhoids were present. The patient often cannot bear to sit down, and suffers while riding, especially over a rough road. The character of this displacement is to be determined, however, rather by negative than by positive signs, by the absence of the indications of anteversion or retroversion.

The diagnosis of *Retroversion* of the organ, is generally more positive. It is usually indicated by decided symptoms of sacral irritation; pain in the small of the back; uneasiness in the rectum; apparent and sometimes partial obstruction to defecation; a flattened condition of the fæces; severe sufferings while at stool, in the sacrum and posterior perineum, with subsequent prostration; long-continued uneasiness in the bladder, with painful, often repeated efforts to urinate; the necessity, seemingly absolute, to continue these efforts for a long time, or to repeat them every few minutes; inability often to lie on one side or the other, and a disposition, in many cases, to lie on the abdomen. Generally, in retroversion, there are also more decided symptoms of spinal and cerebral irritation, of disturbances of the stomach, heart, and lungs, and a more complete inability to stand or walk, than in the other displacements. Nevertheless, even here, verification by vaginal examination is necessary.

Flexion of the neck or body, also, can only be established by a tactile examination. We may suspect it, however, in all those

displacements where there is the complication of dysmenorrhœa, which so often depends on the obstruction arising from the bending of the neck.

The symptoms of *Procidentia*, as described by the patient, would seem generally to be very positive; but, certainly, no practitioner would trust, in pronouncing an opinion, to any such description, without having confirmed it by his own senses. There are many sources of deception to the woman, or to the uninstructed, as, for example, the partial or complete prolapsus, or procidentia of the vagina, the uterus being within the vulva; the descent of a portion of the bladder or rectum; the swelling of the hard or "prostatic" portion of the urethra; the formation of tumors in this tissue, or in the sides of the vulva, the vagina, or the uterus itself, as in cases of polypi, which protrude externally; or more rarely, it may be not a simple case of procidentia, but complicated with a previous inversion of the organ.

In all cases of procidentia of the uterus, the bladder is necessarily disturbed in its functions. There is often difficulty in urinating; sometimes it is so great that no excretion can occur until the whole tumor be restored within the vulva.

As regards the nervous symptoms, it is perhaps inexplicable, but in accordance with the uniform experience of the author, that they are comparatively very moderate. The uterus itself does not become very irritable or sensitive, and the sympathetic affections of the pelvic nerves, of the spinal marrow, and of the brain are often trifling, and sometimes hardly recognizable. The explanation is not very evident, but may possibly be referable to the fact that when the uterus is extruded it is no longer under the influence of the abdominal muscles, is no longer impinging against solid substances, and cannot directly irritate the pelvic nerves, but hangs in a soft cavity formed by the inversion of the vagina.

VAGINAL EXAMINATIONS must be made in all cases of supposed displacement, in order that the diagnosis may be accurately established, and a rational treatment be instituted.

A decided *Procidentia* is easily detected. The whole organ, and sometimes also its tubes and round ligaments, can readily be felt, and its form and size recognized through its vaginal

covering. A finger in the rectum, or a curved sound in the bladder, will indicate that one or both of these viscera, occasionally, are partially drawn down with the uterus. The os uteri can readily be seen and felt, as well as the insertion of the vagina near its margin.

Very generally, in procidentia of a chronic character, the whole tissue of the mucous membrane of the vagina is altered by inflammation, brought on by the innumerable sources of irritation due to its exposure, out of the vulva, between the limbs of the patient. Hence result patches of inflammation; mucoid and purulent, and even bloody discharges from this surface; hence also ulcerations, indurations, and, it may be, gangrene, and sphacelus. Sometimes, after long exposure, the peculiar soft character of the vagina is so altered, as to resemble in appearance and to the touch, the character of the dermoid tissue, with its epithelial scales. Cases have been recorded where, in consequence of inflammation, that portion of the peritoneal sac containing the uterus and its appendages had been obliterated by adhesions, thus shutting the uterus out from the general cavity of the peritoneum, and rendering reduction difficult, if not impossible.

The diagnosis, therefore, of procidentia uteri can be easily determined by an ocular and digital examination. It can thus be readily distinguished from a prolapsus of the vagina, of the bladder, or of the rectum, from inversion of the uterus, from polypi of the womb, and from steatomatous, fibrous, or other tumors projecting from the vulva.

In the *other mal-positions* of the womb even less reliance should be placed on the symptoms. The innumerable varieties of morbid sensation may arise from so many sources, that no careful pathologist would venture to give a positive opinion, from the history of the case, as to the existence of displacement, and of course still less as to the kind of displacement. However frequently, or even constantly, these nervous or hysterical sensations are associated with displacements, they may exist without any alteration in the position of the organ, and, as has been observed, may remain, even when they have been coincident with a mal-position, after such mal-position has been rectified. Nevertheless, they are so intimately connected as cause and effect, that, in all protracted nervous complaints, it will be advisable to ascertain, by examina-

tion, the position as well as other morbid states of the uterus. Such examination, and the treatment which may be founded on its results, are often, indeed, essential for the recovery of the patient—a "sine quâ non."

By the "touch" the instructed anatomist and the experienced practitioner will have no real difficulty in determining not merely the existence of a displacement, but also its character and its various complications. Nevertheless, so little attention has been directed to this subject; so many egregious mistakes have been and are so constantly made as to what is or what is not the natural position of the uterus; and, in some cases, there are so many real difficulties, that it becomes requisite to illustrate the manner in which such examinations should be made, and some of the difficulties which may exist.

Anatomical Facts.—Let reference be made, therefore, to the anatomical facts already enumerated in the chapter on the natural position of the uterus: especially the obliquity of the pelvis, as regards the axis of the body; the parallelism of the axis of the uterus with that of the superior strait of the pelvis; the consequent oblique position of this organ as regards the axis of the body; the coccygeal region constituting the floor or bottom of the pelvis, while the orifice of the vagina is at the anterior portion; the axis of the vagina forming an acute angle with the axis of the uterus, and running from below the symphysis pubis towards the lower part of the sacrum; the uterus a movable organ, and supported in its central position in the cavity of the pelvis, not by the vagina, but by its ligaments, which, in their natural state, as to length and tonicity, assisted by the attachments and reflections of the pelvic fascia, and by the position and pressure of the small intestines and the bladder, are fully able to maintain it *in situ*, and yet allow its pendulum-like motion in the cavity of the pelvis. A practical acquaintance with these facts will render the diagnosis very easy, with perhaps a few exceptions.

Mode of making the Examination.—Undoubtedly the best position of the woman, for these examinations in cases of displacements of the uterus and tumors of the abdomen, is directly on the back, with the knees drawn up and separated, the pelvis approximating the edge of the bed, and a little elevated, with the shoulders un-

supported by a pillow. Thus the practitioner can easily make an external as well as an internal examination.

If an examination be made, as is too often done, with the patient upon the side, the intestines will gravitate to that side of the body, the uterus will usually rise higher in the pelvis, and incline laterally, so that its mal-position will often not be apparent. Occasionally, however, this method is important to examine the upper parts of the rectum, the vagina, &c. The erect posture may, in a few instances, be advantageous, especially in those cases where the organ is displaced only when the woman is erect. In this position, the exploration is inconvenient, for the practitioner is necessarily much restricted, and cannot, from the tension of the abdominal muscles, make any satisfactory investigation through the parietes of the abdomen. It is always desirable that the bladder and the rectum should have been previously emptied.

If the parts be *in situ naturali*, the index finger, after entering the vagina, should come in contact with the anterior surface of the uterus, felt distinctly through the parietes of the vagina and bladder. The os uteri will be found below the level (the patient being on her back) of the os vaginæ, and pointing towards the region of the coccyx, and making no firm pressure on the posterior wall of the vagina. The cervix and body should be perfectly straight, free from flexion. If the woman be not corpulent, the fundus of the uterus may with some attention be recognized by the fingers of the other hand placed on the hypogastric region, when the uterus is slightly elevated by the finger in vagina.

In *Prolapsus* uteri, as formally defined, the chief indications arise from the position and state of the os and cervix uteri. The body may be found sometimes very near the pubis; sometimes, however, there is a slight inclination of its axis, so that the fundus approximates the sacrum, though it has not fallen below the promontory; but the os impinges firmly upon the posterior wall of the vagina and upon the rectum. If it be a chronic case, the form of the os uteri is often altered; the anterior lip usually projects, and sometimes is tumid, while the posterior lip is flattened; so that together they closely resemble the mouth of a hog, the orifice appearing to be nearer the posterior than the anterior surface.

When there is *flexion*, it varies much as to degree. If moderate, a bend is noticed by passing the finger along the anterior surface of the cervix, but the os is still in contact with the perineum. In decided cases, the os is found pointing towards the orifice of the vagina; the end of the finger, passing directly in the axis of the vagina, meets the os uteri. The first idea would be, that the uterus was retroverted; for, if the organ were straight, the fundus would then necessarily be towards the sacrum; but in these cases of flexion, the anterior surface of the organ will be detected behind the bladder and the pubis. It is a case of *prolapsus with flexion*. It might be termed a simple case of *flexion*.

In *Anteversion*, which is comparatively a rare displacement, the fundus will be found opposite to the body of the pubis, while the index finger must be extended along the anterior surface of the uterus, deep into the vagina, so as to reach the extremity of the cervix, pointing towards the hollow of the sacrum, far from the os coccygis. To effect this the patient, particularly if a virgin, must often be placed on the side, especially if it be desirable to examine the lips and the mouth of the womb.

Very generally, however, in anteversion there is also *flexion*, varying, of course, as to degree. Owing to this, the cervix and os uteri are often found in their natural position, towards the coccyx; while the fundus is opposite to the pubis. In similar positions of the body of the uterus, the neck is sometimes so bent, that the os approximates the perineum, and even may be almost parallel or coincident with the vagina. The only mode of diagnosis, therefore, between such cases and those of prolapsus of the uterus, is by careful attention to the position of the fundus.

In *Retroversion* of the uterus, when complete, the finger will detect a tumor through the upper portion of the vagina, behind the cervix, resting upon the rectum. That this is the uterus, may be rendered evident by carefully tracing the continuity of tissue to the os; this is found pointing towards the body of the pubis, but not close to it, for in the normal state, the organ is too short to extend from the coccyx to the pubis. The diagnosis is strengthened by pressing against the bladder, in front of the os uteri, and finding no firm resistance; and by examining per rectum, where a tumor will be distinctly felt through the

anterior walls of this tube, of the regular uterine form. This exploration is rendered more complete if the index finger of the other hand be at the same time inserted into the vagina, so that the continuity of tissue between the cervix and body can be more fully determined. Very generally this rectal examination gives much pain, indeed, generally much more than the vaginal; sometimes it is almost intolerable, the patient screaming when the least pressure is made on the tumor. This will confirm the idea that the uterus constitutes the tumor, as new or adventitious growths have seldom any great sensibility. The diagnosis, if still doubtful, may be positively confirmed by passing a curved uterine probe, with its convexity towards the pubis, into the cavity of the neck and body of the uterus; a finger in the rectum will recognize without difficulty, the point of the probe, through the parietes of the uterus and rectum. Care, however, is always demanded in order to avoid mistakes. A collection of fæces in the upper part of the rectum, an ovarian tumor, an abnormal uterine tumor, an enlarged lymphatic gland, a fibrous or other heterologous formation in the pelvis, an osseous enlargement, a scirrhous or cancerous degeneration of the rectum, have all been mistaken for the fundus or body of the uterus.

In all cases in which the fundus is not displaced, the uterine surface can be recognized anteriorly, behind the bladder, and the point of the uterine probe now introduced with the *concavity* toward the pubis will be felt, if the patient be not too corpulent, not through the rectum, but through the parietes of the abdomen and uterus, in the hypogastric region. A case may illustrate this fact.

Case.—My unbiassed opinion was requested in the case of the wife of an officer in the army, in which two distinguished accoucheurs had given very positive declarations as to the condition of the pelvic contents. One stated that he was fully convinced that the uterus was *in situ naturali*, and that an enlarged ovary had fallen behind the uterus, namely, between it and the rectum. The other was even more positive that it was a case of retroverted uterus with flexion, and that there was no unnatural development in the pelvis; in order that there might be no misunderstanding, he made a drawing to exhibit his views of the nature and character of the affection. The lady was about thirty years of age, had

been married, but had never become pregnant. She had suffered much from nervous affections, which frequently amounted even to violent spasms. After a careful investigation, I was forced to conclude that it was a case of anteflexion of the uterus, with a fibrous tumor developed on its posterior wall. My reasons for this opinion were—a tumor could be felt posteriorly, and one also anteriorly through the walls of the bladder; a finger in the rectum recognized a hard swelling, and a sound in the bladder impinged against a firm body; the uterus and the tumor posteriorly were continuous; no distinct sulcus could be felt between the organ and the tumor, as would probably be the case if the tumor were ovarian, and besides, it was movable with the organ, the whole seeming to form one mass. The decisive mode of diagnosis, however, the "experimentum crucis," was made by passing the probe into the uterus with its concavity towards the pubis; its point could then be distinctly felt behind the pubis in the hypogastric region while a finger in the rectum still recognized the posterior tumor.

The diagnosis in cases of *patial retroversion* of the organ is often very difficult, and will in many instances prove incorrect, unless the examination has been very carefully conducted. In partial retroversion the fundus, in accordance with the definition given above, may be found pointing to any portion of the sacrum below the promontory. Sometimes, therefore, the axis of the uterus is but slightly oblique, differing very little from its direction in prolapsus. In other cases, it corresponds with the axis of the inferior strait of the pelvis, and in others even to that of the vagina. When the os uteri is low down in the vagina, or when the uterus from any cause, as pregnancy, is enlarged, the diagnosis is comparatively easy, for the finger per vaginam or per rectum may recognize the posterior surface of the uterus, while the anterior cannot, in any way, be felt. But many cases will be met with in an extensive practice, especially among virgins, or those married women who have never been pregnant, where the vagina is long and its walls dense, and where the os uteri is so high up as to require the whole length of the index finger to reach it; in these, the diagnosis of the existence or non-existence of a partial retroversion becomes exceedingly difficult.

Case.—Some fifteen years ago, a young lady, of excellent health

and a good constitution, was married in Virginia. Up to this time, with the exception of some suffering at her menstrual periods, she had no indication of pelvic disease, could walk, and ride on horseback *ad libitum*. Not many weeks after marriage the symptoms of irritable uterus were developed, her dysmenorrhœa became intense, and then followed irritations about the bladder and rectum, inability to walk with comfort, &c. The usual palliative treatment was adopted; but the symptoms gradually became more intense. She came to Philadelphia, and applied to an eminent practitioner, who offered no decided opinion, but, after a few visits, directed a course of medicines and sent her home, with a favorable prognosis. Nearly a year after, she returned, and consulted another experienced physician. At this time she had become confined to her bed; she was very pallid, although still fleshy, and was excessively nervous, mentally and corporeally; she had frequent attacks of menorrhagia, and experienced great trouble on urinating, while defecation was attended with the most agonizing suffering at the time, and followed by the greatest prostration for hours. She constantly affirmed that martyrdom would be preferable to the pain excited by the opening of the bowels. Her new physician treated her, for some six months, for fissure of the anus and for nervous diseases, with all the assiduity and skill imaginable. She was not benefited, and was conveyed home in the spring; but, when the autumn came, with the symptoms rather aggravated than otherwise, she was brought to my care. A vaginal or rectal examination gave her intense pain, as these passages and their orifices had become excessively sensitive. The vagina was exceedingly long and narrow, and would sometimes spasmodically contract on a finger or an instrument with great force. The os uteri was found small, excessively sensitive, and pointing to the os vaginæ, but so high up as not to be easily reached, especially as the patient was by no means emaciated, notwithstanding her prolonged suffering. No other portion of the uterus was to be felt, either anteriorly through the bladder, or posteriorly through the rectum. No swelling or tumor could be recognized in the pelvis, and, by an external examination, no indication of unnatural development in the hypogastric or iliac regions could be found. The logical inferences were, that there existed an excessively irritable condition of all the pelvic organs; that the

uterus was of a small size; that its axis was coincident with that of the vagina; that its fundus was pointing towards the hollow of the sacrum and resting upon the sacral portion of the rectum; that the pain excited by the passage of the fæces was dependent on the pressure thus necessarily made upon the sensitive uterus; that this irritable and displaced condition of the organ was the "radix malorum," the true source of the nervous distress of this otherwise healthy young woman, who, with all the appliances for a happy and useful life, had been prostrated by unremitting suffering for years. She was accordingly treated immediately for displacement of the uterus. Much trouble was of course experienced, but soon her symptoms ameliorated; in a few weeks she was moving about again, and within four months was able to attend some large parties with much pleasure, and returned home, ready to resume the ordinary avocations of life. Since then, I have seen her several times, and still oftener have heard of her welfare. She has never had any return of her severe complaints, and has become a very useful and ornamental member of society.

The diagnosis in all such cases of partial retroversion will be facilitated by the use of the uterine probe; it should, however, be straightened, for if the attempt be made to pass it while bent, it either could not be introduced, or would rectify the uterus by the very act of introduction.

The diagnosis in cases of retroversion becomes complicated when there is a *bending* of the cervix or body of the uterus.

Perhaps still more care is required in these cases of *partial retroflexion* of the uterus. A vaginal examination proves the os and cervix to be in a natural position, for example, and the practitioner may hastily conclude that there is no displacement; while a little more careful examination, by the finger or by the probe, would reveal the important fact that the fundus rested in the hollow of the sacrum. In other cases, the os will be found in the direction of the axis of the vagina, while the fundus is low down upon the coccyx, or even on the perineum.

These facts exemplify the necessity of careful and minute examination in all cases of suspected displacement of this important organ of the female economy.

IMPORTANCE OF DISPLACEMENTS.

The importance or non-importance of these displacements of the uterus is by no means a settled point. Extreme opinions are entertained by many. Certain it is, that deviations often exist to a great extent, with no apparent disturbance of the system; and certainly, on the other hand, the most severe forms of nervous irritation, cerebral and spinal, have been rapidly relieved by those mechanical means which have been effectual in rectifying the position of the uterus.

This paradox seems to depend on the peculiar temperament of the patients, and the various moral and physical excitements to which they have been exposed. In many instances, girls, having few symptoms of displaced uterus, become, after marriage, martyrs to nervous affections. In others, the development of nervous symptoms can be traced to a long walk, a fatiguing dance, or a violent strain as in vomiting, defecation, coughing, jumping, &c. Or, the whole nervous system becomes preternaturally sensitive from anxiety of mind, disappointments in life, or great fatigue, exhaustion, &c.

In all such cases, the displacement becomes more and more a cause of mischief, aggravating and maintaining the nervous affections, in opposition to the best devised remedial measures. Relieve the displacement, and these patients will often recover entirely by a persistence in the same course of remedies which had before proved ineffectual, or sometimes even by mere hygienic attentions. The argument is not invalidated by the acknowledged fact, that such hysterical affections, of a severe character, will sometimes continue after the displacement has been relieved, and are, not unfrequently, excited originally without any accompanying displacement. These constitute but the exceptions to the rule, that displacements are usually connected with nervous excitements in the female economy.

There can be no doubt that there are various other causes of Hysteria, especially when the excitement is acute and transitory, such as mental and moral affections, irritations in the teeth, stomach, bowels, &c., and even severe pain from any accidental cause; but in tedious chronic cases, the principle is true, that

neuralgia, nervous excitations, spasms, convulsions, and the whole train of morbid sensations, are dependent on some local cause, the removal of which is all-important for recovery. Most unhappily, physicians cannot always detect, or, if detected, cannot always remove such causes; and the patient wears away her tedious life in pain and anguish. Fortunately, however, in a large majority of cases, the cause can be detected and removed. The author's experience is very favorable as to the rapid recovery of such patients; and such recoveries are often accomplished by rectifying deviated positions of the uterus.

PROGNOSIS.

As to the *prognosis*, therefore, in irritable or nervous diseases, everything—radical—depends on removing the cause of the irritation. Displacements of the uterus are, as already stated, by far the most frequent cause.

The prognosis as regards displacements of the uterus is exceedingly favorable. The physician ought to succeed in all uncomplicated cases, even in retroversion and retroflexion, which are the most difficult to manage, and often require much time and perseverance.

In deviations of the uterus, where the organ is hypertrophied, indurated, or loaded with heterologue tumors, or where its displacement is maintained by tumors of the pelvis, of the ovaries, of the mesentery, &c., or by adhesions to surrounding organs, great difficulty is necessarily experienced. So, also, in contractions, or other unnatural states of the vagina, it may be almost impossible to rectify the position of the uterus. Yet, there are but few cases in which a partial, if not a complete relief, cannot be afforded. Patience and perseverance in the judicious use of mechanical aids, will, under the direction of science and experience, afford prospect of great success.

There are, of course, cases in which other causes of pain and irritation exist, independently of the displacement. This last, therefore, may sometimes be completely relieved, and yet, the irritation be kept up by the other causes in a greater or less degree. These causes are often inscrutable; they sometimes cannot

be detected; and hence, these patients are sufferers for life, or at least until there is a revolution in the nervous system, such as occurs at the cessation of the menstrual secretion; or until, from natural, unassisted efforts, the local irritation has disappeared. Almost any practitioner is familiar with cases of neuralgia, which he and perhaps many others, have treated by every available method, it may be, for years, ineffectually; yet suddenly, perhaps when no measures were resorted to, the pain ceased, and the patient returned to the full enjoyment of health and strength. Such cases have often given a meretricious reputation to infinitesimal doses and innumerable empirical remedies, which might have been accidentally employed at the time.

I have had many cases of these irritable diseases of females, in which the symptoms have been greatly palliated by a partial removal of the cause; yet, complete recoveries have not been effected, as a displacement or other cause was but partially obviated.

The principle is true, therefore, however difficult it may sometimes be of practical application, through our ignorance or the inefficiency of our means, that nervous diseases are kept up by the continuance or the return of exciting causes, and that these causes being removed, nervous affections, which are by many considered so indomitable, will be readily relieved. I must believe, also, that the most frequent exciting causes of these complaints are displacements of the uterus, and that the scientific treatment of uterine deviations is one of the most important elements in the management of cerebro-spinal diseases.

CHAPTER IV.

TREATMENT OF DISPLACEMENTS OF THE UTERUS.

In the treatment of the various displacements of the uterus, there are four indications to be fulfilled.

First. To remove or palliate any existing causes.

Second. To replace the organ.

Third. To maintain it steadily *in situ naturali.*

Fourth. To strengthen the natural supports of the uterus.

TO REMOVE OR PALLIATE ANY EXISTING CAUSES.

This *first indication* is of great importance, and can usually be readily carried out.

Transitory Causes.—Many of the causes are transitory, such as jumping, straining, &c., and therefore disappear at once; besides these, there are many of daily recurrence which can, however, readily be obviated, such as all compression of the abdomen by tight dresses, corsets, ligatures, and abdominal supporters. Again, all distensions of the abdominal viscera, from too full a diet, from flatulency, constipation, or distension of the bladder, can usually be prevented by judicious attention to diet, drinks, carminatives, laxatives, and other appropriate measures, hygienic or medicinal.

Persistent Causes.—The more permanent causes, such as *hypertrophies*, can be removed or palliated according to their origin.

Hypertrophy arising from *Polypi* can be obviated by removing these tumors.

When from *Pregnancy*, the increased size may be palliated by constant rest in bed, or by the use of an internal supporter, until

the end of the third or fourth month of gestation, when there can be no longer any pelvic displacement.

Hypertrophies of the organ, from *Tumors in its substance or on its surfaces* which cannot be eradicated; as well all *enlargements and indurations* of the organ from inflammation, or other diseased states, remain permanent, and can merely be palliated by a proper internal support. The same observation applies to all *ovarian*, *mesenteric*, and *other tumors* in the abdominal cavity; to *enlargements* of the *liver*, *spleen*, *kidneys*, &c., which might, directly or indirectly, influence the position of the uterus; also to the pressure arising from peritoneal *tympanites*, from *peritoneal* or *encysted dropsies*, *&c.* In all such cases, great relief may often be afforded, although the cause cannot be obviated by the usual mechanical treatment for the displacement.

When symptoms of displacement arise suddenly from active *engorgement* of the uterus, and especially from *acute inflammation*, such vascular excitements must be removed by suitable revulsive, alterative, and evacuating remedies, which will often be effectual in removing all symptoms of displacement. In *chronic inflammation* of the body of the uterus, medicinal measures should be employed until all inflammatory symptoms are removed. When the inflammation is confined to the cervix, and is of a strictly chronic character, the use of antiphlogistic measures may be greatly assisted by suitable pessaries of a ring shape. The modus operandi of such supports is twofold: *first*, they relieve the neuralgic pains, and the spinal and cerebral irritations arising from the displacement; and *second*, they remove a constant, unceasing source of irritation to the cervix from pressure of this inflamed tissue on the walls of the vagina and rectum. This point has already been dwelt upon, and I feel well assured that a large number of the chronic inflammations of the os uteri, especially of the so-called ulcerations of the os and cervix, are kept up by this cause, and are aggravated by constant and repeated caustic and irritating applications. The simple preventing of the pressure on the cervix by a ring pessary will, by removing the cause, original or aggravating, wonderfully facilitate the efficacy of the most simple washes in destroying superficial inflammations, and in discussing even the deep-seated inflammations of the cervix uteri. Such cases are numerous, and I can bear my testimony

that, except in cases of preternatural growths and malignant diseases of the cervix, I have never found the employment of powerful caustics useful in simple inflammatory affections. The occasional application of the solid nitrate is sometimes advantageous in diminishing the irritability of the cervix, at least for the time; but solutions of this salt, of alum, of borax, of sulphate of zinc, of sulphate of copper, and other analogous preparations, are, in my hands, sufficient for the resolution of such inflammatory affections, when assisted by a suitable ring pessary, properly adjusted.

REMARKS.—But the fulfilment of the first indication is seldom sufficient. For if the ligaments of the uterus have once been elongated to such a degree that their natural elasticity and contractility have been lost, the mere removal of the original cause will not be sufficient for the restitution of this organ; inasmuch as the mere weight of the intestines and the contraction of the abdominal muscles must keep it depressed.

TO REPLACE THE UTERUS IN ITS NATURAL POSITION.

This *second indication* is sometimes a very easy operation, but occasionally difficult, and at times impracticable.

In *anteversion* and simple *prolapsus*, pressure with the finger will for the time accomplish the object. In almost all cases of *procidentia*, unless very unusual enlargement exists, the uterus can be readily reduced, so as, at least, to re-enter the pelvis.

In cases of *retroversion*, and especially of *retroflexion*, it is more difficult, for the fundus has to be raised from the hollow of the sacrum, so as to approximate the pubis. In some instances this can be accomplished by the finger alone, in the vagina or in the rectum; but generally this is not practicable, especially in women who have not borne children.

Elevators.—Dr. Bond's elevators, the colpeurynter and other instruments acting per rectum or per vaginam, have been used as a substitute for the finger in restoring the uterus to its position. If the organ is easily movable, they may sometimes be effectual.

The *uterine probe* or sound, of a suitable curvature, and a properly shaped *pessary*, are the only efficient instruments for restor-

ing a uterus to its normal position; and they will always answer, provided, of course, there be no adhesions, no large tumors, and no contractions of the vagina, to mechanically resist their safe operation.

Simpson's uterine sound, with its convexity towards the pubis, may be slowly and carefully introduced into the retroverted uterus by directing its point backwards towards the sacrum. Then, by slowly revolving the probe, so that its concavity shall be turned towards the pubis, the instrument, acting on the interior of the uterus, will gradually elevate the fundus from the sacrum to its natural position. This, however, is a very painful operation to some patients, sometimes almost insupportable, and generally followed by an effusion of blood and by some soreness of the womb. An ingenious modification of the sound as an elevator, suggested by Dr. J. Marion Sims, of a joint at the junction of the uterine and vaginal portions of the probe, may obviate some of these difficulties, but is too complicated for common practice.

A curved pessary, such as will hereafter be described, may as readily accomplish the same object when the vagina is relaxed, with comparatively little pain, and no subsequent irritation; and, if allowed to remain, it will preserve what has been gained. In other cases it accomplishes the object more gradually but certainly, operating day after day till the indication is fulfilled. They are the best elevators, for they are permanent in their influences. The modus operandi of pessaries, in this and other respects, will be hereafter detailed.

Remarks.—In very few cases, however, will any advantage result from the mere replacement of the organ, when no measures are adopted to keep it in situ. As the natural supports, the ligaments, &c., have become inefficient; and as the uterus, even in the recumbent position of the patient, has always to sustain a pressure from the intestines, and from the contraction of the abdominal muscles, aggravated by a deep inspiration, by every motion in bed, by coughing, by sneezing, by the evacuation of the urine, of the fæces, &c.: elevators of whatever kind are scarcely removed before the displacement recurs. Such, at least, is the result of the author's reiterated observation, although other practitioners have given different reports. Certainly, however, there will be

a return of the displacement on every attempt at locomotion. So that the mere replacement of the uterus may be regarded as worse than useless, as it gives the patient the pain and irritation of a disagreeable operation, which cannot be permanently effectual.

The only exceptions to these remarks are in cases of pregnancy, at the third or fourth month, and in enlargements of the organ from other causes; then, owing to the size of the uterus, it may be supported sufficiently by the parietes of the pelvis, and its subsequent developments will insure the permanency of its rectification. After delivery also, the replacing of the organ, if deviated from its position, keeping the patient strictly in the recumbent position, and avoiding most carefully all straining efforts at stool, &c., may be effectual; inasmuch as there is a natural disposition of the ligaments elongated during gestation to contract, which disposition would be resisted by the displacement, and, of course, be facilitated by frequently replacing the organ. Nevertheless, I have been so frequently mortified by the failure of this plan, and by my patient's chagrin at the return of the symptoms of displacement, even after a protracted wearisome confinement in a horizontal position, that I have abandoned it altogether. To maintain as well as replace is the proper indication in such cases; this, if fulfilled, gives no discomfort and allows the patient to desert her bed at pleasure.

TO MAINTAIN THE UTERUS IN ITS NATURAL POSITION.

This is the *third* and important, indeed essential, indication in the management of displacements of this influential organ.

To fulfil this indication is a problem of great difficulty, yet perhaps to be completely solved; for, after all the attention and ingenuity, and even science, which have been directed to this point in times past and present, no suggestion has received the general sanction of the profession. Innumerable as have been these suggestions, each has but a limited number of supporters. Many physicians have avoided such cases entirely, surrendering them to every variety of empirical experiments; so that women remain too often wretched sufferers, spending days, months, and years, a

prey to disorders which disturb every corporeal function, and which often pervert the whole intellectual and spiritual being.

There has been no lack of ingenuity, and no want of experiments with more or less success, but these efforts have not been generally well directed; the proper position of the organ in health, its means of support, and the suitable scientific indications to be kept in view for the relief of displacements, have not been sufficiently developed. There are, however, intrinsic difficulties in all mechanical arrangements operating on vital tissues endowed with sensibility, and in these cases often terribly exalted; in addition to this there is always present the opposition from the weight of the superincumbent viscera and the great pressure from the abdominal parietes, under the ever varying positions and motions to which the body is constantly subjected.

These difficulties will be fully presented in the review of the most important suggestions which have been made for the sustentation of the uterus *in situ naturali*. The criticisms ventured on, in these suggestions, will be found presented, it is hoped, in a just and candid manner, as the result of personal experience or observation in the numerous cases at home and from abroad, which have passed under the author's supervision.

Rest in Bed.—In order to fulfil this indication of maintaining the uterus in situ, *rest in bed*, with a careful avoidance of all straining efforts, has been much insisted upon, theoretically and practically. Often, the patient has been constantly kept for many months, without the least intermission, on her back, with merely a low pillow for the head. In other cases, when retroversion was suspected, the woman has been forced to lie upon the abdomen, and often to spend much time on her knees and elbows. At times, as I have known in some patients brought to me from a distance, months are passed on the back, with the pelvis bolstered up by pillows, and the head dependent, so that gravity should be enabled to remove the intestines from the uterus; the practitioner forgot that the cavity of the abdomen was a plenum, and that the contraction of the abdominal muscles and diaphragm acted in opposition to the ascent of the intestines towards the chest.

Rest diminishes, but does not by any means remove the pres-

sure from the uterus. In many patients, perfect ease and freedom are experienced on recumbency; yet, although the organ may, by some diminution of pressure, be partially restored, it is not completely reinstated, the ligaments are still on the stretch, and the moment the patient rises, her bad feelings return. How often do women affirm, that before rising in the morning, they feel perfectly well and able to do anything; but, a few moments' experience out of bed brings bitter disappointment. There is no restorative power in rest; it palliates, but does not cure, because the ligaments are kept elongated by the unceasing pressure from above, continually increased by every muscular effort of the abdominal tissues.

As a preventive to displacements, rest is often of great value, particularly after abortions and delivery at term, when the uterus is large, and there is a natural disposition to contraction on the part of the uterus and the ligaments. Hence, there is some truth in the popular notion, that pregnancy is the best cure for a displaced uterus. Displacement disappears when the uterus rises out of the pelvis at the sixteenth week of gestation; and after delivery, perfect rest, conjoined with proper attention, for some four or six weeks, may insure a complete recovery. The reverse, however, is the usual experience, as most patients date the occurrence of pelvic trouble from one of their confinements.

In what may be called acute cases of displacement, as when some deviation has been suddenly caused by a severe strain, a muscular effort, or great distension of the abdomen, then by rest in bed, by keeping the bladder empty, and the bowels free, the contractility of the ligaments may be sufficient for a restoration. These are rare and exceptionable cases.

Rest, as a cure for displacement, has been advocated on another principle, namely, that displacements are owing to congestion, or inflammation of the uterus. By perfect quietude the vascular fulness is overcome, and the displacement relieved. The answer to this is twofold: if the assertion be true, the disease to be cured is not displacement, but congestion; the symptoms depend on the fulness of the vessels, and not on a change of position of the organ; just as there are few women who have not some of these so-called symptoms of displacement at their catamenial periods, which disappear either during or after the flow of the menses.

The second answer to this view of the case is, that the congestion is not the cause of the displacement, but its consequence, as has been proved in all chronic cases, and even in most of the acute forms. The facts in support of this opinion have already been detailed at length; suffice it at present to say, that the treatment by rest and evacuants, both general and local, I have often known, carried on for months and years, not only without permanent relief, but even with great aggravation of all the symptoms, especially of those dependent on irritation of the cerebro-spinal nervous system; while, on the contrary, by relieving the displacement—the cause of the irritation—the congestion has disappeared, and also the nervous symptoms resulting from pain, confinement, and exhaustion.

REST CONJOINED WITH ASTRINGENTS.—Most practitioners, however, do not trust to rest alone, but conjoin with perfect quietude of the body the *use of astringents*, of every variety and by every means of application, to effect the contraction of the vaginal tube so as to afford a support to the uterus.

It is useless to specify the details of this treatment. Its entire insufficiency has been demonstrated in thousands of cases; and the reason of its failure has already been exhibited sufficiently when describing the natural supports of the uterus. It seems impossible for any mechanician to conceive that a soft, flexible, and distensible tube, some three or four inches in length, having the uterus attached to its upper extremity, and running at an acute angle to this organ, could give any adequate support to it even in a state of health. The uterus may descend or ascend; the fundus may be turned forwards, or backwards to any extent; flexion, anteriorly or posteriorly, may occur; yet the natural contraction and tonicity of the vagina, in the young virgin, may at the same time exist in all its original integrity. Even the tube may be preternaturally contracted by spasms, by deformities, by adhesions, and by obliteration of its cavity, and yet painful displacements of the uterus may exist. Surely, therefore, any temporary contraction of this vulvo-uterine canal, by the most powerful astringents (for, after all, the contraction is temporary), must be unavailing in replacing or maintaining a uterus, which has been for any length of time displaced. The unvarying experience of the author veri-

fies these opinions, and confirms the facts now stated. Cold and astringent washes have, of course, their own appropriate advantages in diminishing irritations, checking discharges, removing inflammations, clearing the passage, preventing acrid accumulations, facilitating natural secretions and excretions, and giving tone to the tissues, but are altogether uninfluential upon the position of the uterus in the pelvis.

OPERATIONS UPON THE VAGINA.—The theory that the contraction of the vagina is requisite to the support of the uterus, has been carried to a much more serious, and even dangerous, practice.

Dieffenbach, Gérardin, Bérard, and many others in Europe and America, have *resorted to the knife* to fulfil this false indication. Strips of the mucous membrane of the vagina, sometimes oval, but generally of a triangular form, and extending longitudinally from the vulva to the uterus, have been elaborately dissected off, and the edges of the wound brought into contact, so that, after adhesion has ensued, there may be a permanent contraction of the passage. Others have closed the whole orifice of the vagina by causing adhesions to occur so extensively as merely to leave a fistulous opening for the exit of the menstrual excretion. Like all novelties, these operations upon their introduction received much attention, and many favorable results were reported; but they have not obtained the general confidence of the profession. Certainly, in all the usual displacements of the uterus, they are unnecessary, and, according to the views above presented, would generally be ineffectual.

In cases of procidentia uteri, at first sight, the suggestion appears to be valuable, and it has been chiefly confined to cases of this character. In such instances there will be a partial success, and perhaps, to some patients, complete relief. But even here the operation is not defensible, for it is often difficult of execution, and, as in all cases of operations with the knife, especially upon the internal tissues of the body, involves many dangers, from hemorrhage and inflammation—simple, erysipelatous, or even gangrenous, especially as the patients are frequently in a bad state of health from the long continuance of their sufferings and confinement. There is danger, also, of injuring the important tissues

of the peritoneum and of the bladder or rectum, either by the scalpel of the operator, or by subsequent sloughing, so that a vesico-vaginal or a vagino-rectal fistula, with all their disgusting consequences, may ensue. Of course, in some instances, even fatal results may follow.

Another argument, in addition to the above, is, that, at best, the operation can be but partially successful. It will prevent procidentia very effectually, it will shut up the uterus within the vulva; but it can have no effect, as shown by the facts already adduced, in preventing the continuance of a prolapsus or retroversion of the uterus. Indeed, a retroversion will generally be found to exist in such instances, inasmuch, as has already been demonstrated, retroversion precedes necessarily a procidentia uteri; and the contraction of the vagina by adhesions, even to perfect atresia vaginæ, will not only allow a retroversion to exist, but may maintain the organ in this mal-position.

The strongest argument, however, against such operations is, that they are altogether unnecessary. In all cases, in the experience of the author, of reducible procidentia uteri, this organ and the vagina, however relaxed, can be maintained perfectly in their normal positions by means of suitable pessaries; and this is true even in cases where the perineum has been lacerated so as to involve the sphincter ani.

External Bandages.—No permanent relief being obtained by rest, position, and astringents; the use of *external bandages* under the various names of braces, abdominal or utero-abdominal supporters, abdominal corsets, spinal supporters, &c., have been resorted to by patients, by empirics, and even by the mass of the profession.

This is probably a most ancient practice; it may have been contemporaneous with the first woman who seriously suffered from a displaced uterus. The wretched sensation of weakness in the loins, the feeling of emptiness or vacuity in the abdomen, the bearing-down, and the sensation of "openness" at the vulva, as if everything would escape, almost unconsciously induce the poor sufferer to press her hand on the abdomen or on the perineum for relief, and thus a temporary mitigation of suffering is experienced. A more permanent effect is soon obtained by a towel

pinned around the abdomen, or by napkins bound against the perineum.

These feminine suggestions have stimulated the ingenuity of empirics and of physicians; so that almost every imaginable form of compresses and braces, non-elastic and elastic, for the support of the uterus and the parietes of the abdomen, have been successively introduced. The apparent success has been so great, that not only have these supporters crept into general use; but the principle of avarice has conjoined with the love of doing good, so that every trifling modification of the material, of the size and form of the compress, or the particular part on which it is to operate, has been magnified, as if of the greatest importance, and physicians, graduates in medicine, have disgraced themselves and the profession which tolerates them, by obtaining "patents" for the exclusive sale of their own trifling, if not ridiculous varieties of a feminine girdle. It would be interminable, as well as useless to describe the innumerable forms of these supporters, with or without the perineal strap—which renders them a modification of the old and useful T bandage of the surgeons—as they all act on the same principle, and are productive of the same results.

The strong and almost the sole argument for their employment, is the experience of the patient. A very large number find immediate relief to many of their symptoms, on applying a bandage; many say they can walk distances with these supports, and are confined to the house when without them; many cannot move or even stand without their assistance. I have had patients who declared that if the house were on fire, or their child in convulsions, they could not stir without previously arranging their girdle. This is strong testimony, and fully justifies a bedridden patient in resorting to this simple apparatus, that she may attend to the duties of her household. It would seem also, to justify the profession in the recommendation of these bandages to their miserable patients.

Objections.—Enlarged experience and careful observation falsify these fair prognostications. There are innumerable cases in which these bandages cannot be tolerated even for a short period. The sensitiveness of the parietes of the abdomen, of the internal tissues and of the pelvic viscera, renders the pressure of the pads or of the girdle intolerable. Many, who can wear them, find no

relief; and in those more favorable cases, where they have been worn for years, their beneficial influences decline, and often disappear. Even in these cases, the relief is but partial, as generally some of the old symptoms pertinaciously remain. I have had many patients who have worn these supporters for years, and could not, on an emergency, cross a room without them; yet during the whole time they had never walked, even with their assistance, in a continuous path, a distance of one hundred yards, and were tormented with leucorrhœa, dysmenorrhœa, dyspepsia, cephalalgia, or other variety of local or sympathetic irritation. Abdominal supporters should, therefore, be regarded at best, as but palliatives to some of the urgent symptoms, but often inefficient even in this respect, and in many cases intolerable.

Minor Objections.—Even when patients can wear these supporters with impunity and apparent advantage, there are numerous inconveniences which render them often very objectionable and onerous; for example, the necessity of constantly removing and replacing the bandage; their friction on delicate and irritable parts; their absorption of the perspiration and other excretions; the frequent necessity of renovating them; the aggravation of these effects in warm weather, in corpulent females, and in laborious women. The perineal band or pad will give special trouble, being liable to many sources of uncleanliness and consequent irritation.

Hypotheses of their Action.—Prepossessed in their favor, physicians have made so-called scientific attempts to justify their employment of these external supports for a displaced uterus. No one but the most grossly ignorant, could imagine that the uterus could be raised up by the compress above the pubis—seeing that all such pressure is *above*, not below the womb. But it has been very universally maintained by these professional advocates, that the pressure on the hypogastric region elevated the intestines so that they distended the upper part of the abdomen, and thus pressure was removed from the uterus, allowing its natural supports to regain their strength and contractility.

This is a strange hypothesis for an anatomist or a mechanician to make, and still more strange for the natural philosopher and physiologist!

Is not the so-called cavity of the abdomen a "plenum"? Are

not the small intestines movable in every direction, to the extent of the mesentery? Do they not readily glide wherever there is a tendency to vacuity? Is there not always a steady pressure on the viscera from the walls of the abdomen, and must not great pressure be made to bring even the central portion of the muscular walls of the abdomen in contact with the spinal column? Even if this could be kept up, would there not be an abundance of space for the intestines to glide, each side of the lumbar vertebræ, from the iliac fossæ into the pelvis? This space no external pressure could possibly obliterate. If the lower or any other part of the abdomen be subjected to pressure, would not all the viscera be proportionally compressed, and the reaction be in every direction, not merely upwards to distend the epigastric and hypochondriac regions, but also downwards into the pelvis, thus increasing the pressure on the pelvic viscera? Is not all this supposed upward pressure of the intestines resisted by the liver, stomach, and diaphragm, by the non-contractile as well as by the powerful contractile tissues of the abdomen? Is not this resistance, from above, constantly increased, and sometimes forcibly augmented by standing, walking, dancing, straining, coughing, and every conceivable variety of muscular exertion, not excepting the simple natural action of the muscles of respiration? Do not those women who wear these supporters very universally counteract also this supposed elevation of the intestines from the uterus, by tight ligatures around the epigastric and lumbar regions to which are appended some eight to fifteen pounds weight of under-garments? Is not this counteracting influence generally augmented by corsets, laced more or less tightly, and by fashionable dresses, which demand the strong fingers of the maid-in-waiting, or, it may chance be, little pulleys and strings, to insure the hooking of the dress? Is it possible to convince that any pressure, however great it can be made, at the lower part of the body, will prevent all these influences, in addition to the gravity of the intestines, and the continually varying size of the alimentary canal from food, gas, and feculent accumulations? "Credat alter, non ego."

As regards the *perineal pad* or supporter, perhaps more can be said in its favor, inasmuch as in cases of *procidentia uteri* the organ may be kept within the vulva, to the great comfort of the

patient; and in many cases the upward pressure affords comparative relief to the sensations.

It has, however, and can have, no effect in relieving any of the internal displacements. If the perineum be firmly pressed upwards in cases of *prolapsus*, the os uteri will impinge more firmly on the posterior wall of the vagina, by which any flexion of the uterus will be actually increased, and the symptoms dependent thereon be augmented, while in *anteversion* or *retroversion* no change of position can possibly result from this upward pressure.

Mere Palliatives.—From what has been said, the conclusion may fairly be made, that external supports are at least but palliative as regards some of the symptoms of displacement, and that they have no tendency to restore the organ to its proper position; but, on the contrary, that the whole tendency of the abdominal brace is to aggravate the pressure on the uterus, and increase its deviations. Hence such supporters should be enumerated among the causes, original or aggravating, of uterine displacements, and not among the remedies.

This view is confirmed by the constant experience of the author. Few patients, for some years, have come under his care in which these bandages have not been used for a longer or shorter time; yet, in all cases, the displacement was found still existing, and in some to a great degree.

Cases.—In one patient, a supporter had been in use for three years, palliating, to be sure, many symptoms; but the uterus was so completely retroverted that its posterior surface was parallel to the internal plane of the perineum.

In another lady, who had suffered excessively from dyspeptic and cephalalgic symptoms for nine years, and was regarded as a confirmed invalid, a decidedly retroverted and hypertrophied uterus was found existing in spite of the constant use of a supporter for the whole of this long period.

How they afford relief.—In answer to all these facts and reasoning, the question is urged: if these supporters do not elevate the intestines, and if they so decidedly augment the downward pressure on the pelvic viscera, how can so many patients wear them with so much relief, and be so dependent on them for their comfort and power of locomotion?

There is a twofold answer to this question, and to the mind of

the author they are perfectly satisfactory, as well as in unison with the daily experience of patients and their physicians.

Certain varieties of *pain and morbid sensations are relieved by pressure.* The pain of a bruised finger is often diminished by even a firm grasp; aching sensations in the back and limbs are relieved by frictions and pressure. What woman, liable to nervous headaches, who has not found relief by a bandage firmly tied over the forehead and temples? What woman, in the agonies of childbirth, has not called for a powerful support to her aching back? A young lady, when suffering from what she called universal neuralgia, expressed great delight from a firm grasp of a hand around her arm. Many years ago, I attended a lady subject to the most intense paroxysms of pain in the chest, lasting for a few minutes, and often alternating with a similar pain in the forehead. During the paroxysm of pain, she would call for the most powerful pressure to be made on the sternum by the hands of one or two attendants. As soon as the pain ceased, the skin became so sensitive, that the weight even of her garments was disagreeable; but, in a few moments, on the return of pain, the attendants were again earnestly called upon to renew the pressure. The same operation was also required when the neuralgic suffering invaded the forehead.

Thus it is, in cases of irritable uterus, the miserable sensations and pain in the back and abdomen are relieved by pressure from the hands or the brace. And it will be found that the relief is often greater from pressure over the sacral region, by which, of course, no support can be given to the internal viscera. In one patient, I remember, who, although she could not tolerate on the hypogastrium the pad of a brace, as the tenderness was so great, lamented she could not have the pressure continued over the sacrum. Even while in bed, many patients must have their hand or some hard body pressed upon the sacral region to give partial relief. This affords one solution of the apparent enigma we are explaining.

The second answer is perhaps still more satisfactory. *External pressure increases the efficiency of muscular action.* Every reader of the Bible is familiar with the ancient practice of girding up the loins for the race. The athletes of Greece, the runners in the Olympic games, following the example of their predecessors, are,

in turn, universally imitated by the ambitious ones of modern times, who aspire for victory in the race or the combat. The huntsman's girdle is but a counterpart of the most recherché of utero-abdominal supporters. Many a young, luxurious, fashionable woman, who affirms she cannot walk a step or even maintain herself in a sitting posture, without her corsets, or her tight dresses; but with them, will dance the night through, without acknowledging the least sensation of fatigue. The physiologist knows the importance of the dense fasciæ of the limbs, in giving efficiency to the muscles which they cover; and the surgeon, wisely taking the hint from nature's arrangements, often resorts to bandages and other measures to sustain the debilitated muscles of an exhausted patient.

It is very evident, therefore, that abdominal supporters, by their pressure on the muscles of the loins and abdomen, will often enable weak and enervated females to make much more exertion than they otherwise could do. Hence, a uniform regular pressure over the whole parietes of the abdomen of a moderate character, is advantageous in cases of great relaxation and debility of these tissues. Most accoucheurs, therefore, recommend the "binder" to women after delivery, until the tissues have recovered their elastic and contractile powers. Many mothers pursue this plan to preserve the symmetry of their figure, after parturition. The surgeon also applies his bandages to the abdomen after the operation of paracentesis, where there has been great distension from dropsical effusions. So, in many cases of debility of these muscular tissues, a moderate compression will prove useful, not only in enabling the weak to endure the fatigue of long walking, dancing, &c., but also the orator to exert his lungs, or the vocalist her voice to the greatest extent.

No wonder, then, women often are anxious to wear these braces, and praise them highly, as relieving nervous distresses, and enabling them to take moderate exercise. Let it never, however, be forgotten, that all such pressure is at the risk of depressing the uterus; and that the idea of replacing or supporting a displaced uterus by pressure above the pubis, must be regarded as an absurdity in physics, and deceptive in therapeutics.

CHAPTER V.

TREATMENT OF DISPLACEMENTS—INTERNAL SUPPORTERS.

THE *fourth* mode of treating deviations of the uterus, deserving of consideration, is the employment of *internal supporters:* that is, of foreign bodies to be introduced into the vagina, and so arranged as to replace the uterus, and to maintain it in its natural position. Such bodies have been universally termed *pessaries.*

VALUE OF PESSARIES.—Few subjects have occupied professional attention more than these instruments, and in few instances have the opinions of practitioners been prone to more vacillation. The pessary has been highly extolled at one time or by one set of physicians; while at another period, or by another set, the most severe criticisms have been poured out on their use, as inefficient and dangerous. Whence these extremes? Doubtless it is owing to a want of attention, to a limited experience, and especially to an absence of proper scientific principles in guiding and regulating the practitioner in their employment.

The long experience of the author in the use of pessaries will perhaps justify the expression of his opinion, that the mechanical treatment of uterine displacements by intra-vaginal supports is essential, a "sine quâ non," for their perfect relief; that by pessaries, of suitable material, size, and form, the uterus may very generally be replaced and be maintained in situ; that the local symptoms of weight, pain, &c., the leucorrhœa, the menorrhagia, the dysmenorrhœa, and all the innumerable direct and indirect symptoms of spinal and cerebral irritation, including neuralgia, nervous headache, nervous affections of the larynx, lungs, heart, stomach, bowels, &c., as also spasms, cramps, and convulsions, may often thus be dissipated; that the intellectual and spiritual being may be elevated from the lowest states of depression, bor-

dering on melancholy, or be delivered from the highest degree of maniacal excitement; and that the whole economy may thus be revolutionized. Patients often are amazed at their own altered sensations; they can hardly realize their identity—feeling as if they were either renovated, or that they had been transported to a "new world."

This will doubtless be regarded as very extravagant—as the language of an enthusiast; but the author has merely recorded the expressions of many of his patients who have been relieved; but he would by no means wish to convey the idea that such ecstatic feelings are universal. He is, by painful experience, fully aware that here, as in all other cases, disappointments will occur; that partial relief only is sometimes afforded; and that great patience, with often long perseverance in the scientific use of appropriate measures, may be requisite. Yet, he feels perfectly confident that when, by mechanical measures, displacements of the uterus are completely relieved, and when the agents themselves excite no irritation, such results may be anticipated. The difficulties arise from the improper character of the instruments employed, the mechanical obstructions to a replacement of the organ, the great sensibility of the vital tissues involved, the timidity and nervousness of the patient, and too frequently the want of proper indications in carrying out the treatment. Experience proves that these obstacles are great: they have hitherto defied the efforts of physicians, as proved by the discrepancies of opinion on all these points, and by the numerous varieties and modifications of pessaries suggested by the ingenuity of their advocates, who have not even yet satisfied themselves. Much, doubtless, is to be done, but science and ingenuity, with careful attention and perseverance, may soon render recoveries rapid and easy where difficulties now seem to be almost insurmountable.

Objections to Pessaries.—Great objections, however, exist and are urged against the use of all these internal supports, which must be carefully examined, so as to present the subject fully before the mind of the practitioner.

Pessaries are condemned by many as exciting pain, irritation, and inflammation, followed by increased watery or mucoid secretions, and purulent discharges, often of a bad and putrid character,

by ulcerations of the os uteri and of the vagina, which ulcerations are said to have penetrated the bladder, the rectum, and even the cavity of the peritoneum. Of course, in such cases, the pain and sufferings of the patient are augmented, emaciation and fever may be excited, and even the life of the patient involved. Such is the language of the opponents of pessaries; but certainly these bad consequences must be numbered among the abuses of the instrument, rather than its legitimate results. If the same mode of reasoning be applied to any of the powerful articles of the Materia Medica, such as mercury, arsenic, prussic acid, opium, ether, or chloroform, the mischievous influences of these valuable agents for alleviating human suffering would appear to be well established. We cannot argue against the use of a thing from its abuse.

The evils attributed to these instruments arise chiefly from three sources, namely, from the material, form, and size of the instrument.

The improper character of the *material* employed in their construction is a frequent source of trouble. Any article capable of decomposition should not be allowed to remain in the vagina, where there is always heat, moisture, and atmospheric air, so that disintegration of such a pessary speedily ensues; whence acrid and putrid discharges and inflammation necessarily follow. These natural results are often enhanced by the menstrual and other secretions, which seem to have, to some extent, a corroding power.

The second source of mischief is the *form of the instruments.* Frequently they are constructed with thin edges, angular projections, points, or other inequalities; also some have perforations, into which the neck of the uterus or the mucous membrane of the vagina projects; or they are furnished with a stem, which, projecting out of the body, not merely renders the instrument fixed with an unyielding pressure on the tissues, but aggravates the irritation, especially at the orifice of the vagina and the vulva.

A third source of discomfort, and a very frequent one, arises from inordinate pressure, either from the *too great size or power of the instrument*, or from its pressing, in an improper direction, too firmly on particular portions of the uterus or vagina; whence, of course, inflammation, ulceration, &c., follow.

In all cases it has been a matter of surprise to me to find with

what rapidity fetid discharges, inflammations, and even ulcerations of the uterus and vagina, vanish on the removal of the cause, and the use of detergent and astringent washes. In a few days their bad effects are usually dissipated.

There can be little doubt but that, by care and attention, all these objections to the pessary can be obviated. The important declaration may be safely made, that pessaries can be worn for many months, not merely with impunity, but with great advantage, keeping the organ in its natural position, relieving the symptoms of displaced and irritable uterus, the terrible irritations of the cerebro-spinal system, and allowing the bedridden and nervous patient to exert again her powers of locomotion and resume the duties of her social position, without any local disturbance or uneasiness. She finds herself relieved without being conscious of the presence of the agent by which she is benefited. A vaginal injection of pure water every day is almost the only attention required. I am abundantly satisfied that these bright hopes may be realized by the scientific employment of suitable pessaries. The difficulties may be great, and the means of success perhaps imperfect; but there is no doubt in the author's mind that proper indications can be established, and that human ingenuity, in unison with skill and patient perseverance, will insure a success which, to the minds of many, may now be deemed Utopian.

INDICATIONS TO BE FULFILLED.—More particularly it may be urged that a pessary should be made of incorruptible materials. It should restore and maintain the uterus in its normal position at all times, under the ever-varying pressure from above. It should be movable with the uterus, allowing of the natural motions of this organ, yet effectually preventing any displacement. It should be one with the uterus. It should be worn without pain, uneasiness, or discomfort, indeed, without any consciousness on the part of the patient. It should relieve, and not increase, nervous irritations. It should excite no organic or vascular disturbance, no engorgement, no inflammation; and, therefore, it should be influential, not in increasing leucorrhœal and menorrhagic discharges, but, under proper restrictions, as will be demonstrated, in contributing to the resolution of chronic inflammations of the os and cervix uteri.

Material.—The first requisite, therefore, in a suitable internal supporter, is *incorruptibility of the material* of which it is made. The instrument ought to be worn for months, and even for years. The decomposition of the material would, of course, be incompatible with this necessity, as the frequent removal and replacing of a pessary is a subject of annoyance and irritation, mental as well as physical, and as the discharges, becoming unpleasant, fetid, and irritating, produce internal and external inflammation.

The numerous suggestions of employing *wood*, *cork*, *wax*, *sponge*, *hair*, *ivory*, *horn*, *cotton*, and even the preparations of *gum-elastic* or of *gutta-percha*, that have been ordinarily employed, should be entirely disregarded. Many of these vegetable and animal substances imbibe and retain the natural secretions, which then in a few hours or days become excessively fetid and irritating; while all these materials, if retained, are liable to decompose in a longer or shorter period, and thus become intolerable.

This observation is true of the gutta-percha spring rings, which have been highly extolled and extensively employed; some of the most offensive pessaries I have ever removed have been of this material, too offensive to be tolerated in the room after their extraction from the vagina. Occasionally this decomposition has been so great as to injure, to a destructive extent, the steel spring and its envelop of cotton thread, which gave firmness to the instrument. This is the fact; the explanation of it was not at first apparent, for gutta-percha is considered to be one of the most incorruptible of materials. Yet it should be remembered that though it resists the action of the strong acids, it softens at once in warm water. In the vagina we have heat and moisture always present; these, with the pressure to which the pessary is subjected, no doubt soften and attenuate the gutta-percha, so that the secretions penetrate to the steel spring, corrode it, percolate between it and the gutta-percha, and putrefy. Perhaps, also, some chemical change, besides mere solution, is produced in the gutta-percha by the chloroform employed in the manufacture of these instruments.

Iron, *steel*, *silver*, and *German silver* oxidize rapidly in the vagina. Pure *tin* oxidizes slowly, and can be worn for a long time without alteration. Mr. John Warner, my instrument-maker,

employs a cheap material of tin, zinc, and lead, which answers for a time, but should not be trusted in patients who cannot be frequently seen.

Perhaps one of the best articles is *glass*, which has been very commonly used in the form of globular and disk, or concavo-convex pessaries; yet, in many instances, the polished surface of the glass has been entirely destroyed, so that it has become opaque and rough, like ground glass. Glass, however, cannot be moulded so as to be safely employed in the various shapes that are requisite, and women are generally timid as to its use. Besides, globe pessaries of this material, unless very thick, cannot always be removed from the vagina without risk of a fracture.

Porcelain pessaries would prove equally indestructible, but are too heavy when spherical or elliptical; and as regards the most desirable form, the artisans, that I have employed, have failed in their manufacture.

Platina and *gold* are perhaps the only metals suitable for practical purposes. The former, from its weight and expensive character, has been seldom used; but gold has been, at least in this country, very extensively used, especially as a covering for silver. The expense has been too great for the employment of the pure metal, and even the silver-gilt pessary costs too much for general use. It is almost the only material, till lately, that I have depended upon. I have had patients who have worn silver-gilt pessaries for five and occasionally for nine years, without any bad consequences. Nevertheless, the gold will wear off; in some instances, after a long time, it will be acted on by the acridity of the menstrual and leucorrhœal discharges; and not unfrequently it becomes tarnished, even when the coat of gold is intact. There can be no doubt that, with some patients, owing to peculiarities of their secretions, the gold disappears with comparative rapidity, while in others, after the lapse of years, no injury has been sustained. The remark may be here made, that instruments are often said to be corroded, when no injury has been sustained; deposits of mucus and from the menses accumulate, particularly where daily vaginal washes have not been employed, dry, incrust the instrument, and make it rough and even irritating. In some instances, particularly in bedridden patients, calcareous deposit

has been found on the pessary, as if the urine had settled into the vagina, and its salts deposited.[1]

There is, however, another substance of great value; it is a comparatively new preparation of caoutchouc, brought into use and patented by Goodyear, the celebrated manufacturer of this article. It is commonly termed "*hard India-rubber*," or "*hard vulcanite*," and has been worked up into many useful articles, such as syringes, combs, pencils, fountain-pens, rings for harness, &c., and is represented as being incapable of decomposition, and able to resist the action of concentrated acids and the most powerful chemical reagents. The experiments that I have made with this article for pessaries have been very favorable; no perceptible change has been manifested in the integrity of the ring after being worn for twelve to fifteen months, even in cases where leucorrhœa existed. The smooth, polished surface has not been disturbed by any deposits, which not unfrequently are observed even on gold pessaries. It promises, therefore, to be a cheap and excellent material for such agents.[2]

Form of the Instrument.—Many of the various shapes suggested for these instruments have proved so inefficient and objectionable, that they have been successively discarded by large numbers of the profession; and many practitioners have even entirely abandoned the use of pessaries. Let it be observed, however, that different patients, from peculiar modifications of the displacement, or certain complications, may demand not merely supporters of various power, but of diverse shapes, to fulfil the indications. A very mistaken idea is prevalent, that a pessary is merely to be pushed into the vagina by the physician, the nurse, or the patient, and left to fix its own position, to replace the organ, and to afford permanent relief. Hence, physicians sometimes, without even a vaginal examination, have handed an instrument to the sufferer, and requested her to operate on herself, altogether

[1] These silver-gilt pessaries, of every variety, are well made by John S. Warner, the experienced silversmith, No. 38 N. Sixth Street.

[2] Several sizes of my lever pessaries have been made of this material. They may be obtained from Messrs. Goodyear & Co., or the surgical instrument-makers, J. H. Gemrig, No. 109 S. Eighth Street, D. W. Kolbé, No. 32 S. Ninth Street, and others.

regardless of the kind of displacement, the proper form or even the size of the pessary employed. No wonder that such practice has been inefficient, and that bad consequences have followed!

The introduction of the instrument should be made with care, and its adjustment often requires much time and patience; indeed, the complete reposition of the organ in cases of long standing, where the tissues are accommodated to their unnatural position, or when tumors, adhesions, or other impediments exist, may be the work of weeks or even months, requiring pessaries of varied forms and power. Replacement can thus be gradually accomplished, even in cases apparently desperate. In many cases of chronic retroversion of the uterus, even without but especially with flexion, time is demanded to fulfil the important indication to move the fundus uteri from its depression near the coccyx, along the cavity of the sacrum, to its legitimate position behind the bladder, and among the small intestines.

All pessaries should be perfectly smooth and even polished, so as to facilitate their introduction, and not allow any adhesion of the mucoid fluids to their surface. They should not be very thin, as they would press too much into the tissues and be apt to induce inflammation. They should always be free from irregularities and angular projections, lest they should produce undue pressure.

It will be profitable to review the most important forms, which have been proposed for the relief of displacements of the uterus, and to present, with all candor, their respective advantages and disadvantages. The object of the writer is truth and the relief of human suffering; hence, the objections and dangers of the varieties suggested by the author, as well as those proposed by others, will be detailed, even while recommending their trial to his professional brethren.

Globular Pessaries.—The globular or spherical pessary has apparently much to recommend it, as being perfectly smooth, without angles and edges, and as demanding no special adjustment after introduction. It has been highly spoken of by distinguished men, and at one time was regarded by many as perfect in its influences. Now, however, it has greatly fallen into disuse, and apparently, justly. A small ball is perfectly useless, while one large enough to be retained requires considerable force and

pain to introduce, and even then is seldom of sufficient size to be useful. If retained, a globular pessary almost always rests at the lower extremity of the vagina, under the urethra, and in front ot the inferior portion of the rectum. It keeps up a disposition to urinate, and frequently a tenesmus, particularly after the bowels are moved.

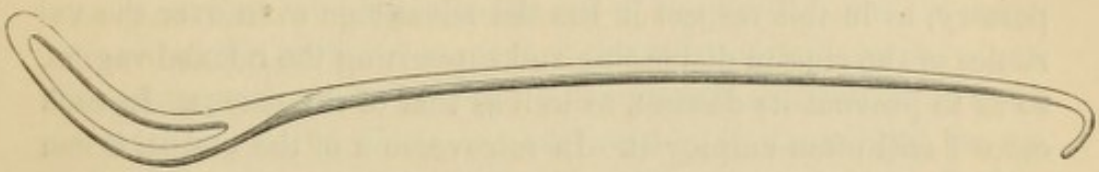
The support that it affords to the uterus in anteversion, is sometimes very good, indeed, all that is required, and to such cases, it is best adapted. In prolapsus uteri, it cannot be depended upon. In one case only have I ever found it to answer, and then the ball had fortunately made a lodgment at the side of the cervix uteri. But ordinarily, in prolapsus, it lies in front of the uterus, and therefore can give it no support; and the organ descends behind the pessary on the posterior wall of the vagina. In some cases, I have found the lower part of the cervix uteri pressed under the globe, so that the anterior surface of the organ was rendered concave by the convexity of the pessary, constituting a prolapsus with flexion; the pessary had actually aggravated all the symptoms of uterine irritation. In retroversion of the uterus, the globular pessary, so far from being useful, is positively injurious. It unavoidably gets behind and beneath the cervix, which is thus turned more and more upwards, while the fundus necessarily sinks lower in the cavity of the sacrum, increasing the pain and aggravating all the symptoms of irritable uterus. In procidentia uteri, the ball, if very large, may possibly be retained, and prevent the external projection of the organ, although it will not ever return it to its proper position. But very universally, the ball, owing to the laxity of the vulva and vagina, will even fall out almost as rapidly as it is introduced.

The *introduction* of ball pessaries is comparatively easy to the practitioner, but generally painful to the patient; because an instrument comparatively large as respects the orifice of the vagina, is requisite that it may be retained and give sufficient support to the uterus.

The patient should be placed directly upon her back; then the vulva and the pessary being anointed, and the labia separated, the ball is to be pressed slowly and steadily into the orifice of the vagina in the direction of the axis of that canal, so as to

stretch the posterior margin of the vulva, and make as little pressure as possible on the urethra.

The *removal* of the instrument can often be accomplished by the bearing-down efforts of the patient, more readily than by the practitioner. When, however, from the large size of the globe, this is impracticable, the removal can be accomplished by suitable instruments; a pair of placental forceps may sometimes be requisite, but the most simple and efficient instrument is a small curved lever, a drawing of which is given, diminished to half its size. The practitioner can now extract the ball by introducing the lever behind the pessary, and supporting its opposite side with his finger.



Similar observations apply with more or less truth against every modification of the spherical pessary, such as the *hemispherical*, the *egg-shaped*, the *barrel-shaped*, the *conical*, and the *cylindrical*, whether short or long cylinders. They all may be occasionally useful in special cases; but in the usual forms of displacement, they are useless or injurious. They occasionally prove useful, as adjuncts, to increase the power of other forms of these instruments. I have found them advantageous in elevating uteri, whether simply enlarged or complicated with tumors, which have occupied the cavity of the pelvis, pressing on the bladder, rectum, or nerves of the pelvis, and thus exciting the severe symptoms of irritation. I have succeeded in elevating these masses out of the cavity of the pelvis to the great and permanent relief of the patient, by gradually distending and enlarging the vagina by one cylindrical or globular pessary after another. This object being accomplished, the pessaries were removed, and the enlarged uterus remained suspended on the brim of the pelvis, like the uterus after "quickening," in gestation.

The *introduction* and *removal* of these pessaries can be accomplished in the manner already described for the globe. In the use of the lever, for the removal of cylindrical pessaries, however,

some care will be necessary in fixing the lever upon one extremity of the cylinder, so that the instrument shall not become transverse, and thus interfere with its easy removal.

Concavo-Convex Pessaries.—The concavo-convex pessary with a central opening—the flat circular disk—the saucer-like pessary—or perhaps best known in this country as Dewees' pessary, having been strongly recommended and employed by the late Prof. Dewees, of this city, has been very extensively resorted to in the United States, and so successfully that its supremacy for many years was undoubted. There were but few practitioners who did not depend on this disk.

It answers very well in anteversion and prolapsus of the uterus; and in procidentia uteri it is perhaps still superior to any other pessary, as in this respect it has the advantage even over the varieties of the ring in distending and supporting the relaxed vagina, so as to prevent its descent, as well as that of the uterus. In such cases I still often employ it. In retroversion of the uterus, it can at best merely palliate. It diminishes the degree of retroversion, but cannot, unless perhaps when very large, restore the fundus to its natural position. The reason is evident. The convex portion of the pessary rests on the perineum, an inclined plane from the vulva to the coccyx. The edge of the pessary will always be felt at the orifice of the vagina during all the straining efforts of the patient, and, of course, the upper edge or opposite portion of the circumference does not rise so as to elevate the depressed fundus uteri. This margin of the disk and the fundus of the uterus remain in the hollow of the sacrum. A partial retroversion will still exist to torment the patient.

Although these pessaries may be so frequently useful, and have been so extensively employed, yet they have deservedly fallen into much disuse. Their inefficiency in the common case of retroversion has greatly contributed to this result, but there are other serious objections to its general use.

Much inconvenience results from the complete occupation of the vagina, and still greater from the retention of fluids chiefly between the uterus and the concave or saucer-like surface, where they putrefy and become irritating and offensive. The idea that these fluids would be discharged through the circular foramen in the centre proved fallacious; the posterior surface of the vagina

pushes into and acts as a perfect stopper to this opening. The extremity of the cervix always rests firmly on the concave or superior surface of the pessary, so that flexion is augmented, the mucous membrane of the os is irritated, or inflamed, and sometimes a fungous growth, by the pressure of a lip of the os uteri into the orifice of the pessary, is generated. Such fungous granulations I have known project also from the posterior vaginal surface into the opening. The uncleanliness of the instrument, and these inflammatory effects frequently resulting, conjoined with its inadequacy to relieve retroverted or retroflexed uteri, justify its almost entire abandonment.

The *introduction* of concavo-convex pessaries is easily accomplished by separating the labia and pressing the instrument obliquely, so that one edge is to the left of the urethra, and the opposite side to the posterior margin of the vulva a little on the right. The pessary must now be pushed downwards and backwards, the patient being on her back, in the direction of the axis of the vagina, taking care that it assumes the transverse position after its introduction, so that the concavity shall be towards the uterus.

The *removal* is effected by placing the finger on the concave surface of the disk, thus making firm pressure against the walls of the vagina, and taking care that the instrument passes obliquely through the orifice of the vagina.

If any difficulty be experienced from the size of the pessary, or the contraction of the orifice of the vagina, a hook, as represented in the diagram of the small lever,[1] may be passed into the opening in the centre of the pessary, by which traction can be efficiently made.

Plano-Convex Pessaries.—I have made some experiments with a plano-convex pessary, and find it adapted to some cases of greatly relaxed vagina with or without procidentia, to displacements of the ovaries, as well as of the uterus, where there is much enlargement, &c. Its only advantage, however, over Dewees' pessary is, that it is more cleanly, as the fluids are not so much retained, and there is less irritation to the os uteri; but otherwise it is liable to most of the objections of the concavo-convex pessary.

The modifications of this form, with surfaces more or less flat,

[1] See diagram, p. 311.

and edges varying in thickness, have been very numerous; hence we have the *flat oval* pessary, the *elliptical*, the *long plano-convex* (a longitudinal cylindrical section), also the *flattened cylinder* (a long pessary, say three inches, with the extremities and transverse section elliptical), which is said to be an exact mould of the vagina, and so also the *spoon-shape* pessary, the extremity being straight or even a little concave. In practice, all these are very inefficient; and are not comparable to the circular disk, which, always presenting the same diameters, cannot be displaced; while the others press irregularly, and their long diameter will never remain parallel to the length of the vagina, but becomes either oblique or directly transverse, doing little or no good. Indeed, those who have patronized them seem to have had no other idea than merely to push the orifice of the uterus away from the vulva and perineum, regardless of the position of the fundus, or the direction of the axis of the organ. The transverse position of the pessary must, it would seem, have been considered desirable, as in some of these elliptical or long pessaries, the sides have been made concave to accommodate the urethra and the rectum. Many of them also are perforated in the centre; the flat cylindrical one has a canal through its whole length, under the vain notion of facilitating the discharge of fluids, but really proving a source of irritation, as the tissues press into the openings, and the discharges accumulating become putrid. Many other modifications have been suggested; but all are liable to the same objections, and especially on account of the constant pressure they make on the delicate, irritable, and sensitive tissues of the os and cervix uteri.

Ring Pessaries.—The ring pessary has been, of late more especially, substituted for all these varieties. There are several modifications of this form, but they all have the strong recommendation of affording protection to the cervix uteri. The vagina, on their introduction, is made more or less tense, so that the whole uterus is supported by the tent-like expansion of the superior surface of this tube, with very little pressure against the body of the organ; while the cervix is entirely free from pressure of the instrument, and even from resting on the posterior wall of the vagina.

This great recommendation of the ring pessary in all its varieties, has never been sufficiently exhibited. All the usual accusations against other pessaries of producing inflammation of the

cervix, are not applicable to the ring. It produces no pressure on the cervix, and therefore cannot irritate or inflame it. Much more, however, is accomplished than this negative effect. It removes irritation; it obviates, immediately, all the bad effects of the superincumbent pressure on the uterus, which produces prolapsus, flexion of the cervix, organic irritation, inflammation, ulceration, and other irritating consequences from friction against the posterior wall of the vagina and the feculent accumulations in the rectum, as formerly detailed. They thus also assist the antiphlogistic remedies for chronic inflammation of the os uteri, to which so much attention has of late been directed in Europe and America.

As has formerly been mentioned, the supposed indomitable character of these inflammatory disturbances of the cervix is often kept up by the pressure and friction of the os against the perineum. This pressure being obviated by means of a ring pessary, resolution of the inflammation may occur almost spontaneously; as the congestion and irritation of the conjunctiva disappear on the removal of a mote from the eye. Or, it will rapidly disappear under the usual astringent or detergent washes, occasionally assisted by solutions of the nitrate of silver. At least such has been the author's experience after the lapse of many years, in which he has acted on this principle; during which long period, he has never found it requisite to apply any powerful caustic for the eradication of such inflammations. That such caustics, even not excepting the actual cautery, are valuable, when judiciously employed in syphilitic, fungous, cauliflower, cancerous, and other specific degenerations of the cervix, need not be disputed. The magnitude of the danger may justify the heroic character of the agent; but let no surgical treatment be resorted to in cases of phlogosed states of the neck of the womb, which a respectable surgeon would consider unjustifiable in analogous cases, upon the skin, eye, or throat of his patient.

I have carried this principle to a still greater extent with most satisfactory results. In chronic inflammations, where the whole cervix has been indurated; where there is "ectropion" of the edges of the os from turgescence and thickening of the lining membrane of the canal; where this has become so tender and vascular that the touch of the finger or instruments, or pressure from

walking about the room, produced sanguineous discharges with pain and bearing-down sensations, giving anxious suspicion of some malignancy being present: in such cases, the use of the ring has not merely given great temporary relief, but has facilitated the subsequent recovery without the necessity of confining the patient to bed, with all its enervating results.

Although inflammation of the uterus is seldom if ever induced by the ring, yet vaginitis, with its usual consequences, may ensue from inordinate pressure due to the size, or any irregular portion of the ring; hence leucorrhœa, purulent discharges, ulcerations, and adhesions, may by inattention or carelessness be excited as by other pessaries.

A caution perhaps may be useful as regards the thickness of the pessary. Very thin ones indent the vagina, and are apt to irritate; while very wide ones—I have used them an inch in thickness and of course proportionally small in diameter—prove injurious to the cervix, not only by confining the fluids, but by acting as a suction power facilitating the engorgement of the cervix, and its consequent enlargement. This bad effect I have witnessed so frequently that its occurrence should be apprehended.

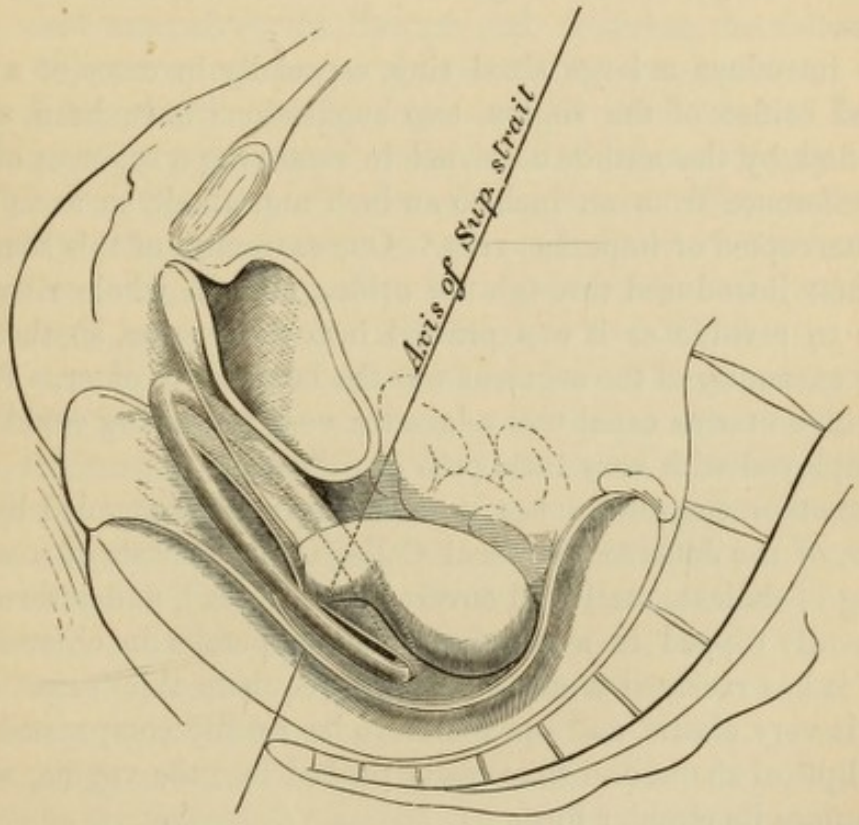
The *flat ring* pessary as a uterine supporter has similar influences with the Dewees pessary, but perhaps is not so efficient. It often answers very well in procidentia uteri, when there is great relaxation of the vagina; but it does not so well retain the vagina within the vulva as the concavo-convex, or the plano-convex instruments.

In the other forms of displacement, it also seems inferior to the disk, as the convexity of the disk towards the rectum renders it more movable with the uterus, and allows the upper margin under the uterus to rise higher on the face of the rectum and sacrum.

As intimated, the inefficiency of this form of the ring arises from its flatness. Under the pressure from above, it will, indeed must, remain parallel to the plane of the perineum. Hence, one part of the circumference may be felt towards the orifice of the vagina, while the opposite segment necessarily presses against the rectum. As the patient walks and strains, this pressure, if the pessary be large, may become very inconvenient and sometimes intolerable; it keeps up, in such cases, a tenesmus, a sense of

weight and pressure, and in some instances partially or completely obstructs, like a valve, the feculent evacuations, while under the straining efforts of the patient the closure of the intestine becomes more perfect. The anterior segment of the ring often rises against the urethra, causing dysuria, or even retention of the urine, demanding the removal of the instrument.

In retroversion of the womb, very trifling advantage is gained, in most cases, by the use of this flat ring, as the fundus is pushed up by it only a short distance from the coccyx, while pressure of the body of the uterus against the ring but aggravates the obstruction to the fæces in the rectum with its bad consequences.



THE FLAT RING IN POSITION.

To obviate these effects, it has been suggested to increase the diameter of the instrument, that it might rise higher on the sacrum, and through the medium of the vagina acting on the posterior lip of the cervix might draw the neck backwards towards the sacrum, and thus facilitate the ascent of the fundus from the surface of the rectum and sacrum. Practice does not confirm these expectations, the pessary remains flat on the

perineum, and the location of the cervix is not much affected through the medium of the vagina; the neck either does not move, or if somewhat drawn back, flexion is produced, or increased, if already existing, while the fundus still rests in the hollow of the sacrum. At least this is my constant experience, of which I have had a great deal in the use of this form of the instrument, as after abandoning the circular disk, it was chiefly with the flat ring that most of my observations were originally made. These points are represented in the diagram.[1]

The ordinary flat rings are to be *introduced and removed* in the same manner as the disk pessary. When in proper position the posterior margin of the ring should be behind the neck of the uterus.

To introduce a large sized ring, especially in cases of a contracted orifice of the vagina, two suggestions have been made. The first by the author consisted in removing a segment of the circumference from an inch to an inch and a half, so as to have an interrupted or imperfect ring.[2] One extremity of this segment was first introduced through the orifice, and the whole ring was made to revolve as it was pressed into the vagina, so that the other extremity of the segment was the last part to enter. When the vulvo-uterine canal was relaxed, a very large ring could thus be employed with very little pain or difficulty.

The other suggestion has been strongly recommended by Dr. Meigs, of the Jefferson Medical College. It consists of a watch spring of delicate steel well covered with thread, and afterwards frequently dipped in a solution of gutta percha in chloroform, until it has received a coating of the requisite thickness. This ring is very elastic, and can therefore be readily compressed into an elliptical shape, and thus easily pushed into the vagina, where it resumes its circular form.

Whatever ingenuity may be thus manifested, as regards the introduction and removal of a large pessary, yet no beneficial change is effected in the operation of the ring by its increased size.

Lately I removed a large ring pessary of full three and a half inches in diameter, from a lady with a retroflexed uterus, which still allowed the fundus to remain in the hollow of the sacrum.

[1] See diagram, p. 317.

[2] See diagram, p. 331.

Stem-Pessaries.—The inefficiency of all the pessaries above alluded to, in cases of retroversion, has been practically found so great, that numerous modifications of the ball, conical, ring and other forms, have been made and *connected with stems* or handles, projecting out of the orifice of the vagina, so as to maintain the pessary in situ. By most operators, these stems have been attached to a framework and bandages outside of the body. Failing in various efforts to rectify the position of the uterus, by means of the circular or elliptical ring, I also endeavored to increase the efficiency of the instrument by the addition of stems, but found that they were productive of too much irritation.

Without going into details as to the varieties of stem-pessaries, used extensively in Europe and America, the following serious objections may be urged against their employment. The external framework and bandages are all productive of inconvenience, and frequently of positive mischief, as already mentioned, when speaking of external supporters. They must be frequently removed, sometimes even to allow of the natural evacuations, and, of course, they have to be readjusted by the patient herself, ignorant of the indications to be fulfilled.

The stem, however smoothly made, and of whatever size, proves a powerful irritant by the pressure and frictions against the very sensitive tissues at the orifice of the vagina, and, to many patients, is actually intolerable. Few persons can bear its constant use for any length of time; indeed, the instrument is very universally removed upon retiring to bed. Hence, the little advantage to the displacement gained during the day, will be lost at night.

Perhaps the most serious objection to stem-pessaries has not been sufficiently regarded, namely, their immobility. The pessary in the vagina becomes a fixed point by means of the stem. It yields naught to the natural motions of the uterus; it affords a firm resistance to any part of the vagina, and of the neck or body of the uterus, against which it may impinge during every effort of the patient, in standing, walking, straining, &c. Pain and irritation must necessarily result to the detriment, if not serious injury, of the tissues. The reason, doubtless, that no more bad effects have resulted, is that such supporters are used only for the occasion. They are removed when the patient is at rest, whether by day or night.

Finally, stem pessaries are universally, with one exception, hereafter to be mentioned, incapable of sustaining the uterus in the direction of the axis of the superior strait. All their arrangements are predicated, it would seem, on the simple idea of keeping the uterus, within and at a certain distance from the orifice of the vagina, without any attention being paid to the natural position of the os and fundus.

Should these reasons be found valid by others, as they are confirmed by the observations of the author, stems will be universally abandoned, not only as useless, but as injurious.

Notwithstanding these and other analogous objections to stem-pessaries, they are still much employed; as patients suppose that they can thus be independent of their medical attendant.

Simpson's Intra-uterine Pessaries.—Numerous other varieties of pessaries have been proposed, which, perhaps, universally fail in the essential point of giving proper direction to the body of the uterus, and, therefore, need not even be described. To this observation there is one important exception as regards a comparatively new instrument, combining the external framework, the vaginal stem and pessary, with a stem or style to project into the cavity of the neck and of the body of the uterus. Professional attention has been turned to this "intra-uterine pessary," as it is termed, by the talented but enthusiastic Professor in the University of Edinburgh, Dr. Simpson, with whose valuable suggestions on many subjects the profession are familiar. His course is, however, to be followed like that of most pioneers, "cum magnâ prudentiâ longo intervallo:" especially in the employment of this instrument, very efficient in restoring or fixing the uterus in its normal position, but fraught with many dangers.

Dr. Simpson having found that the uterus could be restored to its proper position by the uterine sound, but that, upon the removal of this instrument, the displacement immediately recurred, however often the operation had been repeated, conceived the idea of retaining a short sound for a certain time in the cavity of the uterus by a suitable apparatus. After various attempts, he succeeded to his own satisfaction, and has presented us with three modifications of his "intra-uterine pessary." The first and second consist of the extremity of a uterine probe, perfectly straight, two inches and one-third in length, and connected with a flat cir-

cular disk at its lower extremity, which in the first was solid, smooth, and small; in the second this disk was larger, of an ovoid shape, in the centre of which was again a smaller disk, with its upright probe. This central portion was ingeniously connected with the larger by a "spring catch," so adjusted that the angle of the stem could be altered in order to allow of its ready introduction, and then readjusted and "locked" so as to maintain it in its proper position, and unlocked when it became necessary to remove it. These two varieties need not again be alluded to, as Dr. Simpson reports that the larger as well as the smaller could not be relied upon in the treatment of retroversion, though they answered in cases of anteversion, which can be easily relieved by almost any form of pessary, certainly more safe and manageable than the intra-uterine.

The third form, on which he places great reliance, has, as in the first, the central disk or vaginal portion, and the probe or uterine portion. From the anterior part of the disk projects a curvilinear flat tube. There is also a framework, to be arranged outside of the body, and extends from the orifice of the vagina five inches upwards to and over the symphysis pubis, is half an inch in breadth below, but over the pubis enlarges to the width of three inches. To the lower or perineal portion of this frame is attached another tubular stem, closed at the outer extremity and smaller than the former, so that it can be readily made to slide into the tube attached to the circular disk. The intra-uterine stem, with its vaginal disk, is to be first introduced, and by them the retroverted organ is to be restored; then the flat stem of the external frame is to be pushed into the flat tube of the vaginal disk, so as to form, as it were, but one solid stem, two and a half inches long, from the internal disk to the external frame. The framework being composed of a flexible metal, can be bent at pleasure, and is to pass in front of the vulva, and the spreading portion to be moulded over the mons veneris, so as to prevent motion and give a fixed character to the framework, to the vaginal stem, and of course to the intra-uterine probe or pessary. This arrangement is generally sufficient; but tapes and bandages around the loins, and more frequently a napkin over the vulva, with the usual arrangements for its support, are sometimes demanded.

This apparatus is to be worn from one week to some six or

eight months at all times, even during the flow of the menses. It is said that after some alterations, to adapt it to the sensations of the patient, it can be often worn without inconvenience, supporting the organ in situ, allowing the patient to take exercise, and absolving her from the sufferings of uterine irritation; and that, after being worn for a few months, the uterus will, of itself, remain in situ, and the patient continue well.

Such are the favorable reports of the operation of this instrument by its inventor, who, however, frankly acknowledges that there are cases to which it is inapplicable, and that symptoms are sometimes produced which necessitate its abandonment.

There are, we think, so many serious objections—theoretical and practical—to be urged against this apparatus, that it would seem to be impossible that it should come into general use. Its employment will probably be confined to special cases, or restricted to those few individuals who are so exact in their diagnosis as to estimate aright the peculiar cases to which it is adapted, and so cautious in their practice, as to watch their patient day after day, not to say hour after hour.

One important objection to the instrument, as proposed, is the oxidizable character of the metals employed—German-silver, or a mixture of silver and nickel. Dr. Simpson has also employed lead, and copper, for the vaginal disk. These metals, from the moisture, atmospheric air and heat in the vagina, will oxidize with more or less rapidity, and thus be corroded; and their oxides, combining with the acid secretions of the tissues, may become more or less irritating. The effect, if any, in preserving the metals in their natural state which may arise from any galvanic influence due to the combination of different metals, must be decided by the chemist and by observation.

The second objection is from the frequent necessity of employing napkins, tapes, and bandages, with all their uncleanliness and frictions, especially in warm weather, with the absolute necessity of repeatedly changing them, as have been specified when speaking of external supporters.

The external framework itself is a great objection, rising up in front of the sensitive tissues of the nymphæ, clitoris, and labia, and liable to produce more or less friction and pressure; its mo-

bility is, with all care, often so great, that it cannot be worn without additional applications, as tapes or bandages.

The vaginal stem must excite more or less irritation against the urethra, nymphæ, and other sensitive tissues, which few patients will bear.

The fixed character which all vaginal stems give to pessaries has already been pointed out as a most serious objection. They never yield to pressure from above. The internal irritable tissues are pressed against them forcibly at all times when the patient is erect, and often violently in coughing, vomiting, sneezing, &c. In the case of an intra-uterine pessary, this objection is stronger than in all others, as the points of internal resistance are, first, the mouth of the uterus; secondly, its internal surface; and thirdly, in some cases, the upper or transverse side of the triangular cavity of the uterus, directly against the point of the intra-uterine stem.

The chief pressure is received against the orifice of the uterus, and the lower extremity of the cervix, which rests on the vaginal disk—a fixed point. In all the impulses from above, the impression is made on these delicate and irritable tissues, so that sometimes the orifice is even dilated by the pressure against the disk. It has already been pointed out in detail, that the results of such pressure in neglected cases of prolapsus uteri, against even the soft parietes of the vagina, are flexion, soreness, nervous disturbance, pain, inflammation, continuing for years, with the granular, and sometimes, it is said, even with the ulcerated condition of the mucous membrane. It was also shown that such inflammations of the os were aggravated by the ball, the concave disk, the double and plano-convex pessaries, even though they were movable in the vagina. The theoretical conclusion, therefore, is clear, that more irritation would ensue when the disk is held immovable, as in the intra-uterine pessary, against the orifice by means of the stem.

I experimented several times with the intra-uterine stem and disk, generally in women whose catamenia had ceased, and where no marked sensitiveness existed in the uterus. In each, after a few days, leucorrhœal and bloody discharges ensued, with considerable pain and irritation, sufficient to indicate the propriety of discontinuing the instrument.

The intra-uterine probe is said to be worn with impunity.

The testimony given will never be acted upon without great caution, if we reflect upon the sensibility of the internal tissues of the uterus, so great indeed that a uterine sound can seldom be introduced, especially through the internal os uteri, without causing severe pain, sometimes agonizing, if we may judge from the exclamations of the patient, and from the intolerance of the uterine cavity to fluids, simple as well as stimulating. The vascularity and delicacy of the lining membrane are so great, that probing the uterus is generally followed by the effusion of blood; and the slightest mental, as well as physical excitement, will often produce leucorrhœal and menorrhagic discharges.

In the case of the intra-uterine pessary, the internal stem is not merely always in contact with these sensitive vascular tissues, but presses upon them more or less firmly during every motion of the body, as this stem constitutes the means by which the organ is kept in position. It is not, therefore, to be wondered at that in irritable and congestive, as well as inflammatory, states of the uterus this instrument, as is acknowledged, cannot be borne, or that it has sometimes to be removed because leucorrhœal or menorrhagic discharges are excited or increased. The greater wonder is that such irritations and discharges are not the constant and unavoidable result in all cases. That such is not the uniform effect can only be explained by that law of vital tissues by which, under constant pressure, if not too severe, parts become gradually more insensible to irritations.

The most serious pressure is, however, to be apprehended from the point of the instrument against the internal upper extremity of the cavity. Dr. Simpson has attempted to obviate this danger by making the instrument shorter than the long axis of the cavity. The internal stem measures two inches and one-third, while two inches and a half is the usual length of the uterine axis internally. The difference is merely two lines, or one-sixth of an inch! What possible security can be given that, in the various motions, this small space of one-sixth of an inch will not be obliterated, and that the fundus will not impinge against the point of the probe? If the uterus were perfectly firm—as if made of metal, of bone, or even of cartilage—such an accident could not perhaps occur; but the tissue of the uterus, although firm, is flexible, and bending of the organ is a fact of daily observation. With an intra-

uterine supporter there can be, it is true, no marked lateral, anterior, or posterior flexion, the metallic rod within resists such changes; but the whole superincumbent pressure must force the fundus downwards, and as the opposite extremity of the organ is fixed by the vaginal disk, the yielding of the uterus will, therefore, be from above downwards, in the direction of its length: all such yielding will endanger the forcible impinging of the uterus against the point of the internal stem. This danger is aggravated by the gradual dilatation of the os, and the eversion of its lips, so that the stile penetrates still deeper into the organ. Either of these circumstances—and, of course, still more when both are in unison—can readily shorten the perpendicular diameter of the uterus one-sixth of an inch, when mischief of a serious character would ensue—inflammation, ulceration, even, it may be, perforation of the uterus, and peritonitis with its dire consequences. Such results are said to have occurred, and certainly are to be apprehended, especially as few are expert enough to measure and arrange the safe proportions which ought to exist between the length of the stile and that of any individual uterus. Dr. Simpson speaks of using one some three and a half inches long in a hypertrophied organ with impunity; but one of our western physicians, less skilled in diagnosis, inserted an intra-uterine pessary, with a stem five inches in length, into a uterus whose length was found to be but three inches when measured by the uterine sound. The instrument is in my possession.

This particular danger can easily be lessened in a great degree by diminishing the length of the stem, so as to allow half an inch or six lines between the internal surface of the fundus and the point of the stem. Nevertheless, the strong objections of the uterus being firmly fixed by an immovable pessary, and the irritation arising from the intra-uterine stem, &c., must be regarded as of serious import. Minor objections may be alluded to, such as the occupation of the vulva and vagina so as to prevent the natural uses of this canal; and the irritations and discharges which the vaginal stem would usually produce.

That the instrument is to be worn but a few months at farthest, and that then it may be removed without a return of the displacement, is one of those assertions of an experienced physician which to most other persons is altogether incomprehensible. That

a recent case of retroversion may disappear by rest and quietness, after reposition—that a displacement, occurring soon after delivery, may, if restored, be permanently relieved by the contraction of the ligaments which then quickly occurs—can be understood. But that a chronic retroversion, where the ligaments and other supports have been for a long time inefficient, will usually disappear if the organ be retained in position for a few weeks or months, is not so readily understood. Dr. Simpson makes no explanation, but simply enunciates the fact, as he regards it. The author's experience is altogether at variance with this idea. The displacement is apt to return, even if the uterus for one or more years may have been steadily, night and day, kept in situ; and although, in some cases, a support may be removed, as the writer has done, in three and six months, with impunity, yet such are always to be regarded as exceptionable cases, and not as the rule.

The intra-uterine pessary with its external appendages must, however, be regarded as the most efficient instrument for maintaining a uterus, after its restoration to its natural position, that has yet been presented to the profession. It is impossible, with the external framework and intra-uterine stile duly connected and located, that the displacement should return. The pessary is immovable, and so is therefore the uterus itself. Must it not, however, for these very reasons, be regarded as peculiarly dangerous; and, although perhaps to be occasionally employed in special cases by the careful and instructed surgeon, it ought not to come into general use. Certainly there are numerous cases to which it is, in the eyes of all, inapplicable, as where there are great irritability and tenderness of the vulva, the orifice of the vagina and the uterus; where there is congestion of the uterus, or inflammation of the os and cervix uteri; under all circumstances, in virgins; and where the uterus is from some cause fixed, as by tumors, adhesions, &c., and cannot be at once elevated to its normal position.

The answer, of course, given by the friends of this instrument is, that experience is in its favor. If so, the question is decided; our best reasoning and all our fears must yield to stubborn facts. The question is, however, still to be determined, for it would seem that even with the originator, experience has been limited to non-irritable, non-congested, and movable states of the uterus; and

yet it is well known that in a large proportion of retroverted uteri there is much sensibility and often much engorgement. The experience of physicians even in the British isles, and on the continent of Europe, has not yet presented any decided testimony in its favor; and there certainly has been much opposition to its use, especially if we may judge from the debates in the French Imperial Academy of Medicine, and the report of M. le Dr. Depaul. In America we have seen no favorable reports of any importance. The writer has heard of its employment in some cases, but with no permanent advantage. He has had patients who had worn it, but with great suffering, giving rise to constant irritation, pain, and hemorrhage, necessitating its abandonment. Even in the cases in which he ventured to use an intra-uterine pessary—with the probe half an inch shorter than the long diameter of the uterus, and the vaginal disk attached to an elliptical ring pessary as a substitute for the external framework and stem, so as to allow mobility to the uterus, and have the whole instrument within the pelvis—the occurrence of irritation and hemorrhage from the os and labia of the uterus induced him to abandon the experiment, although made in women after "a change of life" had occurred. Further reflections and experience may ameliorate the objections detailed, and may suggest modifications in the instrument which may render it more safe, and yet not impair its efficiency.

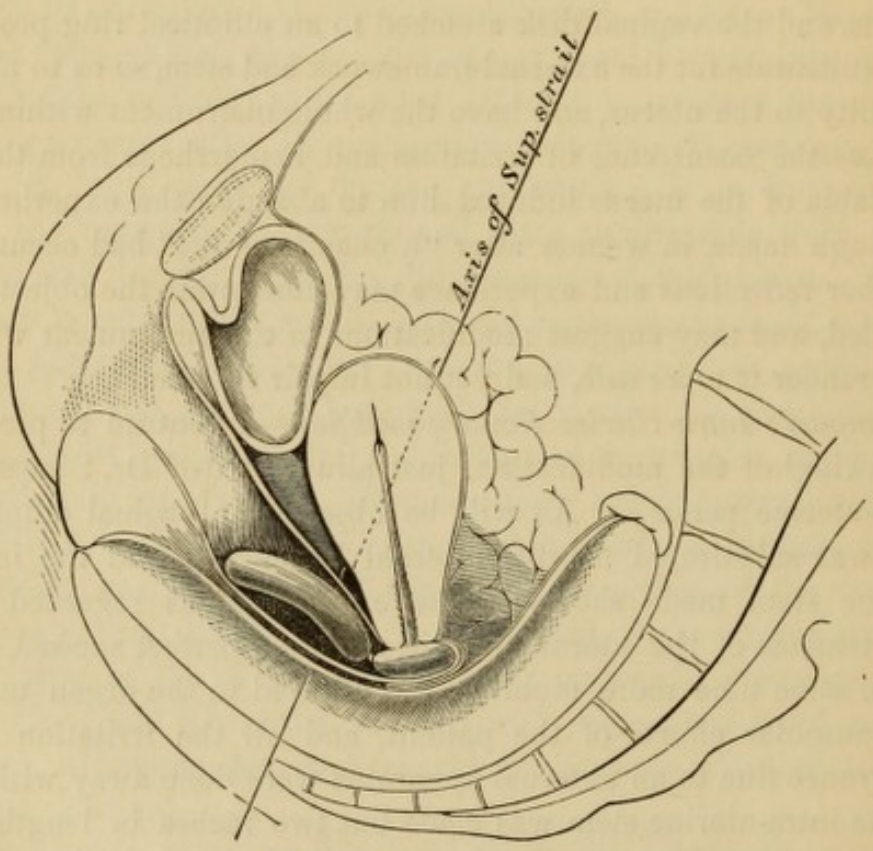
Simpson's Intra-Uterine Pessary modified.—I venture to present a drawing[1] of the modification, just alluded to, of Dr. Simpson's intra-uterine pessary. As will be observed, a vaginal elliptical ring was substituted for the external framework, and the intra-uterine stem made shorter. The experiment, as regarded the maintenance of the uterus in position, was a perfect success, and at the same time more mobility was allowed to the organ under the muscular efforts of the patient, and all the irritation and annoyance due to an external apparatus were done away with.

The intra-uterine stem was made but two inches in length for a uterus measuring two and a half inches internally. The vaginal disk had attached to a point in its circumference a short stile four lines in length, with a small foramen at its outer extremity. The disk with its stile should make, with the intra-

[1] See diagram, p. 331.

uterine stem, an acute angle, about 40° to 50°, corresponding somewhat to that made by the axis of the uterus with that of the vagina. An elliptical ring was then made, slightly curved in its length, and two inches and a half long by two inches broad (but of course the size must vary with the size of the vagina), and with a perforation in a longitudinal direction, through the bar at one extremity to receive the stile.

Before *introduction*, a strong thread or a fine flexible wire is to be passed through the eye in the vaginal stem. The pessary is then passed into the vagina, the stem carefully introduced into the cavity of the uterus, and the organ may be partially elevated. The string, hanging out of the vagina, should now be carried through the opening in the extremity of the ring. The ring is



MODIFIED INTRA-UTERINE PESSARY—IN POSITION.

then introduced into the vagina, with its convexity toward the bladder, and the string being made somewhat tense, acts as a director, by which the ring can be pushed so as to cause the vaginal stem to enter the foramen in the ring. The string is now to be

withdrawn; the pressure of the vagina, &c., will keep the ring firmly fixed on the stile, so that the direction of the intra-uterine probe represents that of the axis of the uterus, and the pessary that of the vagina. If the uterus be not perfectly restored, a little pressure on the ring will accomplish this purpose; and the anterior wall of the vagina under the influence of the superincumbent weight of the viscera, increased by muscular effort, will constantly depress the pubic extremity of the ring towards the perineum, and thus compel the uterus under the command of the stem to follow its motions. All these tissues being pliable and elastic will allow a certain degree of yielding of the uterus to the distension of the bladder, bowels, &c., and thus the instrument does not materially interfere with the mobility of the womb.

The *removal* of this instrument is very readily accomplished by drawing the elliptical ring towards the orifice of the vagina, which detaches it from the stile, after which the vaginal disk, with the intra-uterine stem, can readily be removed. If by any arrangement of this kind too much lateral motion should be allowed to the uterus from the cylindrical form of the stile in the vaginal disk, this can readily be prevented by making it and its sheath in the extremity of the ring, flat, so as to prevent rotation.

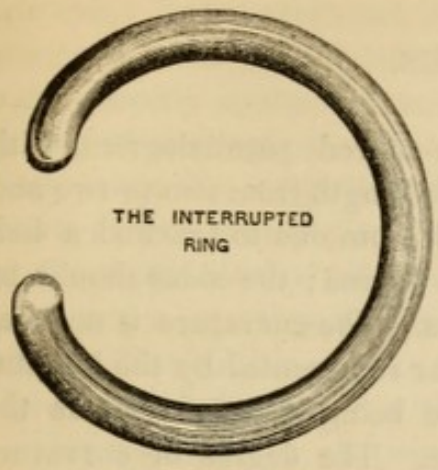
Whatever modifications, however, may be suggested, by which the evils are moderated, yet the intra-uterine pessary ought to be regarded with great suspicion, and be very cautiously employed, even in the very limited number of cases to which it is at all applicable.

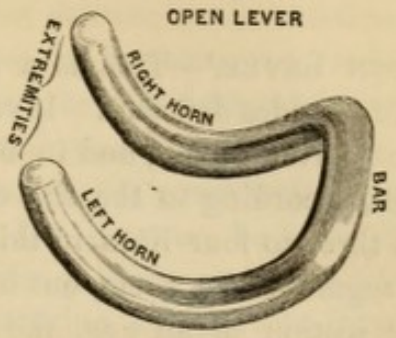
CHAPTER VI.

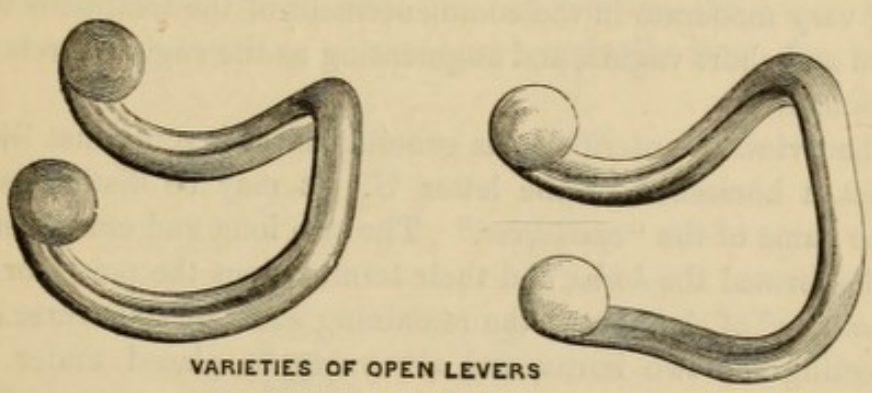
TREATMENT OF DISPLACEMENTS—LEVER PESSARIES.

In his anxiety to fulfil the important indication of keeping the uterus *in situ*, especially when retroversion existed, the author has made innumerable trials through a long series of years, with almost every form of pessary, but finding himself disappointed, instituted a series of experiments, which eventually resulted in a modification of the ring pessary, to which, from its modus operandi, he has affixed the name of the "Lever Pessary." The important modification consists in making a ring oblong, instead of circular, and curved so as to correspond to the curvature of the vagina. Great advantages result from this form; the convexity of the curve being in contact with the posterior wall of the vagina, corresponds, with more or less accuracy, to the curve of the rectum, perineum, and sacrum. Hence, when properly arranged, there is no pressure against the rectum; and the higher the instrument rises, the superior extremity, instead of impinging against the rectum, passes upwards and behind the uterus—between this organ and the intestine—giving, as will be presently seen, a proper position to the womb, and yet allowing its natural pendulum-like motion to remain unrestrained.

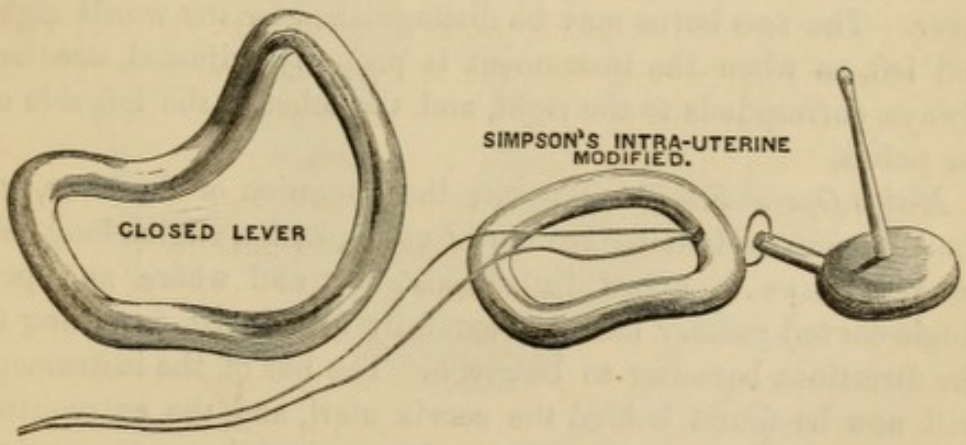
The oblong form and the curvature are the two essential peculiarities of the lever pessary; they may be increased or diminished indefinitely according to the views of the practitioner, or the peculiarities of the case. In practice, the author often modifies them in various ways; he would, however, present chiefly two varieties for the consideration and trial of his professional brethren, namely, the *open* and *closed* "Lever Pessaries."

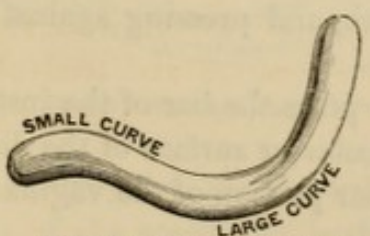






VARIETIES OF OPEN LEVERS





SIDE VIEW OF CLOSED LEVER.

VARIETIES.

OPEN LEVER.[1]—This is a single-curved parallelogram, with one of its sides deficient. It varies in length from two to two and three-quarter inches, and in breadth from one to two and a half inches, according to the size of the vagina; the sides should be from three to four lines in thickness. The curvature is not that of a segment of a circle, but is rather represented by the longitudinal section of an egg, the curve being greater towards the closed extremity than the opposite. The degree of curvature must always be accommodated to the emergencies of the case, being very moderate in the commencement of the treatment with a rigid and short vagina, and augmenting as the vagina is relaxed and elongated.

When viewed anteriorly, its general aspect is somewhat like a magnet, a horseshoe, or the letter U. It may be distinguished by the name of the "*open lever*." The two long and curved sides may be termed the *horns*, and their terminations the points or the "*extremities*" of the horns; the remaining short or transverse side connecting the two horns, and always to be placed under and behind the uterus, may be called the *bar* or upper portion of the lever. The two horns may be distinguished by the words right and left, as when the instrument is properly adjusted, one bar always corresponds to the right, and the other to the left side of the pelvis.

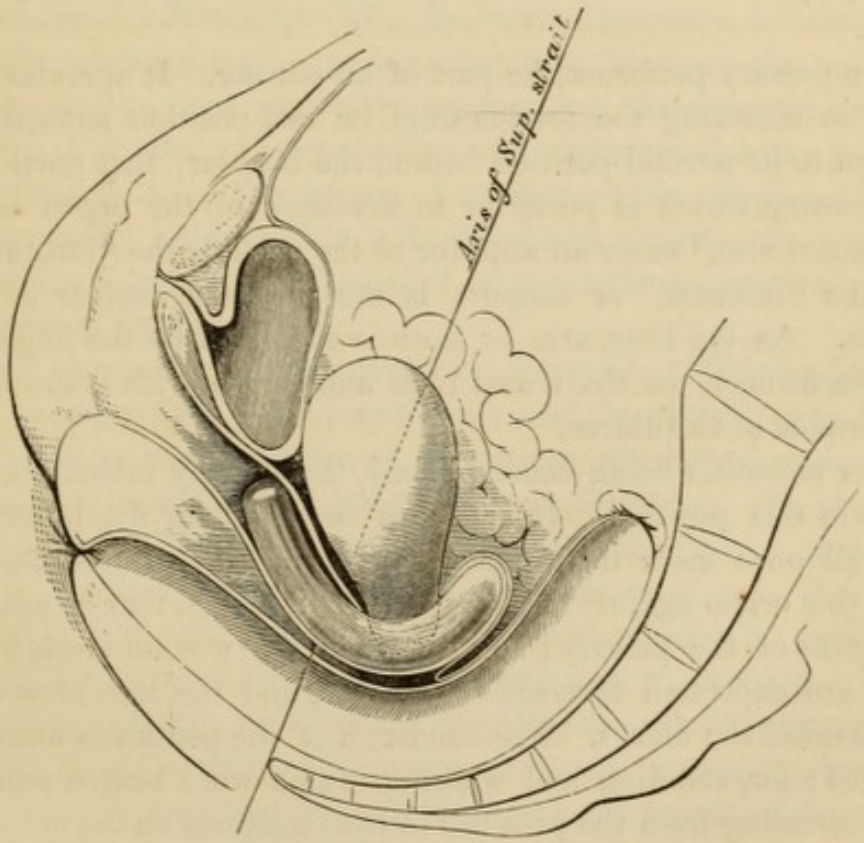
Modus Operandi.—To illustrate the operation of the lever, we shall suppose an irritable *retroverted uterus*, with a vagina long and relaxed, so as to afford little resistance, and where an open single-curved pessary has been carefully introduced, according to the directions hereafter to be given. The bar of the instrument will now be found behind the cervix uteri, and the extremities of the horns underneath, and pressing against the cystic portion of the vagina.

The first object is to press the bar of the instrument as high as possible between the posterior surface of the displaced uterus and the rectum. If the upper portion of the vagina readily yields, this

[1] See diagram, p. 331.

can easily be accomplished, by placing the index finger on the extremity of one (say the left) horn, and pushing the whole instrument directly upwards towards the sacrum, in the cul-de-sac or pocket of the vagina. Great caution is, however, required, especially when the organs and tissues of the pelvis are morbidly sensitive, so that the bar should not impinge against the uterus anteriorly, or against the rectum or sacral nerves posteriorly; in either case severe pain may be excited. Let pressure be made slowly and steadily, so that the bar shall elongate the vagina and follow the course of the rectum without striking against this intestine; in this way little or no pain will be excited. "Ne sursum deorsum cursites." "In medio tutissimus ibis."

As the vagina yields and the bar ascends, the finger should depress the extremity of the horn gradually from the bladder



OPEN LEVER—IN POSITION.

towards the rectum, by which the bar will ascend posteriorly, elevating the fundus of the uterus, while the os uteri, by means of its attachment to the vagina, is drawn more and more backwards.

In a short time it will be found that the os will point towards the lower part of the sacrum, and the fundus towards the inferior part of the linea alba in front and above the pubis. The anterior surface of the uterus can now be readily felt behind the bladder, and supported by the concavity of the horns of the pessary. The uterus is therefore replaced, and at an acute angle with the vagina. It is desirable, as represented in the diagram,[1] that the fundus be thrown forward as far as practicable, to insure the descent of the intestines behind the uterus, and also to relax the ligaments as much as possible so as to favor their subsequent contraction.

The bar of the instrument in its location behind the uterus, can be with difficulty reached by the finger; while the extremities of the horns can be readily recognized, one on the right, the other on the left side of the uterus, not pressing on the walls of the vagina at any spot, but rather receding when a bearing-down effort is made.

The pessary performs the part of an *elevator*. It operates as a lever in elevating the fundus from its mal-position against the sacrum to its normal position behind the bladder; that portion of the pessary which is posterior to the neck of the organ being the "short arm," while all anterior to the neck, is the "long arm," and the "fulcrum," or support, is the posterior surface of the vagina. As the long arm or horn is depressed by the finger of the practitioner, the short arm rises and carries with it the body and fundus of the uterus.

This elevation being accomplished, the pessary maintains the organ in this position. It acts as a *supporter*, for the intestines now fall once more on the posterior surface of the uterus, and press this organ against the long arm of the lever, that is, against the horns of the pessary; so that when the woman strains, the horns are depressed towards the rectum, and the bar of course rises behind the uterus. The condition of the patient is entirely changed; for, standing and walking, which were before painful and distressing from the pressure of the intestines on the anterior surface of the uterus, increasing the displacement, is now useful as this pressure of the intestines is transferred to the posterior portion of the organ, impelling the fundus forward towards the

[1] See diagram, p. 333.

pubis. The woman immediately realizes the change; she feels relieved of the pressure, the weight, the dragging, the pain, the soreness, the spinal and cerebral distress, and walks forth, considering the transformation as wonderful, and hardly believing in its reality. Such is the most favorable account of the influence of a pessary in cases of relaxed vagina.

In a large majority of retroverted uteri, the same bright anticipations may be indulged, excepting that time, even a long time, may be demanded for the fulfilment of the important indications of replacing the uterus, and maintaining it in its proper position. Many difficulties will be met with, such as shortness and rigidity of the vagina, immobility of the uterus, and its strong tendency to retroversion, its large size, the presence of tumors, of adhesions, &c. In many of such cases, patience must be exercised by the physician and his interesting sufferer; but by employing at first small instruments with moderate curvature, slowly and carefully working them up, day after day, between the rectum and the uterus, then gradually augmenting their power by increasing their size, and especially their curvature (for the power mainly depends on the degree of curvature), the displaced fundus gradually yields, and in a few weeks or months, the patient finds herself relieved. The relief is generally in proportion to the ascent of the fundus.

In all these efforts, great caution is required. "Festina lentè" must be the motto of the practitioner, and he should be guided very much by the sensations of his patient, remembering the object in view is to diminish, not to increase, irritation. He should encourage the patient to move about as much as her strength and pains will permit. If there be an increase of pain, the pessary presses in some wrong direction, which should be rectified by a change of instrument, or an alteration in its position. Frequent examinations are necessary to ascertain whether improper pressure is made against the uterus or sacral nerves, increasing the pain, or against the rectum, rendering the transit of feculent matters difficult, or whether the points of the horns impinge forcibly against the bones of the pelvis, or the bladder—all of which would be dangerous, as inflammation and ulceration might ensue. The pessary must not, therefore, be permitted to excite organic irritations, or inflammations from its size or too great pressure. It

should never be allowed to twist and occupy a transverse direction, as then it gives pain, and affords no support to the uterus. The pessary should always be worn without pain or inflammation. The patient should feel relieved without any consciousness of the presence of the agent, by which this great blessing has been bestowed.

This open lever is equally advantageous in *prolapsus;* it keeps the organ elevated, removes all pressure from the os and cervix, and prevents any tendency to flexion by transferring the superincumbent pressure from the extremity of the cervix to the inferior portion of the body of the uterus, and to the tent-like expansion of the anterior wall of the vagina as it is extended over the pessary.

In *anteversion* it operates as favorably; for, the horns of the instrument resting on the perineal portion of the vagina, prevent the descent of the fundus uteri against the pubis, while, in proportion as the upper extremity of the vagina yields to the pressure of the bar, the uterus and pessary, as one body, descend on the plane of the vagina towards the sacrum.

In *procidentia* I have also completely succeeded with the open lever; but, as intimated, the relaxed vagina will often descend even externally in folds between the horns of the pessary; the four-sided lever, or even Dewees' pessary, may in such cases be preferable.

The incidental advantages of the open lever are of considerable importance. Pessaries thus formed, even when of large size, can be much more readily and less painfully introduced and removed than the four-sided instrument, as will be presently detailed. They allow of the free exit of the menstrual, leucorrhœal, and other vaginal discharges, and of the ready access to the os and cervix uteri of all cleansing and medicated lotions. Moreover, in coitu nulla obstructio est, a circumstance occasionally of no minor importance. Thus, by its use, the comfort and the health of the patient can be promoted, and the instrument can often be worn for a long time without the necessity of removal for purification.

Closed Lever.[1]—Perhaps, for the general practitioner, this modification of the lever pessary may be more safe; it has some

[1] See diagram, p. 331.

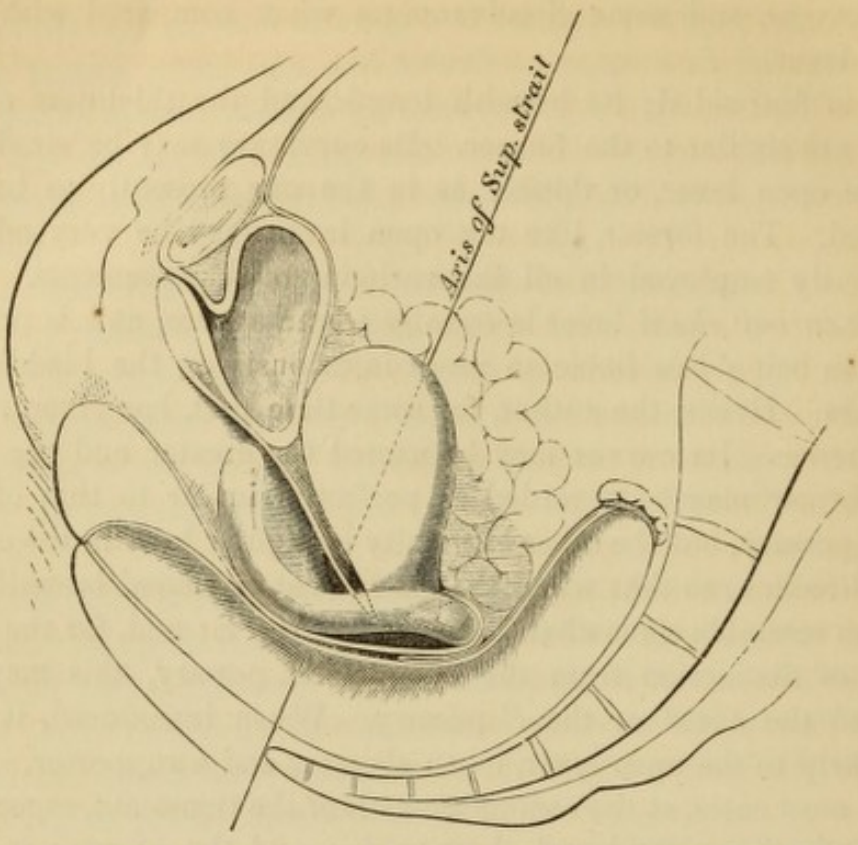
advantages, and some disadvantages when compared with the open lever.

It is four-sided; its breadth, length, and the thickness of its sides are similar to the former. Its curvature may be single, as in the open lever, or double, as in the one presently to be described. The former, like the open lever, may be very advantageously employed in all the varieties of displacements. The *double-curved*[1] *closed* lever is equally advantageous, and is preferable, as being less liable to press injuriously on the bladder or urethra. Hence, the author, for some time past, has given it the preference. Its curves may be named the greater and the less; the former may be regarded as perfectly similar to that of the open pessary, but the other extremity is slightly bent in the opposite direction, so that when the instrument is viewed laterally its curves resemble somewhat those of the letter S; and, for the purpose of distinction from the open or U pessary, this may be termed the *closed* or the *S* pessary. When introduced, it acts similarly to the open lever, as an elevator and a supporter.

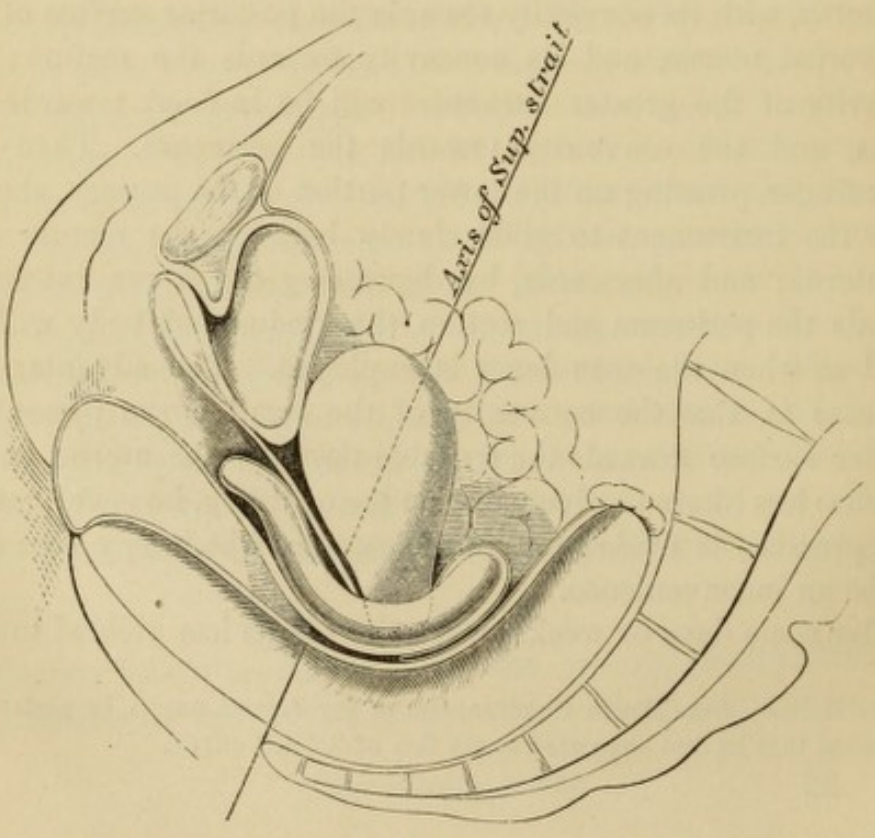
In most cases, at the commencement of the treatment, especially when there is a rigid and short vagina, and the uterus not very movable, *the extremity with the small curve* should be placed under the uterus, with its convexity towards the posterior surface of the retroverted uterus, and its concavity towards the rectum; the concavity of the greater curvature will be in front towards the uterus, and the convexity towards the perineum. Then the index-finger, pressing on the lower portion of the pessary, should cause the instrument to glide slowly between the rectum and the uterus; and afterwards, by depressing the lower extremity towards the perineum and rectum, the fundus and body will be raised as when the open lever is employed. The advantage in this case is, that the convexity of the small curve presents a broader surface towards the irritable tissue of the uterus, and is therefore less likely to give pain; on the contrary, however, rather more pressure is made towards the sacrum, which may occasionally be an inconvenience.

After some days or weeks, when the uterus has yielded to this

[1] Dr. Holmes, from South Carolina, one of my former pupils, is under the impression that he first suggested to me this additional curve.



CLOSED LEVER WITH THE SMALL CURVE BEHIND—IN POSITION.



CLOSED LEVER WITH THE SMALL CURVE BEFORE—IN POSITION.

pressure, the pessary may be turned around in the vagina, so that the *concavity of the large curve* shall be towards the uterus behind, and the convexity of the small curve in front of the uterus and under the bladder. It now acts much more powerfully as a lever, and care must be taken that it does not press too firmly against the uterus behind. Under these circumstances, the lever-like action is greater, in proportion to its size, than the open pessary; as, the small curvature and the bar in front of the uterus present a larger surface to the superincumbent pressure, forcing the anterior or long arm of the lever more forcibly towards the perineum, and, of course, elevating proportionably the upper extremity or short arm of the lever.

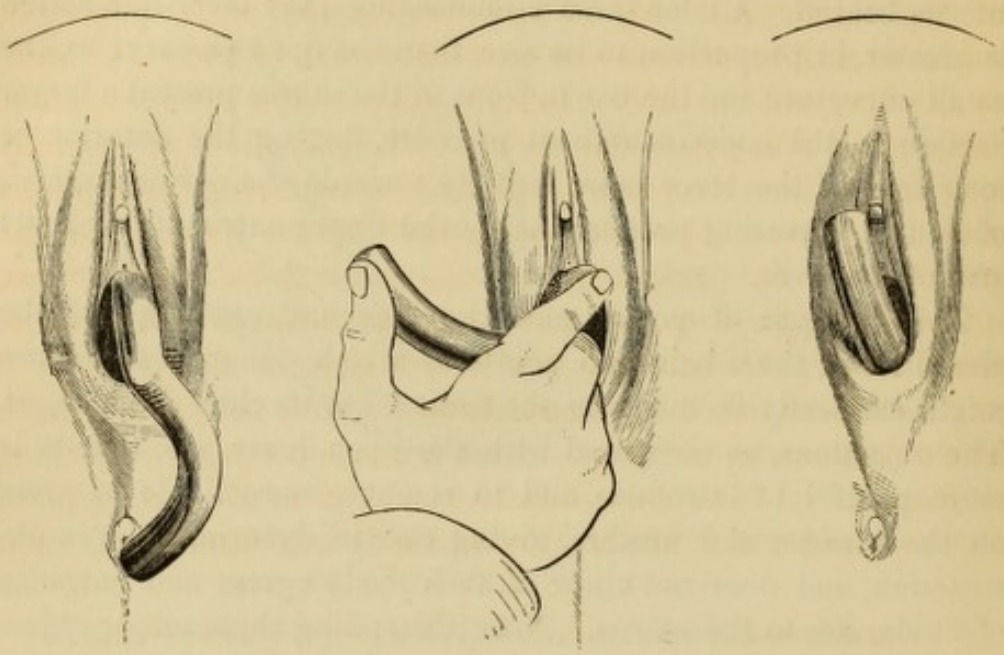
This increase of power, and the comparative safety of the closed lever, there being no points by which dangerous pressure might carelessly be made on the tissues, are its chief advantages. The objections, as compared with the open lever, are, that it is more painful to introduce and to remove, more liable to press on the bladder and urethra, giving rise to dysuria, or even obstruction, and does not allow of such ready egress and entrance of fluids, &c., to the uterus. Notwithstanding these minor objections, it is a very valuable instrument, from its great power as a lever, especially when there is much resistance to the replacing of the uterus. In virgins, also, the closed lever is preferable, as a narrow open lever is not easily introduced, owing to the thickness of the perineum and the tonicity of the vagina.

INTRODUCTION AND REMOVAL.

Introduction of Open Lever.—The introduction of the *open lever* is comparatively very easy, and seldom painful, if two or three rules be observed. Let the woman be placed on her back, with her limbs flexed and her feet near the edge of the bed; this is the best, and almost the only, suitable position for all examinations and operations in displacements.

The instrument being anointed, the practitioner should hold it in his right hand, with the points downwards towards the bed, the convex part of the instrument being towards the left thigh of

the patient, and the concave towards the right. The labia being now cautiously separated, the extremity of the right horn, which is now also the upper one, should be passed into the orifice of the vagina, and be pushed downward on the plane of the perineum,

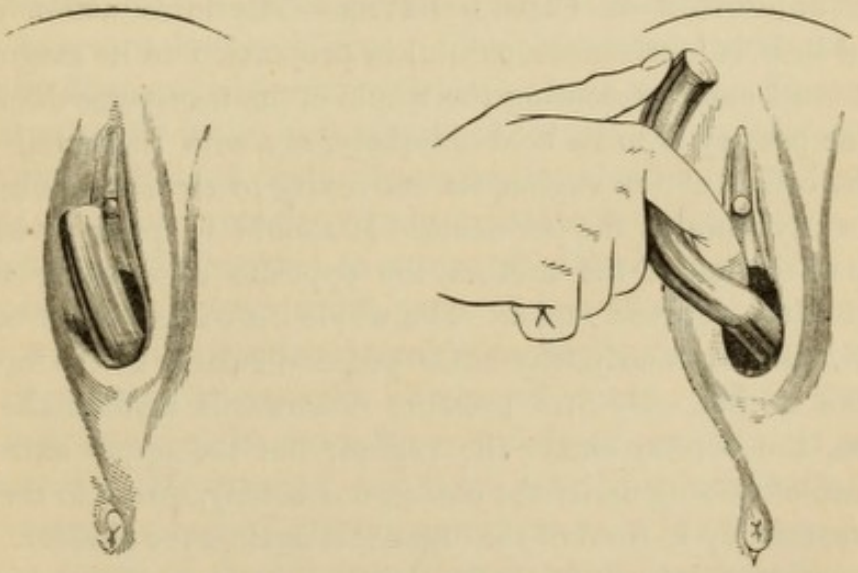


INTRODUCTION OF OPEN LEVER.

a little to the right of the median line, until the whole right horn disappears in the vagina; the bar is thus brought to the top of the arch of the pubis, and on the left side of the urethra. The left horn will be found extending externally along the perineum towards or beyond the anus, and some care is occasionally required to see that it does not pass through this orifice into the rectum. The bar of the instrument is now to be pushed directly into the vagina till the whole has entered, so that the right horn of the pessary is within and the other without the vagina, and the bar against the left ramus of the pubis. A combined operation is now demanded, in order to depress the bar on the left side of the vagina until it gets under the cervix uteri. This combined manœuvre consists in placing the index finger of the right hand on the bar, now at the orifice, and pressing it firmly but steadily downwards, on the left wall of the vagina, and within the rami of the pubis and ischium. At the same

moment, with the thumb of the right hand (or the fingers of the left), the extremity of the left horn is to be slowly elevated from the perineum near the anus, over the right labia and nymphæ to the right ramus of the pubis, where it will now readily enter the orifice, being of course preceded by the whole left horn of the instrument. By this movement the whole pessary is made to revolve, so that one extremity (that of the right horn) is the first, and the other extremity (that of the left horn) is the last portion that enters the vagina. The bar will now generally be found against the posterior part of the retroverted uterus, and may give pain. This is to be obviated by the index-finger depressing the bar against the rectum, as much as is convenient, and allowing the extremities of the horns to rise in front, close to the bladder. This finishes the introduction of the pessary; it will be accomplished most readily when, with sufficient breadth of the instrument, the length of the horns is comparatively short.

Removal of Open Lever.—Its removal is to be accomplished by reversing the manœuvre by which it was introduced. The



REMOVAL OF OPEN LEVER.

woman being placed in the same position as formerly described, the index-finger of the right hand, well anointed, is to be passed into the vagina to the left horn, and carefully insinuated between it and the side of the pelvis. This horn can be slowly pressed,

so as to get the whole instrument into an oblique position. The finger, passed over this horn, can now draw it downward until its extremity comes to the orifice of the vagina, and as soon as it completely emerges, it should be made to ascend in front of the pubis, passing over in succession the right nympha and labium externum. The traction may now be continued by moving the finger along the horn to the bar, and stretching the posterior margin of the vagina, so that the bar, and subsequently the right horn, successively emerge. The extremity of the right horn is, by this evolution, the last portion delivered.

Large pessaries can thus be introduced and removed with comparatively little pain, in cases where the vaginal orifice is so contracted, that a closed lever of the same breadth could not be employed. These open levers are also as easy of introduction as the spring pessary. I have often introduced an open lever, and allowed patients to wear it for days, without their having been conscious of its introduction or subsequent presence, and they were much surprised when informed of the circumstance.

Introduction of Closed Lever.—The introduction of the *closed lever* is much more painful in proportion to its magnitude, as it must enter presenting the whole of its transverse diameter.

The pessary is to be held obliquely, say with the small curve to the orifice of the vagina, its convexity towards the pubis and concavity towards the perineum. It should be passed with one edge to the left of the urethra, the opposite edge being to the right of the perineal raphé. The whole instrument must be held so that the extremity may enter perpendicularly to the opening of the vagina. By firm pressure downwards against the perineum, the pessary enters the vagina; but the upper extremity, instead of passing under the uterus, necessarily, owing to the large curve, rises up in front of the organ and against the bladder. Pressure, often quite painful, is for the time made on the neck of the uterus; the practitioner, therefore, hastens to introduce his finger through the opening of the pessary, and to press down the upper extremity under the uterus as soon as possible, thus affording immediate relief to the pain.

When the large curve is to be introduced first, the whole operation should be conducted in a similar manner.

Removal of Closed Lever.—Its removal is easily effected by the practitioner, but with more or less pain to the patient. Since a portion of the instrument is behind the uterus, the instrument should be first turned obliquely, and then the traction effort being made, one edge comes out of the vagina towards the ramus of the pubis, and the other towards the perineum. As the curves successively pass, the instrument should be allowed to rise in front of the pubis.

GENERAL REMARKS.

The description just given of the good influences of the lever pessary, has been founded on the supposition that the uterus is movable, and the vagina relaxed, so as to be readily elongated. It has been stated also that one and, perhaps, the great difficulty of treating retroversion, is often the *shortness of the vagina, and its close connection with the posterior lip of the os uteri*, so that no pessary can immediately ascend high on the posterior surface of the uterus; this is especially true in the unmarried and those who have not borne children. The practitioner must not, however, be discouraged by this resistance of the vagina. The vagina is an extensile tube, and admits of enormous distension with impunity, provided such distension be slowly and judiciously made, so as not to excite organic irritation or inflammation. The vagina may be elongated in a case of retroversion by beginning with comparatively a small pessary, and of slight curvature—even a flat ring is often valuable to begin the treatment. By steady pressure between the uterus and rectum, and by allowing the instrument to be worn for a few days, something is gained. It may then be removed and there may be substituted a larger instrument or one of greater curvature, that is, of more power, for the power of these levers depends more on their curvature than on their dimensions; then a third, still more powerful may be employed, and so on in gradual or rapid succession, in proportion as the vagina yields and the fundus rises, or the comfort and sensibilities of the patient will allow.

These sensations should always be regarded; there must be too much pressure, or in a wrong direction, when there is pain. The

tissues in some patients are so irritable that every advance must be slow, while in others great pressure will be borne with impunity. Let it be observed, however, that, even in cases of irritable and engorged uterus, pessaries can, with care and prudence, be almost universally tolerated. I have so often, by means of pessaries, afforded partial or even complete relief to patients who had been bedridden from irritable uterus—even to those with whom mere motion in bed was impracticable, and any touching of the vulva and vagina seemed intolerable, in whom spasms of the vagina and the pelvic muscles were often intense, and where the sympathetic irritations were so great as to result in spasms and convulsions—that I speak and write with confidence. The irritability of the orifice and the canal of the vagina will gradually diminish; operations at first painful soon are not dreaded, and the uterus replaced and sustained, eventually loses its abnormal sensibility.

By steady perseverance in elevating the uterus by means of frequent changes in the form and size of the instruments, as the tissues yield before their influence, even *more powerful obstacles* than the resistance of the vagina may be overcome. As examples of these obstacles, we may mention those arising from hypertrophy; from induration; from tumors in the interior, in the substance, or on the exterior of the uterus; from the pressure of tumors of the ovaries, or the mesentery; from tympanites and dropsies; and from the connecting tissues of the uterus having become rigid and fixed in their unnatural position in consequence of the lapse of years, or it may be from firm adhesions having occurred between the opposing peritoneal surfaces. Even in such cases, "nil desperandum" should be the motto of the practitioner. The principle being correct, perseverance is demanded, and the reward will be proportionate to our endeavors. Such are the happy results which may be expected from the use of the lever pessaries, when cautiously and judiciously employed.

The principle of their action being borne in mind, there may and frequently must be made many modifications of the form and size of these curved pessaries, which may be suited for the peculiarities of the individual cases. Drawings of two of these varieties[1] have been exhibited, one rectangular, the other circular, and

[1] See diagrams, p. 331.

both furnished with flat circular disks from six to eight lines in diameter. It should always be remembered that, as no physician is qualified to prescribe powerful medicines, such as calomel and opium, without exercising his judgment in adapting them, as to their doses, time, and manner of exhibition to the ever varying condition of his patient; so no one ought to undertake the surgical treatment of displacements of the uterus, without constantly exercising much discrimination in the use of his powerful and even dangerous instruments. If the knife of the surgeon can do mischief, so may his bougies, his bandages, or even his fingers; and he is equally bound to be careful in the employment of all of them. And besides, the idea that the mere introduction of a pessary within the vulva is "per se," of itself, sufficient for the elevation and sustentation of the uterus is absurd, the indulgence of which has wrought mischief to the patients and discredit to the profession.

If the lever pessary be *very valuable, it can also be very injurious.* Perhaps whatever is most efficient for good may the more readily be perverted to evil.

All the objections, formerly detailed against pessaries in general, may be predicated of lever pessaries. They have been made of perishable materials, too large, too much or too little curved, and have thus originated pain, inflammation, and their consequences. Moreover, it may be freely confessed, that the dangers from the lever are rather greater than from many other pessaries, even when the material is unexceptionable. Their power is greater, and of course more care is demanded. A flat disk, a flat ring, or a ball pessary introduced into the vagina, may not excite irritation, while a curved supporter of no larger size may press painfully on the uterus or the walls of the vagina. In retroversion, it may turn up against the body of the uterus too suddenly, indeed will generally do so, to the discouragement of all, if care be not taken to elongate the vagina and press the instrument steadily between the uterus and the rectum, so as not to impinge anteriorly against the uterus, or posteriorly against the rectum or the nerves of the pelvis.

If the instrument makes pressure against the sacral nerves, it often excites *severe neuralgia in various parts of the body*, usually so quick and transitory as to be called by patients "lightning-

pains." They resemble the pain produced by biting on a diseased tooth, or striking the ulnar nerve at the elbow. Facts of this kind have been so numerous and so wonderful in the author's experience as to justify a little detail, advantageous perhaps to the physiologist and anatomist, as well as to the practitioner.

In my various operations, especially in cases of retroversion, while endeavoring to avoid the uterus in pressing the pessary between it and the sacrum, some nervous twig or larger branch has perhaps been touched, and is followed by an instantaneous exclamation from the patient, indicating the severity and suddenness of the pain. It is as transitory as it is sudden. The exclamation is as speedily followed by the smile of astonishment at the complete suspension of the suffering.

The location of these pains, as indicated by the sensation, is various, and may give rise to interesting and productive speculations to the anatomist and physiologist. They are most frequently, perhaps, referred to the back or the hip—sometimes to the left hip when the pressure, apparently, is made on the right of the rectum, and the reverse—not unfrequently to the iliac fossa, to the groin, to the inside of the thigh; very frequently to the knee, the calf of the leg, the instep, and the heel, especially directly under the os calcis. The reflex influence is sometimes in the opposite direction, evidently through the spinal marrow; and the pain is often referred to the neck, the shoulder, the hypochondriac region, &c. "Oh, doctor," exclaimed a cheerful, and intelligent lady, "you hurt my neck—my shoulder—my side—my knee;" and all this in rapid succession, each spot being relieved before the other was involved. Another exclaimed, on the removing of an instrument, "Doctor, you hurt me."—"Where?"—"At the top of my head."

Indeed, it would seem that there is hardly a portion of the economy which is not represented by a sacral nerve, an irritation of which may have a response from a distant tissue or organ. So, also, disturbances of the viscera, spasmodic croup, nervous coughs, asthmatic symptoms and oppression in breathing, often arise from the same cause, as also palpitation of the heart, nausea, &c. The reverse of these observations also confirms the truth of the statement. When some of these morbid sensations have existed, they occasionally disappear instantaneously during the

elevation of the uterus. The pain in the head, the shortness of breath, the stricture around the chest, and the nausea, have thus disappeared; or the neuralgia in the neck, in the shoulder, in the hypochondriac, the umbilical, or the iliac region, in the knee, or in the foot, has thus quickly vanished.

These and innumerable analogous facts are interesting, and the general explanation is easy from the known unity of the cerebro-spinal apparatus. But, why a pain at the top of the foot or at the base of the heel, at the apex of the shoulder or in the region of the liver (so often and injuriously considered as the certain representative of "liver disease"), or in the region of the spleen, should exist from uterine and sacral irritation, while other portions of the body are perfectly exempt from uneasiness, demands a more accurate anatomy and physiology than has even yet been evolved.

The three-sided or open pessary has been objected to from the danger of the *horns pressing on the tissues*, and producing inflammation and ulceration. The danger exists, and should be guarded against by taking care that the instrument is not too long, and that the extremities of the horn make no pressure, for then this pessary would have all the disadvantage of a fixed pessary—it would no longer be movable, or even allow motion to the uterus. Neither should the practitioner allow the instrument to twist so that the points press laterally, for then the instrument is out of position, and does no good; nor should they press against the anterior walls of the vagina and bladder, for then inflammation and ulceration might arise and penetrate this viscus. Of course, also, the points of the horns should never be allowed to turn posteriorly, as the inflammation and ulceration then excited might penetrate the peritoneum, endangering even the life of the patient.

All these dangers may be easily prevented by a little care. The extremities of the horns, when the instrument is in proper position, ought not to advance towards the bladder, but rather should recede on the bearing down efforts of the patient. The practitioner, after the adjustment of the instrument, should place his finger on one extremity, and request his patient to bear down, if it recedes, or remains stationary, he may be satisfied; if, on the contrary, it advances, and presses on his finger or the

bladder, an alteration becomes necessary. This arises because the pressure downwards of the body and fundus uteri is too powerful for the pessary, or, what amounts mechanically to the same thing, the resistance, whatever be the cause, is not overcome. The short arm of the lever descends, and the long arm, or that in front of the uterus, ascends. A change, in such cases, should be made to a shorter or a less curved pessary, until the vagina or the uterus yield sufficiently to allow of a more powerful instrument. In other words, the rule, that the pessary is to be worn without nervous or organic irritation, should always be remembered.

The supposed danger from the extremities may be diminished by the addition of the flat disks, on their concave surface, by which the pressure is transferred to these disks, rather than to the extremities of the horns, and by which also the power of the instrument as a lever is increased; so that a comparatively smaller one will answer.

Another objection presented is, that *pressure will be made against the bladder and the rectum*, so as to excite dysuria or tenesmus, or to cause obstruction. This arises from the same cause, namely, too much resistance to the ascent of the fundus, and demands, therefore, an alteration in the size or especially in the curvature, so as to elevate the uterus and relieve the viscera, whether in front or behind.

The great difficulty in managing the lever pessary is, its *tendency to rotate*, so as to become more or less transverse in the vagina. This accident, when it occurs, is unfortunate, as the pressure becomes uncomfortable, or even painful, and the symptoms of displacement return, inasmuch as the uterus now will have but a trifling support, and the fundus falls down at once into the hollow of the side of the pessary. A globular, a flat circular ring, or disk pessary, may, of course, rotate in any direction with impunity; they always present the same diameters and the same surfaces to the vagina and the uterus. Not so with the lever, on account of the peculiarity of its shape, its usefulness depends on its not rotating; the bar must be posterior, and the open part anterior, for comfort and effect.

The cause of the rotation is evident, being not merely from the resistance of the vagina posteriorly, but from the pressure of the uterus, which is by no means always in the middle line; for very

frequently the fundus is found towards the right, sometimes towards the left ischiatic foramen. The chief cause is, however, the unequal pressure of the rectum, which always lies to the left of the median line of the sacrum, and is constantly and sometimes greatly distended by feculent accumulations. The bearing-down efforts of the patient when such distension exists, as well in standing and walking as in the act of defecation, will sufficiently explain why rotation should sometimes occur. Indeed, it is wonderful, that the pessary should ever remain permanent, under all the irregular pressure to which it is subjected.

This predisposition to rotation may be counteracted sometimes by increasing, to a certain extent, the breadth of the pessary, more frequently by augmenting its curvature, and occasionally by employing instruments furnished with the flat disks on the horns, which also will contribute to prevent rotation. Much may also be accomplished by simple pressure against the instrument, so as to imbed it more completely in the vagina and behind the uterus. Indeed, when the fundus uteri completely yields to the pessary, there is comparatively little danger of displacement of the instrument.

Of course in all cases of displacement of the uterus *complicated with uterine, ovarian, or other tumors*, peculiar difficulties may be experienced. Patience and perseverance, perhaps aided by some modification in the form of the instrument, will almost universally overcome such obstacles.

The patient should be kept for some time under the supervision of the physician, even after all the symptoms of displacement have entirely disappeared. I generally find that if the woman can walk two or three miles a day, for ten consecutive days without any uneasiness or difficulty, and without displacement of the uterus or pessary, she may be regarded as quite independent. Sometimes even after this test, some partial displacement of the instrument may ensue; but I continually examine patients who have worn these supporters from one to five years, without any change of location in the pessary.

Conclusions.—The author has thus endeavored to present fairly the importance of pessaries in the treatment of displacements, the objections against their employment in general, and the peculiar advantages and disadvantages of the more important varieties.

He has striven to demonstrate the failure of all the forms, excepting the intra-uterine and the lever pessary, in fully replacing and sustaining the fundus of the uterus. He has attempted to prove that although the intra-uterine pessary may, mechanically considered, be more directly efficient than the lever, yet the objections against its use are insuperable; that its temporary employment, even if the patient be at rest, is fraught with danger; that it cannot be tolerated in cases of inflammations of the cervix and os uteri, or in cases of irritable and sensitive uterus, especially when attended by leucorrhœa or menorrhagia; that it must be occasionally removed, when, of course, the displacement will return; that its employment is incompatible with connubial rites; and finally, that its use for a few weeks, or a few months, will very rarely be adequate for a radical cure, as it does not allow sufficient time for the contraction of the elongated ligaments.

The lever pessary will more slowly accomplish the restoration of the displaced organ, but, eventually, with equal certainty. It does not necessarily produce any irritation, organic or nervous, or any leucorrhœa, menorrhagia, inflammation, &c. It can be worn at all times, night and day; it interferes with no motion, and no function; the patient has no attentions to pay to it, excepting a daily vaginal wash; she may, and often does forget its presence, can enjoy her connubial pleasures, can move about in society without anxiety, is free from local and general nervous irritations, from corporeal, intellectual, and spiritual disturbance; and her physician may hope, that the uterus being perfectly sustained, the ligaments, now free from every counteracting influence, will continue to contract to their normal length, and acquire their original tonicity, so that a permanent cure may be effected, or that pregnancy ensuing, the continued use of the pessary will preserve his patient from those irritations so frequently excited by displacements, and so apt to result in abortions.

CHAPTER VII.

TREATMENT OF THE VARIETIES OF DISPLACEMENTS.

In the preceding pages, many directions and allusions have been made to the treatment of the different forms of displacement, and especially to the modifications occasionally requisite to fulfil particular indications. In the author's experience, the lever pessary has, with few exceptions, answered for every displacement; even in retroversion and retroflexion of the uterus, it has satisfactorily fulfilled the indication of restoring and keeping the fundus in position.

VARIETIES.

Prolapsus.—In *prolapsus*, it is an easy matter to elevate the organ in the direction of its axis, which, according to the definition already given, nearly corresponds in such cases to the axis of the superior strait. To accomplish this, and to support it when thus elevated, some form of a ring pessary is essential. Every other variety would make pressure on the cervix, increasing or causing flexion, and producing or augmenting irritation or inflammation at the mouth of the womb. For these reasons, the disk pessary of Dewees, as already remarked, is decidedly injurious in these cases of prolapsus, and so also the ball, the cylinders, &c. The curved ring or lever seems to be preferable even to the flat ring, as it is accommodated to the natural curves of the vagina, allows mobility, and makes no pressure on the rectum or bladder, while it well supports the uterus, and takes away all pressure from its cervix.

Anteversion.—In *anteversion*, the lever pessaries answer very well; for, in this case, the uterus resting on the concave surface of

the instrument, is thereby elevated from the pubis, and by the pressure from above the pessary and the uterus glide down the inclined plane of the perineum, and thus the fundus is carried still further from the pubis. As in all ring pessaries, the neck is protected from pressure against the walls of the vagina.

However, almost any variety of pessary may, with proper attention, answer in anteversion, such as the spherical, the conical, the cylindrical, the flat oval, the flat disk, the flat ring, the double or plano-convex, &c., as they all have the effect of elevating the fundus of the uterus from its position behind the pubis. Generally, in the spherical pessary also no injurious pressure is made in such cases on the os and labia of the cervix. Some modification of the ring, however, is preferable, as securing the safety of the cervix from all pressure.

In *anteflexion* of the uterus, a ring pessary is all-important, as it alone supports the uterus at the base of the neck; while, in the use of other varieties, the superincumbent pressure is still received by the extremity of the neck, increasing rather than diminishing its curvature. The cause of flexion, namely, the weight of the viscera received on the cervix, must be removed as formerly shown, to insure a radical relief. The bad consequences of flexion, especially as producing dysmenorrhœa, sterility, &c., are so serious, that this idea should never be forgotten.

RETROVERSION.—In *retroversion* and *retroflexion* of the uterus, all the usual pessaries, fail in maintaining the fundus in situ, even when assisted by stems passing out of the vagina; indeed, they not merely fail, but are decidedly injurious. The intra-uterine and lever pessaries, however, well fulfil the important indication of restoring the axis of the uterus to its parallelism with that of the superior pelvic strait, and of maintaining this position under all the motions of the patient. Their advantages and disadvantages the beneficial effects and the difficulties and dangers which may result from resorting to the one or to the other form proposed, have been so fully detailed, with, we hope, candor and love of truth, that the question of their relative importance must now be left to the judgment and experience of others. If both should fall short of public expectation, doubtless the ingenuity and science of others will substitute something more safe and practical, to sup-

port the uterus in its proper position without exciting nervous or organic irritation, and thus relieve its local and functional disturbances, with the distressing and horrible influences of cerebro-spinal irritations, involving, as they do, the whole corporeal, intellectual, and spiritual being.

The following account, as drawn up by a former patient, has been received since the preceding pages have been in type. It is interesting as presenting some very peculiar and singular phenomena, developed first during pregnancy, continued after delivery in connection with a retroverted uterus, and disappeared when this displacement was relieved. The patient now no longer wears a support, and is entirely free from pelvic and uterine irritation.

Case.—"About two months previous to the birth of my fifth child, while walking across the room, I was suddenly checked in my progress by the seeming dislocation of (the pubic) bones, which in my ignorance of anatomy I believed to be jointed, causing intense agony, accompanied with a sound like a pistol-shot: leaning on something near by, for support, the movement of the body caused the bone to slip in place again, when I was enabled to take a few steps, with great suffering, as the soreness and stiffness was almost unendurable. Such painful sensations and sounds recurred over and over, when attempting to get up or lie down, to the birth of a fine large child, which it may be proper to state caused less pain (though quite enough) than I had ever experienced on any previous occasion—leaving me, however, with prolapsus of the womb, and all the miserable feelings incident to such diseases, until eighteen months after, when, finding I was to become a mother again; then my health appeared almost restored, up to the two or three last months before confinement, when I suffered exactly as before mentioned—which, contrary to expectation, brought no relief—my troubles were steadily increasing. The pain in the bones seemed permanent; numbness and stiffness in the left hip, which also gave way with a noise, and pain when I would lift my foot. Then I learnt to drag it, as if paralyzed. This continued for six months, when I was taken to Philadelphia, where I was speedily relieved of much that had distressed me, though four months elapsed before I was sensible of a decided improvement in the aching bones. I continued to

wear an internal support, for several years; believing it to be the first cause of relief. I had a morbid fear that without it, I should relapse into my former wretched condition; such, however, has not been the case, as, save for bronchial difficulties (which is foreign to our subject), I might be pronounced well. And filled with gratitude," &c. &c.

PROCIDENTIA.—In *procidentia uteri*, the great relaxation of the vagina and perinæum is almost universally a complication demanding special attention. When this complication is absent, no special difficulty exists in most cases; for, the uterus being by a little pressure returned into the pelvis, is found, as formerly demonstrated, in a state of retroversion, and should be treated, therefore, for reasons frequently stated, by the "lever pessary." Nevertheless, since the vagina is usually much relaxed and distended, and also since procidentia occurs most frequently in elderly females, past the change of life, when the uterus has often dwindled in size, and is comparatively free from irritation; several of the varieties of pessaries above enumerated will prove useful. The author has therefore succeeded, with the flat ring, especially when the circumference of the ring has been comparatively thick, and also with a large disk pessary, the plano-convex and the double convex pessary.

In cases of procidentia uteri with great relaxation of the vagina, the disk or the convex pessaries are often demanded to support the vagina within the vulva; for with the lever or other varieties of the ring pessary the coats of the vagina fall over the margin or through the opening of the instrument, and may protrude from the vulva sufficiently to annoy the patient. In such cases, when the disk or convex pessary is employed, more than ordinary attention will be demanded to prevent the accumulation of fluids, and an increase of leucorrhœal discharges, fetid excretions, &c. Occasionally the instrument must be removed for a few days, and astringent washes employed to the vagina, while the patient is kept in bed until the discharges have ceased and the instrument been cleansed.

DISPLACEMENTS OF THE VAGINA, &c.

PROLAPSUS OF THE VAGINA, &c.—There are cases of *prolapsus of the vagina*, described by authors as distinct and independent of displacements of the womb; but practically they require no different treatment from procidentia uteri with relaxed vagina, and they are seldom disconnected from some degree of prolapsus or retroversion of the uterus.

These cases of prolapsus of the vagina are often designated as cases of *cystocele* or *rectocele*, or "*hernia of the bladder or rectum*"; because in bad cases the bladder or rectum, as they are closely adherent to the walls of the vagina, will descend and protrude externally.

If it be a *cystocele*, mere tactile examination, when the bladder is empty, will not usually detect this complication; but by care it will be found that there is a greater prominence than is natural at the anterior portion of the orifice of the vagina, that there is an increase of this swelling when the urine has been retained for some hours, that there is evident fluctuation, and sometimes tension, and that there is a sudden disappearance of these symptoms after micturition. The diagnosis is confirmed by passing a uterine sound, or a curved catheter into the bladder, when the point will easily be felt through the parietes of the tumor outside of the vulva. The patient complains of sensations of fulness, pressure, and weight, especially when the urine accumulates, or when she stands or walks; and local irritations from exposure, sometimes amounting to inflammation, not unfrequently occur. There is generally frequent inclination to micturate, dysuria, and sometimes inability to empty the bladder until by pressure the tumor is reinstated.

In other instances, which are comparatively rare, the posterior wall of the vagina is more relaxed and protrudes, bringing with it the anterior wall of the rectum, thus constituting a *rectocele*. If this should be suspected, its existence may be confirmed very readily, by passing a finger into the rectum, and curving it forwards, when it is readily perceived outside of the vulva, covered by the combined coats of the vagina and rectum. In addition to the usual symptoms of fulness, weight, &c., in such cases,

there is apt to be tenesmus, distension of the pouch from gas, fluids, and sometimes solid fæces, on the evacuation of which the tumor collapses.

In one case that I recall, cystocele and rectocele both existed in the same patient, and were readily detected by the catheter in the bladder and the finger in the rectum.

The treatment in all such cases is comparatively very easy. Empty the bladder and the rectum, and then introduce a large disk or convex pessary into the vagina, so as to render it sufficiently tense. By this means, the symptoms will be immediately relieved. Astringent washes must be daily employed, after a few weeks or months from the combined influence of the astringents, and the pressure of the pessary, such condensation of the tissues may be expected, that a smaller pessary will answer, and subsequently the support may be entirely pretermitted.

In the use of the pessary, attention should always be paid to the condition and position of the uterus, so that its displacement may be relieved as well as that of the vagina. From my own experience, I cannot conceive of any cases in which such treatment should be so ineffectual as to justify an attempt to diminish the size of the vulva, or the vulvo-uterine canal, by resort to the knife, or perhaps the more dangerous employment of caustics.

HERNIA OF THE BLADDER.

Although the above mentioned cases of protrusion of the bladder or the rectum are usually termed *hernia*, yet strictly this name is not applicable to them, as there is no opening or foramen through which either viscus has been forced, but there is simply great yielding of the coats of the bladder or rectum and the vagina. Hence there is no danger of inflammation or strangulation as in inguinal or crural hernia, whether the intestines or bladder protrude.

Case.—The following history of a unique variety of hernia of the bladder to which the name more strictly belongs, may not prove uninteresting. Many years ago, an unmarried lady very imprudently attempted to raise a heavy weight. She felt immediately that something had given way internally. She com-

plained of a weakness, a feeling of protrusion at the vulva, as if something must escape, if she continued in the erect posture. Soon afterwards, she recognized a decided swelling at the orifice of the vagina. No professional examination of the part was allowed. She was requested to remain continually in bed, and persevere in the use of cold and astringent washes, with suitable attention to her bowels.

Some months expired and no permanent benefit resulted; the patient was perfectly well in the recumbent position, but uncomfortable when erect. An examination was now permitted, and a slight prolapsus of the uterus was detected, with such a degree of apparent relaxation of the anterior wall of the vagina, as to allow a vaginal, but not a uterine protrusion at the vulva. A pessary was employed with trifling relief; its shape and size were variously modified, but still, the fulness at the vulva continued troublesome. This was, of course, very surprising in a virgin, the tissues being tense, and the hymen existing. A more careful investigation was now instituted. The uterus had been sufficiently elevated by the pessaries, but it was found that a portion only of the vagina was relaxed; this was situated not on the anterior, but on the right and lower portion within the rami of the pubis and ischium. When the swelling was reduced, a longitudinal opening could be recognized by the finger, apparently in the pelvic fascia. The point of a curved catheter passed into the bladder could be felt in the vaginal tumor, coming through this lateral opening. Here, indeed, was detected a regular cystic vaginal hernia, penetrating between separated fibres of the pelvic fascia near the foramen thyroideum, and on the inner surface of the levator ani muscle of the right side. The whole was reducible by steady pressure with the finger, but partially returned as soon as this was intermitted; and the tumor reappeared at the orifice of the vagina as soon as the patient stood erect. No other portion of the vagina was implicated. The nature of the case, and the indications to be fulfilled, were now evident; but the means at command proved very inefficient. Innumerable varieties of pessaries, with and without springs, were tried, but the tumor would press around or over them; no firm, unyielding pressure could be made on the opening, so as to prevent the egress of the bladder. Success, however, eventually was gained by means of what might

be termed a T pessary, that is, a large cylinder, about the length of the vagina, to the middle of which a smaller cylinder was attached at right angles. This was introduced and so arranged, that the large cylinder extended from the foramen thyroideum to the upper part of the vagina, which space it completely occupied; the small cylinder was then placed across the vagina, its extremity pressing against the left side, so as to keep the larger or longitudinal portion so firmly in position, under all the varying motions of the patient, that the hernia did not escape. The instrument was worn for many months, without any special trouble, and was then removed. Some twenty-five years have since elapsed, the lady is still living, at an advanced age, but without having had any return of this old enemy.

STRENGTHENING THE NATURAL SUPPORTS.

The *fourth indication* in the treatment of displacements of the uterus is so to strengthen the natural supports of the uterus that artificial assistance may no longer be required. Our means are here, however, very limited. We must trust merely to the usual recuperative powers of nature.

Those who imagine that the uterus is supported merely by the tonicity and contraction of the vagina, depend, of course, upon astringents, tonics, and cold applications to this canal; and, these failing, they have been bold enough to resort to surgical operations to diminish mechanically the size of the vagina, or, it may be, of the vulva, for a radical cure. We have already noticed the falsity of the theory on which this practice is founded, and its inefficiency, except in cases of procidentia uteri.

When displacements of the uterus arise from increased weight or size of the organ, or from increased pressure from above—the natural supports remaining good, or but slightly impaired—then, if such increased size, weight or pressure can, by any means, be obviated, the ligaments may resume their duties, and the organ be supported by them without artificial assistance. This is often observed in cases of hypertrophy from pregnancy, from polypous tumors, from fluid collections in the cavity of the uterus, or even from simple irritable uterus; the causes disappearing, the size of

the uterus diminishes, and the ligaments will then be adequate for the sustentation of the organ. The same favorable results may be anticipated, in some cases, when constipation, tympanites, ascites, or other temporary sources of pressure, such as tight dresses, braces, &c., have vanished. In most instances, however, there is such an elongation, want of tonicity, or relaxation of the ligaments, either prior to or after the displacement, that they are inadequate to retain the womb in situ. However frequently the organ may be artificially elevated, it again falls under the weight of the intestines and the contraction of the abdominal muscles. Artificial supports or pessaries are, therefore, demanded for the restoration and maintenance of the uterus. These means will usually prove not merely palliative, but radical. This anticipation is founded on the general physiological fact that there is a natural disposition of all the tissues of the body, especially of the muscular, to contract, when there is no counteracting cause. The skin and areolar tissue are continually accommodating themselves to the size of the subjacent tissues; the heart, stomach, bowels, bladder, uterus, &c., to the size of their contents. If a limb be kept uniformly in one position for a sufficient length of time, the muscles, ligaments, and other tissues will contract so as to render it inflexible and useless.

When the uterus is fully supported by a pessary, and especially if the fundus be tilted well towards the pubis, all the ligaments previously elongated and atonic are thrown into folds; and the organ being constantly sustained in the above position, there exists no counteracting influence to prevent the shortening of the ligaments. Their contraction may therefore be always expected after a longer or shorter period. The time for its full accomplishment must exceedingly vary, according to the vigor of the patient, whether she has never been pregnant or been frequently a mother, according to the degree of elongation and atony of the ligaments, the size of the womb, the degree of pressure from the viscera, &c.

No definite time can, therefore, be fixed at which a patient can dispense with an artificial support after there has been a chronic displacement, especially a retroversion, where the ligaments are always elongated. I have removed a pessary even after three months, and my patient has remained well; others have worn

them for years, and yet do not feel comfortable without the support. My general rule is, that at the end of a year the instrument may be removed; but if symptoms reappear, and especially if, on successive examinations, the uterus is found gradually returning to its mal-position, then to replace the pessary. The inconvenience of wearing a support is trifling, as it should cause no pain or irritation; and the miserable consequences of displacement are so great, that the propriety of continuing its use can hardly be doubted.

Of course, particular circumstances interfere with the execution of this general rule—as, general or local diseases from accidental causes, but especially the occurrence of pregnancy. In this last case, the pessary will continue, for a time, to be useful, as has been maintained, in preventing any displacement in the early stages, and in diminishing any predisposition to abortion. After the third or fourth month it can do no good, as the uterus becomes so large as to rise out of the pelvis, and it might be injurious, from the enlarged size of the organ, to which it is not adapted.

This natural disposition of the ligaments to contract is our chief reliance; but, as they are muscular tissues, we may conclude that all those hygienic and medicinal measures which increase the tone and energy of the general muscular system will greatly assist recovery, by imparting activity and strength to these hitherto atonic and relaxed ligaments. Even the injections of cold water, astringents, and tonics into the vagina may have a sympathetic tonic influence on these supports. As, however, the ligaments are internal, among the intestines, no one but the empiric would speak of making direct applications to these tissues to strengthen them.

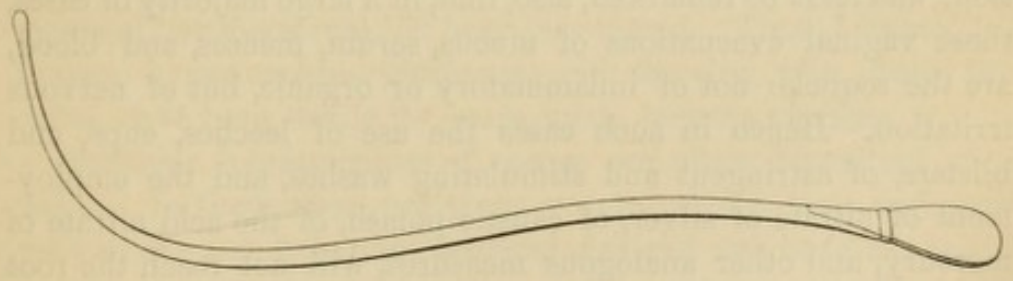
CHAPTER VIII.

TREATMENT OF COMPLICATIONS OF DISPLACEMENTS OF THE UTERUS.

MANY allusions have been made to the complications of the usual forms of displacement, the treatment of which has now been presented.

FLEXION.

With prolapsus, anteversion, or retroversion, *flexions* of the neck of the uterus demand very little special treatment. The passage of a uterine probe two or three times, with the use of a ring pessary, is almost always successful. The annexed drawing of the uterine sound or probe represents that degree of curvature, required when the uterus is in situ. The influence of the probe



is temporary, that of the ring permanent; the latter transfers the superincumbent pressure, which is the cause of the flexion from the extremity of the cervix to the body of the uterus, at its junction with the neck. The vagina, attached to the lower extremity of the neck, is stretched out by the pessary, like a tent, and receives also part of the pressure; so that, the balance being borne, as just mentioned, by the lower part of the body of the womb, the neck is entirely liberated. The cause of flexion is no longer operative, and this complication, so fruitful of functional uterine distress, disappears.

The ring not only delivers the cervix from this complication, but, preventing all firm contact with the posterior portion of the vagina, it liberates the extremity of the neck from that pressure which so often induces and keeps up inflammatory affections of the os uteri. Hence, not only are dysmenorrhœa and sterility frequently obviated by the ring, as formerly mentioned, but it becomes also an important, if not an essential, adjuvant in the treatment of inflammations of the cervix.

MENSTRUAL DISTURBANCE.

Frequent notice has already been given of the great benefit to be experienced from a proper support to the uterus, in cases of displacements complicated with *leucorrhœa*, *menorrhagia*, and even *hemorrhages* from the uterus. By relieving the irritation from the displacement, they effectually prevent the congestion of the uterine vessels, which is the cause of such discharges. Hence leucorrhœa and menorrhagia, which have, from time immemorial, been so indomitable as to be ranked among the "opprobria medicorum," will, by these means, become very manageable. They should no longer be regarded as "weaknesses," but as the results of irritation; and let it be remarked, also, that, in a large majority of cases, these vaginal evacuations of mucus, serum, menses, and blood, are the sequelæ not of inflammatory or organic, but of nervous irritation. Hence in such cases the use of leeches, cups, and blisters, of astringent and stimulating washes, and the employment of nitrate of silver, of caustic potash, of the acid nitrate of mercury, and other analogous measures, will not reach the root of the evil. The congestion may be relieved for the time, but it will certainly return, even when, as I have often known, this course of practice had been pursued for many years. On the contrary, if the nervous irritation of the uterus be relieved, the congestion will disappear and not return, no matter whether such irritations arise from displacements of the uterus, or from sympathy with the bladder, the rectum, the stomach, or the cerebro-spinal centres. If there be no irritation, there is no congestion, and if there be no congestion, there will be no preternatural evacuations. Thus the uterus, free from irritation, resumes its normal functions.

ENLARGEMENTS AND TUMORS OF THE UTERUS.

HYPERTROPHY.—Displacements are also complicated with hypertrophy of the uterus, a natural growth of tissue without disorganization. Many such cases are met with, where there are no tumors, or other permanent sources of irritation.

The cause may be often traced to the continued state of irritation and engorgement, kept up by a *displaced uterus*. Such cases of hypertrophy are too often treated, and certainly with doubtful success, by evacuants, by the local and general use of iodine, or of mercurials carried to the extent even of salivation; by the use of such topical remedies as astringents, stimulants in the form of washes, powders, and ointments; by scarifications, incisions, and leeches; and by caustics of every variety. If, however, the displacement be relieved, especially by some form of the ring pessary, the irritation is removed; the troublesome and distressing pains and nervous symptoms disappear, and the congestion vanishes; there is no increase of the enlargement, as the pabulum is destroyed; and, gradually, the uterus diminishes by the process of interstitial absorption to its natural size, precisely as the uterus of an aged female shrivels, after the normal excitements of her menstrual life have terminated. Thus, I have often known hypertrophies disappear, and females, who, from this cause, have been sterile for years, again become mothers.

Moreover, hypertrophies of course are often dependent upon *polypi*. In these cases, prolapsus or retroversion may, and generally does exist, from the increased size and weight of the organ, and thus aggravates the symptoms. The polypus usually can be, and of course ought to be, removed. Then, the irritation, as in other cases, being relieved, the congestion ceases, and the uterus gradually diminishes to its normal size, and may thus possibly regain its natural position. Should this however not be the case, the usual treatment for displacements will be demanded. In a few instances of intra-uterine polypi with displacement, the polypus cannot be immediately removed, from occlusion of the os uteri, from adhesions of the tumor, or from other causes. In such cases, more or less palliation may be given to the symp-

toms by pessaries, relieving the displacement; but, no radical relief can of course be effected, so long as the polypus remains.

TUMORS.—Enlargements of the uterus may also be dependent on tumors, and then almost universally produce displacements. The principles have already in these essays been inculcated, that the symptoms of pain and nervous distress, of leucorrhœal and hemorrhagic discharges, which so often attend these cases, are referable, not directly to the presence of these tumors, but mainly to the displacement, caused by the enlarged size and weight of the organ; that the bad effects arise, therefore, not directly but indirectly, from these heterologue or abnormal growths; and that the tumors are generally quiescent, not active, often existing for a lifetime, without any serious or troublesome symptoms, if there be no displacement.

Of course, there are many exceptions, as these tumors may become inflamed, or may have been originally scrofulous, cancerous, or otherwise malignant. These are, the author believes, judging from his own experience, very generally the exceptions. So many instances have occurred to him, of uterine tumors with displacements, leucorrhœa and menorrhagia, and the consequent injury of the patient's general health, in which, by simply treating the displacement by pessaries, all the local symptoms have been dissipated; and the patients have so often, under the influence of fresh air, exercise, tonics, bathing, &c., wonderfully recovered, that he must urge upon others a similar practice in suitable cases, founded upon the often-repeated principle, of removing the local irritations due to the displacement. His observation now, for a long series of years, in public and private practice, is directly opposed to the opinion, that those abnormal tumors are often either originally, or secondarily, of a malignant character; or that they are often subject to inflammatory irritation.

Although post-mortem examinations occasionally reveal peritonitis, or abscesses connected with these tumors, yet this does not invalidate the opinion just given; for, the cases are innumerable of uterine tumors existing for many years, and yet not affecting the patient's general health, or at least not producing any serious disease. In such individuals, death generally arises from other and distinct causes. Cases are reported of death merely from the

enormous size of the masses, so great as to interfere with the functions of the thoracic or abdominal viscera, or of the arterial or venous circulation. Such instances are still less frequently to be observed, than those which terminate by inflammation and abscesses. The law of increment is not yet known, or that of arrest and decrease. There can be no doubt, however, that these growths often remain stationary for years, that sometimes after increasing, even rapidly for a time, their development is arrested by some hidden influences, and not unfrequently they diminish and disappear.

The following case will be interesting, as illustrating the facts stated, and the principle which should regulate the practice which is to be pursued.

Case.—A lady, when about thirty-five years of age, was married, believing herself in perfect health, as she felt quite well and was not conscious of any unnatural condition of her organs. Marriage revealed a complete vaginal obstruction. Her physician, Dr. Marshall Paul, submitted the case to my investigation and subsequent treatment. I found the whole cavity of the pelvis occupied by a very hard tumor, situated behind the vagina, and in front of the rectum, extending from the orifice of the vagina to the sacrum, and from one side of the pelvis to the other. The impaction was so complete, that the tumor was nearly in contact with the fourchette or frænum perinæi. The displaced vagina was turned upwards, and behind the pubis to the hypogastric region, where with difficulty the os uteri could be touched by the index finger forced upwards, between the symphysis pubis and the tumor. Per rectum, a regular spherical mass was recognized. The urethra was drawn up behind the symphysis, as in the last stage of pregnancy. By a hand upon the abdomen the uterus could be detected larger than natural, and the whole hypogastric and iliac regions were as tumid as at the fifth month of gestation. Irritability had gradually increased, and was manifested chiefly by inability to retain her urine for more than an hour, by night or day, depriving her of sleep, of the comforts of social intercourse, and often proving very distressing. She suffered also from constant fatigue, with sensations of pressure and weight after slight exercise. The catamenia were regular.

To relieve these symptoms the indication was clear to elevate,

if practicable, this abnormal mass from the cavity of the pelvis, and to keep it above its brim. As this could not be immediately accomplished by any direct pressure with the fingers, I employed first a cylindrical pessary two inches in length and half an inch in diameter. This could with some difficulty be introduced into the vagina, so as to lie transversely from the crus of one ischium to the other, and close to the perineum in front. To retain it in this position, a short stem or small cylinder was attached to its centre, and allowed to project at the vulva. The whole instrument was of a T shape. By pressing the instrument downwards and backwards, the vagina was elongated underneath the tumor. Soon a larger cylinder was tolerated, the tumor yielded a little; by the gradual introduction of larger cylinders or balls, and afterwards by the use of more than one at a time, the whole mass was elevated above the superior strait, where owing to its great size it remained supported. Then the instruments were removed, and the patient required no further attention. The frequent inclination to urinate disappeared. She could remain in bed all night, and during the day could attend to her social duties. Her health was good, but her abdomen was greatly enlarged, as if at the seventh month of gestation.

At the usual period of life her menses disappeared, and she then reported herself as becoming smaller, and after the change was established the diminution was marked. On asking this lady, now about fifty-five years of age, not long since, about her tumors, she exclaimed, "I have no tumors," certainly none of which she is conscious, or which a casual observer would notice.

This and various other cases would confirm the opinion of the innocuous character of these abnormal growths as they usually present themselves; that the irritations and congestions, with their consequences, leucorrhœa, menorrhagia, &c., often existing, are owing to pressure on the uterus, bladder, rectum, or nerves, and not to the character of the adventitious growth; that such pressure being relieved, the symptoms of irritation will often disappear and the patient enjoy excellent health, though the presence of the tumors continues; and finally, that there is strong reason to believe that the disposition to enlarge will eventually lessen and entirely cease, and that in some rare cases the tumors may gradually disappear. The diminution or entire relief of the

symptoms by means of pessaries probably facilitates this tendency to spontaneous arrest and disappearance, by lessening the irritation and consequent congestions, while it is extremely doubtful whether anything can be accomplished by medicinal agents.

Medicines, in these cases, are of no further use than to maintain the healthful functions of the organs of the economy, and to impart tone to the system; as resolvents, they are not to be trusted.

In a large proportion of these uterine tumors which have occurred in my practice, the enlargement has not been sufficiently great to retain them above the superior strait of the pelvis; so that the continuance of pessaries, even for years, is generally necessary. Nevertheless, the irritations from the displacement are relieved by the support they give to a greater or less degree; indeed, very generally, perfect comfort is afforded to the patient. The form given to the pessary must vary according to circumstances, the kind or degree of complication, &c.; but generally the "lever," from its bent form accommodated to the curve of the perineum and sacrum, will best fulfil the indications. But frequently, however, the disk, conical, globe, cylindrical, or other pessaries may be very important. As a substitute for these instruments, it has been suggested to elevate such tumors and enlargements of the uterus by means of caoutchouc bags introduced into the vagina, in a collapsed state, and then gradually distended by air or water, as the sensations of the patient will allow. These colpeurynters, as they have been called, are now much employed, and doubtless with great advantage, in many cases. Care, however, should be taken not to increase the irritations, and the sensations of weight and pressure on the bladder, rectum, perinæum, &c., and also that a right direction be given to their pressure. They are to be regarded merely as temporary assistants, from the perishable character of the material employed. Hence, if any constant support is demanded, the pessaries already recommended must be resorted to.

The important practical rule—avoid pain and local irritation from the pessaries—is, of course, never to be forgotten. Much time and perseverance are often demanded, and much attention must be paid to avoid pressure on prominent or sensitive spots, by altering the size, form, and curvature of the instrument, especially as

these uterine tumors are very irregular in their shape; and sometimes are very numerous, and situated upon different portions of the uterus, and occasionally render the organ apparently immovable. It is very rarely, however, that all these difficulties may not be readily overcome, and the patient be relieved. Every encouragement may be presented to the patient; that the support being accomplished without pain or irritation, the symptoms of uterine trouble will entirely disappear, however large may be the uterus and its parasitic growths. Like warts on the fingers, or sarcomatous or fibrous tumors elsewhere in the body, they may be tolerated for years, if the bad effects of pressure or other irritations be removed. In their own nature, they are neither painful nor destructive.

This point has been dwelt upon more than might seem to be requisite, but this general principle is of immense importance, as the following summary of facts within the author's cognizance will prove.

Antiphlogistics.—In a great number of cases such uterine tumors have been treated as the result of inflammation, by rest, leeches, scarifications, low diet, purgatives, mercurial cathartics, and ptyalism, to the injury and sometimes to the permanent destruction of the general health.

Alteratives.—In other cases, where the tumors have been distinctly recognized, they have been designated as scirrhous and cancerous, and the patient been abandoned to hopeless misery, with the continual anticipation of a dreadful death; or, by some enthusiastic heroic practitioner, they have been submitted to repeated salivations and to the most powerful narcotics, &c., to arrest the progress or to alter the nature of such indurations. The health and happiness have often been sacrificed in vain attempts to cure. Many such patients often perish by the still more deleterious efforts of empirics. Occasionally they recover by the operation of natural causes, as already detailed, to the disgrace of the profession which had abandoned the case, and the exaltation of any accidental treatment to which, at the time, the patient may have been subjected.

In other instances, where the diagnosis has been correctly made, and no malignant character is regarded as being present, still many severe remedies are continually applied to ameliorate the

distress and pain, supposing them to be the result, not of nervous, but of organic irritation. If experience should have demonstrated the perfect inefficiency of this system, the patient is often abandoned to the miserable influences of alcoholic or narcotic stimuli, to the injury of mind, heart, and body.

Excision.—Under the influence of disappointment or the inefficiency of medicinal agents on the one hand, and under fear, on the other, that the patient will be exhausted by pain, by leucorrhœa, by hemorrhage, or that the tumors will inflame and suppurate or eventually assume a malignant character, Dr. Washington L. Atlee, of this city, has boldly resorted to the scalpel, with all its immediate and remote dangers, to effect, if possible, a radical cure.

Two locations have been chosen for the operation—one, for distinction, may be termed vaginal; the other, abdominal. The first is regarded as preferable in all cases where the tumors are towards the lower part of the uterus, or intra-uterine; the second is resorted to, when they are on the external surface sessile or pedunculated.

In the *vaginal* operation, sometimes the tumor can be directly reached; but in most cases the canal of the neck is to be enlarged by bougies, by sponge tents, by incisions with a bistoury or the "hysterotome." Then, a division of the cyst or capsule being made, the tumor is to be enucleated by the fingers, by scoops, knives, or forceps, as completely as possible.

Without dwelling upon the usual dangers of surgical operations, arising from pain, hemorrhage, inordinate inflammation, abscesses, and exhaustion—without fixing attention on the peculiar difficulty of successfully operating deep in the interior of the body, where vision can afford no effectual assistance, and the sense of touch can alone enable the surgeon to distinguish healthy from morbid tissues—and without alluding to the danger of injuring the bladder in front, and the rectum and peritonæum, as they cover the vagina, posteriorly—the objections to this operation, perhaps under any circumstances, are radical.

The operation, although sometimes easily performed, and without any unpleasant succedanea, must always be regarded as serious, and frequently dangerous, from the importance and mor-

bid state of the tissues concerned, and their proximity to the bladder, the rectum, and especially to the peritonæum.

A dangerous operation should never be performed until there is some imperative necessity. Does such a necessity exist? This question we have already answered when we explained how the pain, hemorrhage, inability to walk, the nervous and wretched condition of the patient, depended, not on the nature and character of the tumor, but mainly on the weight and pressure of the enlarged mass upon the perinæum, rectum, nerves of the sacrum, &c. Therefore, by removing such pressure, the irritation may be relieved, and its consequences be dissipated. This is our theory, suggested as well as confirmed by much experience. It is not invalidated by the assertion that such tumors may increase, and may destroy life; for the answer is conclusive, that often no increase occurs; that if they do augment, the whole mass will then rise above the brim of the pelvis, by which it will be supported without the intervention of even a pessary. The patient is very comfortable, and ought not to be terrified by the assertion that the tumor may grow sufficiently to destroy life by its enormous size; for, such cases are so rare that few practitioners have ever met with them, and are far counterbalanced in number by those in which these tumors have remained quiescent for years, or have spontaneously diminished or disappeared.

Neither should the fears of the unfortunate patient be disturbed by anxieties of the possible occurrence of inflammation or malignancy in such tumors. These are very unusual occurrences; indeed, we are disposed to say, even more infrequent than the occurrence of inflammation and malignancy in the uterus itself, in the mammæ, or other original tissues. Certainly it is a fundamental error to suppose that hard fibrous or steatomatous tumors are either originally or subsequently prone to assume a cancerous action. Their natures are distinct *ab initio*. Cancer has its own origin and its own progress; and although morbid tissues may occasionally suffer from a cancerous diathesis, so may healthy tissues also, and this possibility affords therefore no just foundation for surgical operations. The far greater probability is, that no such malignancy will ensue; that the tumors will remain quiescent, and may even vanish.

Another, and perhaps it may be, a more conclusive and radical

argument against these surgical operations on uterine tumors, is the general fact that they can seldom, if ever, be satisfactorily completed. Without discussing the question whether any surgeon has sufficient skill, tact, and delicacy of touch, to remove all the diseased tissues; yet, the general truth is, we believe, conceded, that these uterine tumors are very rarely isolated, if there be one, there are generally several, in various stages of development. Thence, if one, two, or more be completely destroyed, what security can be honestly given that the patient is safe, and that the apprehended dangers from hemorrhage, inflammation, or cancer no longer exist? Certainly none; for so long as a single minute tumor exists, the patient is, of course, in the same danger. It, according to these views, is liable to the same development and the same results. Such remaining tumors cannot be always, or indeed usually, detected, as they are often entirely beyond reach, in the substance or on the exterior of the uterus.

These vaginal operations, therefore, to remove uterine tumors, must, very frequently, be altogether useless, even in cases of apparent or reputed success. They are, however, not simply useless, but often injurious not merely from the pain and irritation, the inflammation and abscesses, which may be their consequences, but from the danger of aggravating the supposed bad character of these morbid growths. If a blow upon a tumor in the breast will hasten its development, why should not the excitement of the uterus and its morbid growths be disturbed by the incomplete efforts for their relief? The nervous and vascular irritations thus generated, must facilitate the development of any tumors which remain, and any morbid predisposition to which they may be liable.

Recoveries are said to have resulted from these operations; and drawings are presented of the supposed condition of the uterus, before and after the extirpation of the excrescence.

That patients very generally recover from these vaginal operations, may be readily conceded, notwithstanding the forced dilatation and incision of the cervical canal, the enucleating of the tumor by the fingers, and scoop of the surgeon, and the dragging with forceps; as, this organ is wonderfully tolerant of all such severe irritations.

It will however require a vast amount of most careful investigation, and of reiterated and prolonged experience, to determine how far the distressing symptoms, which had existed prior to the operation, have been destroyed, and how far the patient's general health has been improved; how far such improvement is attributable to the spontaneous disappearance which is sometimes observable, or to the greater development by which the whole mass is elevated above the superior strait of the pelvis, and thus the symptoms of displacement relieved; and, finally, how far such reported recoveries are permanent, or how soon the patient falls again into the same miserable state from the development of the untouched tumors in other parts of the organ.

In review of the facts and observations already detailed—in support of the opinion that the urgent symptoms depend on the pressure downward or backward (prolapsus or retroversion) of the enlarged organ, and not upon the character of these adventitious growths—the operation does not appear to be justifiable, perhaps in no case, certainly not until a scientific and judicious trial with pessaries has entirely failed to relieve the neuralgic, menorrhagic, and hemorrhagic symptoms.

The *abdominal* operation also has been proposed, and been boldly if not rashly executed. The cavity of the abdomen being exposed by suitable incisions, and the omentum and intestines being sufficiently displaced, the operator removes all the pedunculated tumors, or incises and enucleates the sessile. This operation is one of no great difficulty in the execution, but one certainly pregnant with dire consequences.

It is liable to most of the objections detailed, in regard to the vaginal operation, which need not be repeated, and to peculiar dangers arising from the tissues involved, and the cavity exposed.

If wounds of the vagina and uterus can be made with impunity, this is rarely true of wounds of the peritonæum, a serous membrane of immense extent, covering very important viscera, and prone to rapid and diffused inflammation. The danger of peritonitis is, in such cases, aggravated by more or less effusion of blood among the intestines, where it may putrefy from the presence of atmospheric air; by the wounds made in removing the pendent tumors; by the contusions and lacerations, caused by the process of enucleation; by the sloughing of any undetached

portions of the tumors. That any patient should escape death, would, a priori, be regarded as wonderful in view of the well-known dangers of acute peritonitis. Should extensive inflammation not occur at once, the patient may be exhausted from continuous chronic inflammation and fistulous abscesses.

It also should be remembered, that patients who might thus be destroyed by these bold operations, would probably never have suffered from the presence of such growths; and that many such have actually passed through a long life with perfect impunity. It is therefore difficult to conceive how a practitioner, in foro scientiæ vel conscientiæ, can be justified in subjecting his patient to these imminent perils. The introduction of anæsthetics may have done much to diminish these dangers; but they still remain, and nought but extreme necessity, which in these cases, we believe, does not exist, will justify the risk.

Another collateral objection is very important, namely, the difficulty of diagnosis, not merely as to the number of tumors and their location, but even as to their existence. In all abdominal tumors the diagnosis is uncertain. This general declaration may seem singular to the inexperienced, or even to the experienced practitioner, who has acquired much confidence in his own skill. Yet, in a long professional life, I have heard so many discordant opinions from men of undoubted science and experience, and so much unavailing and sometimes dangerous practice, resulting from a false diagnosis as regards the various forms of abdominal swellings, as to justify the declaration, just made, of the uncertainty of diagnosis in cases of tumors within the abdomen. Pregnancy has been mistaken for encysted or peritoneal dropsy, so that upon performing paracentesis abdominis, the puncture has been made into a pregnant uterus. Gastrotomy has been performed for ovarian tumors, which proved to be uterine, or even where no tumor of any kind existed, "ventus et prætereâ nihil."

Cases.—In a consultation held some twenty years ago, positive opinions were offered by three out of four experienced surgeons and accoucheurs, in a case of an abdominal swelling of some twelve years' duration, according to the account of the patient. By one it was regarded as an extra-uterine pregnancy; by a second as a uterine growth; by a third as an ovarian tumor; while the fourth would not unite with any of his colleagues.

Again, I was consulted by Mrs. H., a widow lady of some thirty-five years of age, who had suffered from nervous affections for many years, and her general health had been injured by almost every variety of regular and empirical practice. I found a hard abdominal swelling, chiefly on the left side; but having passed a long flexible metallic probe for some eight inches into the uterus, I satisfied myself that the tumor was uterine. My advice—to attend carefully to her general health, and to abandon all attempts to destroy the tumor—was neglected. She placed herself for some six months under the care of an empiric, and became much exhausted by his treatment and by the continued development of the tumor. She now consulted an experienced surgeon, and also an accoucheur of a neighboring city. They decided that the tumor was ovarian. Six months afterwards she died in convulsions. A necropsy revealed an immense solid tumor developed from the left half of the uterus, and occupying chiefly the left portion of the abdomen; the upper part of the tumor formed two prominences, as if it were bilobed. The other half of the uterus was greatly attenuated; the cavity was at least ten inches in the longitudinal diameter, and the whole mass was estimated to weigh twenty pounds, and was of a fibrous character.

I am now in attendance upon a lady, who for some ten years has been a martyr to nervous diseases, and who has been successively attended by several of the leading physicians in Philadelphia, for uterine irritations, and abdominal and pelvic tumors; and here, also, a similar discrepancy of opinion has existed as to the presence, or as to the location or character of the morbid growths.

As doubtless such facts are familiar to every practitioner, it is useless to multiply examples; for, certainly, every prudent and conscientious man should, however positive might be his own opinion, choose to have his diagnosis confirmed by some experienced co-laborer in the field of human suffering, before resorting to this abdominal operation.

If the views we have presented be correct, that the symptoms resulting from these heterologue growths arise, not from their nature, but from pressure on the pelvic tissues, and hence, that vaginal supports are very generally not only adequate to their relief, even during a long life, but are far more certain and safe

than a resort to such dangerous operations as proposed, and that, too, on a doubtful diagnosis; it may be hoped the cause of suffering humanity will be promoted, although less eclat may redound to the profession in the eyes of the public, than is obtained by dazzling heroic achievements with the scalpel. The progress of science should diminish the frequency of surgical operations. This is true "Conservative Surgery."

CHAPTER IX.

TREATMENT OF ENLARGEMENTS AND DISPLACEMENTS OF THE OVARIES, &c.

THE importance of vaginal supporters has not yet been fully detailed, although, perhaps, many will believe that it has already been unduly magnified.

ENLARGEMENTS OF THE OVARIES.

Displacements of enlarged ovaries are occasionally observed with or without displacements of the uterus. Ovarian tumors often cause a descent or a version of the uterus from their pressure on this organ in various directions. They induce, not unfrequently, a lateral displacement which has not been here noticed, as by itself it seems to be of no importance; the trouble in such cases is not from the uterus, but from the ovary.

DIAGNOSIS.—The *diagnosis* of ovarian tumors is sometimes easy, but is often surrounded with difficulties; for, an enlargement of an ovary must have attained considerable size before it can be detected by any physical examination. It has been suggested, that if it could not be felt per vaginam on the side of the uterus, it might be reached per rectum, by a finger distending the anterior wall of the rectum, and bent up behind the uterus and broad ligament, so as to reach the natural location of the ovary. This the author believes to be impracticable; certainly all his attempts have entirely failed. The distance from the anus, along the rectum, to the upper portion of the broad ligament, greatly exceeds that of the index-finger, whatever allowance may be made for the yielding of the perineal tissues. In addition, great resistance is made by the contraction—often spasmodic—of

the muscles at the outlet of the body, and of the muscular fibres of the rectum; moreover, a displacement of the uterus, and the involuntary bearing-down efforts of the patient, often increase the difficulty. These obstacles are excessively enhanced by the sensibility of the tissues, especially of the rectum and the uterus, so that rectal examinations of the ovaries are usually very painful.

Notwithstanding this difficulty in diagnosis by any physical exploration, it is reasonable to suspect the existence of ovarian tumors, when there are present the distressing symptoms which we know result from the weight and pressure of such tumors. When, however, the tumor is larger, by a digital vaginal examination it can, with proper attention, be recognized on the side of the uterus and behind the bladder, or at the upper extremity of the vagina on the side of and behind the cervix uteri. Of course, also, in such cases it is recognizable per rectum, but not so satisfactorily as per vaginam. The weight of the enlarged ovary, and the superincumbent pressure from the intestines and abdominal muscles, cause its displacement, usually downwards and backwards, so as to press upon the pyriform muscle and the great ischiatic plexus of nerves. In very many of such cases the tumor cannot be detected by any external or abdominal examination. When of great size, it can usually be felt not only per vaginam, but also through the hypogastric walls; and when the enlargement is still greater, the tumor is chiefly felt in the abdomen, lying above the superior strait, and not interfering, at least materially, with the tissues and organs of the pelvis.

In all cases, however, much care is demanded in determining the true character of abdominal swellings, as has already been maintained when speaking of uterine tumors. Mistakes have been so frequently made, by even scientific and experienced men, as to the nature of pelvic and abdominal tumors, that it becomes every one to be very careful in his investigations, and very modest in uttering a positive opinion. Still, by the history of the case, by the external and internal examinations, by the judicious use of a uterine probe, and by the existing symptoms, a prudent physician will not often commit any practical error.

Pathology.—The *nature* of these ovarian enlargements need not now be discussed; it may be left to the morbid anatomist or

the pathologist. Suffice it to say, that allusion is now made to those comparatively solid tumors of the ovaries, where there is no inflammation, no abscesses, no dropsical or gelatinous collections, and no malignant disorganization. Such cases are by no means uncommon, and usually remain in a very quiescent state, not perceptibly enlarging even for years, and sometimes actually decreasing in size. They usually possess no sensibility, especially when so large as to be above the superior strait; but sometimes, when low in the pelvis, they are very sensitive and irritable, so that the least pressure on them gives acute pain. This morbid sensibility I have known to exist even for years, without further increase of size or induration, and no inflammation or suppuration occurring.

When these ovarian tumors in the abdominal cavity are very large, some trouble may arise from their weight and pressure; but, great allowance must be made for the nervous apprehension of females when they know that they have a tumor. The imagination and fears of the patient are excited, and ready credence is given to idle tales, or to any account of accidents and operations connected with such swellings. The mere idea of a "tumor" is sufficient to destroy their peace of mind. It is a difficult task to allay their apprehensions, and to make such women believe what their daily experience for years should have taught them, that such enlargements are innocuous.

Exceptions to these remarks of course exist. Such tumors may inflame, may suppurate, may excite peritonitis, and perhaps may become malignant. These results are comparatively rare, certainly in my experience, and may be predicated of healthy as well as diseased tissues, of a normal as well as an abnormal condition of the ovaries.

It is possible—and such cases are said to have occurred—that ovarian tumors, unconnected with deposits of water, gelatinous matters, pus, or other analogous substances, may continue to enlarge, so as to interfere with the functions of the arteries, veins, and of the abdominal and thoracic viscera, and thus destroy life. Few practitioners have met with such cases, and they ought not therefore to be anticipated. Ovarian tumors of every size often remain for years, without apparent enlargement or decrease. The process of development is always very slow, and that also of diminution. Besides, cases are reported in which

these swellings, after a lapse of years, have greatly diminished or even disappeared. If practicable, it would be interesting and useful to establish the law of increment and decrement, or what would probably be more within a reasonable expectation, the causes of the development, and of the subsidence of ovarian degenerations.

Displacements.—An increase of the size and weight of these ovarian tumors necessarily causes displacement; in the early stages they sink into the cavity of the pelvis, but when large they rise above the superior strait, into the abdomen, precisely as the uterus ascends after the fourth month of utero-gestation. The latter, or what has been termed the upper displacement of ovarian tumors, is, according to my experience, a matter of comparatively small importance. The tumor in itself is quiescent, neither inflamed nor sensitive, and not even perceptible to the consciousness of the patient, by its pressure or weight. She knows of its existence, merely by her increase of size, and by feeling the swelling with her hands. It may indeed have existed for years without her knowledge. Perhaps every practitioner of much experience has met with such cases. The writer has often detected these ovarian tumors in patients, whose physicians, as well as themselves, had no suspicion of their existence. The patient feels well and attends to her usual occupation without distress. It would be unnecessary to detail cases of the kind. I will merely allude to a preparation in my obstetric museum, sent by Dr. Thornton, of Mississippi; it is an enlarged ovary, which had been gradually converted into a solid calcareous mass, of an elliptical shape, six inches and a half in length, by four inches in its transverse or conjugate diameter, and one pound and twelve ounces in weight. It was taken from the body of a negro woman, who had never complained of any inconvenience from its presence during life.

The other class of cases are those where from the small size of the enlarged ovaries, they do not rise out of the cavity of the pelvis. In this circumscribed cavity, containing the bladder, the uterus, and the rectum, and having its internal parietes covered by innumerable ramifications of bloodvessels and nerves, originating from some of the largest trunks, vascular and nervous, in

the economy, very various effects are frequently observed. These effects may be slight symptoms, hardly recognizable, or affections often exceedingly distressing, and sometimes it may be serious; they depend on various conditions of the tumor, of the pelvic viscera, and the general temperament or state of the patient.

As an ovary enlarges, gravity, in addition to the superincumbent pressure, causes its descent on the posterior and lateral portions of the pelvis; sometimes it falls, even as far as the lower portion of the sacro-sciatic foramen, that is, to the floor of the pelvis. This constitutes the downward displacement of an ovary.

By this displacement of an enlarged ovary, pressure is necessarily made, on the broad ligament, pushing it forward, so that an anteversion, or more frequently, a lateral displacement of the uterus, is produced; on the veins of the pelvis, causing a passive congestion of their radices, especially in the uterus and extremity of the rectum; finally, and this is the most important fact, pressure is made on the nerves of the pelvis, on the obturator nerve, and on that wonderful plexus of nerves, at the ischiatic opening, the largest plexus in the body, connected below with every tissue of the pelvis and lower extremity, and above with the spinal and cerebral centres, and thus, with the whole animal economy.

Complications.—These displaced ovaries are not unfrequently complicated with *displacements of the uterus*, with anteversion, or anteflexion, as above mentioned, and with prolapsus or retroversion, without or with flexion; all of which render the diagnosis, but especially the symptoms and treatment, more obscure and difficult.

Another complication is not very unfrequently observed, an *irritable condition of the ovary*, thus enlarged and displaced, arising, doubtless, from the continual pressure against the walls of the pelvis, the uterus, &c. The word irritable, or morbidly sensitive is used, because great pain is often excited by a touch from the finger, or a pessary, and yet no other phenomena of inflammation is developed, even after the lapse of many years.

Case.—A lady from New Orleans presented herself to my care, with a displaced uterus, which proved to be, unexpectedly, difficult to manage. She complained of much soreness and pain in the left side of the pelvis. It was not relieved, but often aggravated by the presence of a pessary. A careful examination detected a

body nearly flat, and apparently about one and a half inches in diameter, sensitive on pressure, hard, very movable, and lying on the plane of the left ischium. The patient was relieved of all suffering by modifying the form of the pessary, so as not to press against, but under, this swelling, and thus to elevate it. Years afterwards, I had an opportunity of examining this patient, and found the same tumor, rather less in size, but still somewhat sensitive on pressure.

The symptoms of irritable ovaries are so analogous to those of irritable and displaced uterus, and the two accidents are so frequently coincident, that a diagnosis can only be made by a careful pelvic examination; even then it will be often difficult to determine what degree of sympathetic disturbance is dependent on the ovarian and what on uterine irritation.

Perhaps the symptoms will be best illustrated therefore by allusion to a few cases in which the displaced ovary was involved, with less or more of uterine disturbance.

Cases.—A lady from the South, the wife of a physician, came to Philadelphia complaining of feelings of languor and debility, with uncomfortable sensations of pressure. Her husband suspected scirrhus of the womb, as he had detected an enlargement in the pelvis. The uterus was in a proper position, though slightly hypertrophied; but there was a hard ovarian tumor on the right side, pressing forward the broad ligament. A pessary placed under the uterus and tumor relieved her disagreeable sensations. She was thus enabled to exercise with impunity. Some ten years afterwards, I had an opportunity of examining this case, and found the ovary had rather decreased in size, and had never given any sensible trouble. The lady is still living and enjoying comfortable health.

A far more deplorable case presented itself to me in 18—. The whole nervous system of this lady was broken down by pain, morbid sensations, and confinement—chiefly to her bed—for some ten years, so that her organic life had also suffered.

She was pale, feeble, anæmic, and much emaciated; it was with difficulty that she could sit up or move across the room; she experienced pain throughout the spine, chiefly in the right sacral region, together with weight, pressure, bearing-down sensations, and pain on having the bowels moved. Her muscular energies

were prostrated; her sensations were all morbid, especially as regarded her brain; she was troubled with neuralgic pains about the head and eyes, frequent headaches, and confusion of thought; she could not read or think, and could not sleep, except for short periods; when awake, especially if excited or in much pain, she would have spectral illusions, "persons appearing before her for hours, at a time, talking, and usually upon disagreeable subjects." The slightest mental or moral exertion would be manifested by an effusion of tears.

She was by nature and education a remarkably delicate and refined woman, and with strong religious feelings. She had been the mother of three living children; the youngest was then about five years of age. Many of her friends regarded her as more diseased mentally than bodily. She had leucorrhœa, occasional menorrhagia, and a hypertrophy of the uterus. I was surprised to find very little displacement of this organ; it was slightly prolapsed, and deviated somewhat towards the left side; but deep in the right sacro-sciatic notch over the pyriform muscle there was an enlarged and displaced ovary. No swelling could be detected by an external examination.

She was directed a nutritious and easily digestible diet, laxatives, tonics, sponging with cool water, and frictions, with cool and astringent vaginal injections. Pessaries of varied forms and power were employed, so as gradually to elevate the tumor from its bed on the sacro-sciatic plexus of nerves. The patient was encouraged to make as much muscular effort as consistent with her weakness and morbid sensations. Her improvement was soon manifested, so that at the first ensuing catamenial period she was surprised and delighted to find that the spectral illusions had entirely vanished. The case was of course tedious; great attention had to be paid to the mechanical arrangements of the pessaries, so as to accomplish the desired object without pain or irritation. General comfort and the ability to move about were obtained, and although circumstances have prevented her, sometimes for two years at a time, from having proper medical attention, yet she mentally and corporeally has enjoyed good health, and is now regularly pursuing her important duties with trifling mental or physical disturbance. In the last examination, the tumor was not nearly so perceptible; whether from a diminution in size, or

because more elevated, could not well be determined. The experiment of abandoning the internal support has been several times tried, but ineffectually. Uncomfortable sensations, pains and mental disturbances have soon called for its restoration.

Another lady, whose children were numerous and had arrived at maturity, resigned to them the family domicile, under the feeling that her days were soon to terminate. She was weak, pale, and unable to move about without pain in the left iliac fossa, near the spine of the ischium, and over the left gluteal muscles and down the limb, so that the difficulty of walking was very great. The catamenia had not appeared for years, but there was some leucorrhœa. She had lost flesh, but was still corpulent. There was found a slightly prolapsed uterus of rather a large size, and also a hard swelling behind the left broad ligament, which could by careful manipulation externally be perceived in the left portion of the hypogastric region.

This patient immediately began to improve upon the use of pessaries, and under the influence of tonics, fresh air, and afterwards of sea bathing. Exercise, which could not be borne before the mechanical support was employed, now was taken, not only with impunity, but with great comfort and advantage. At this date she continues very well, and able to travel about at pleasure. Occasionally, the old pains in her side, nates, and limb, with some lameness, returns; but by changing or readjusting the pessary these pains disappear, so that, although corpulent and some sixty years of age, she takes considerable exercise.

The ovarian swelling is no longer to be recognized by either an external or an internal examination. This may be explained partly by its being smaller, and partly from the increased obesity of the abdominal region, as well as by the elevation of the tumor in the pelvis by the constant use of a pessary for years. The actual disappearance of the tumor can hardly be suspected; inasmuch as pain and lameness, from irritation of the sacro-ischiatic nerves, return when no adequate support is given.

A delicate emaciated lady from the far south, some time since, presented herself to my care. For years she had been the subject of pelvic irritations, and for many months of menorrhagia. She was nervous and anæmic. She had been treated by leading physicians, north and south, for inflammation and ulceration of the

os and cervix uteri, by nitrate of silver. This caustic plan was carried further than was intended, and to such an extent that the os, originally quite patulous, was diminished so as hardly to admit a small sized probe. The uterus, upon examination, was found to be about the natural size, slightly anteflexed; but a hard and sensitive enlargement of the ovary was detected on the right side, and behind the neck of the uterus. The case was treated by means of a pessary, during the use of which, with the occasional assistance of a tampon, the menorrhagia was checked, and a steady improvement was manifested. The menses soon were delayed till their regular period, and lasted but seven days. At the end of three months the patient returned home, too soon to judge what would be the final result, but better than she had been for years under different treatment.

A patient who had been an invalid for two years, and considered as the subject of acute ovaritis, which terminated in an abscess, and had left her very weak and nervous, came to Philadelphia, and placed herself under my care, last February. She was liable to diarrhœa, had some dyspepsia, and the least pain or agitation produced great sensations of debility with hysteric symptoms. There was a slight prolapsus uteri, a trifling leucorrhœa; and an irritable tumor was found on the right of the uterus, projecting towards the horizontal ramus of the pubis. The anterior portion of this tumor can be felt, by an external examination, behind and above the insertion of Poupart's ligament. Some six weeks have elapsed, and this patient regards herself as quite well, being able to walk about at pleasure, and without inconvenience; she has few or no nervous symptoms, and has gained strength, color, and flesh. A pessary is worn without discomfort, and the tumor remains as yet without apparent change.

The following case will illustrate the symptoms of a very acute and severe character, in which there was a retroversion of the uterus with an irritable and displaced ovary on the right side. How far the symptoms were referable to the uterus or the ovary, or to their conjoint influences, must be doubtful; but that much depended upon the ovary seems to be proved by its analogy with cases already detailed, and by the great disability of the right limb; but especially, because, long after the retroversion was re-

lieved, the nervous and muscular irritation of the right limb in some degree continued, with much irritation of the brain, eyes, &c.

A lady, about thirty-five years of age, of healthy aspect, good color, flesh, and muscle, who had always enjoyed fine health, and great activity, with the exception of dysmenorrhœa and nervous headaches from early life, began in the winter of 1857–8 to suffer from dyspepsia and symptoms of spinal irritation. In the ensuing spring they rapidly increased, so that by the month of May she was disabled and prostrated. For ten months her sufferings gradually augmented. At first, she could move about for short distances on crutches, but the sitting posture could not be tolerated. Afterwards, she was confined constantly to bed from severe neuralgic and spasmodic affections of the lower extremities, particularly of the right; this last was drawn up towards the body, and had to be supported by pillows, the least attempt to extend it was intolerable. There was great pain in the sacral region, in the right nates, in the right and left iliac fossæ, with great soreness on pressure, and utter inability to turn in bed from the severe suffering which was felt on every attempt even to move her. There was great dysuria, intense suffering and faintness on every evacuation from the rectum; much of this pain in defecation was referred to the left side of the umbilical region near the navel. Great pain was experienced in the dorsal and the upper portion of the cervical regions of the spine, with consequential neuralgia in the arms, and inability to use them even to feed herself. There was also tenderness on pressure over varying parts of the spine.

The brain suffered exceedingly, as exhibited by intense nervous, "crazy" headaches, by confusion of thought, morbid perceptions, inability to read, and often incapability of understanding or attending to what was read. There was so much neuralgia and sensibility in the eyes that they could not be used; and the sense of smell, often acute, was sometimes so perverted that she insisted that her clean, luxurious apartments were surrounded with putrefying bodies. This morbid disturbance of the olfactory nerves was sometimes very transitory, existing for a few hours, and then disappearing. Shortness of breathing, asthmatic symptoms, and aphonia, were often present, and sometimes so great that her whispers were heard with difficulty. There was much

cardiac disturbance; but some of the most intense suffering was produced, or perhaps rather aggravated, by the state of the stomach. There was nausea, loss of appetite, frequent retchings, occasional vomiting of any food that might be taken, but chiefly of watery and glairy mucus, though the quantity was not great. Occasionally, after much straining, some bilious matters appeared, and not unfrequently the fluids were acid. Her nervous energy was much prostrated, and as the gastric, spinal, and leucorrhœal distress gradually increased, fears were entertained that her life was endangered. At the catamenial periods the agony was intense, and the nervous exhaustion excessive. Nevertheless, the patient did not lose much flesh, had no fever, and maintained even a good condition of her blood and circulation; she had, to be sure, a frequent and irritable pulse, but sufficiently strong and full.

She was considered and treated, by most experienced and excellent physicians, as a case of spinal neuralgia, or spinal irritation; and the diagnosis seemed to be confirmed by a great sensitiveness over particular spots in this region. At these places the least pressure gave exquisite pain. Her able physician resorted with perseverance to all the usual remedies of local bleeding, counter-irritation, poultices, liniments, bathing, and internally he employed laxatives, alteratives, tonics, stimuli, narcotics, and antispasmodics. Few of the narcotic articles could be tolerated. The cannabis Indica proved to be the most comforting and effectual in producing sleep and some repose. In February, 1859, the symptoms had become so aggravated—there was so much pain, and the nausea and retching were so constant by night and day—that no continued sleep could be produced, and it was not thought by her friends that she could live from one day to another.

Her physician now suspected that there was some pelvic irritation, and being confirmed in his opinion by an examination, he committed the case to my care. The sensibility of the pelvic tissues was exceedingly great, without any unnatural or superabundant secretions; the fundus of the uterus was low down towards the inferior portion of the sacrum, the os uteri pointing to the os vaginæ, and the cervix slightly flexed. After some days of treatment by a pessary, great mechanical resistance was

detected behind and to the right of the womb, where there was then discovered the enlarged ovary as a hard body, rounded, slipping under the finger, and exquisitely sensitive.

Believing that the displacement of this enlarged ovary on the right side of the uterus was the real cause of the irritations of the pelvic viscera, of the sacral, spinal, and cerebral disturbances, with all the reflex influences on the nerves of the senses, lungs, heart, stomach, and extremities, the indication was clear to remove such displacement, and the consequent pressure on sensitive tissues, notwithstanding the great tenderness of the vagina, uterus, &c. This idea was at once cautiously acted upon, to the abandonment of all other treatment—as the organic actions of the patient were good—except the occasional exhibition of a pill of cannabis Indica, and some moderate stimuli. Very small instruments were at first employed, and afterwards those which were larger and more powerful, as the tissues yielded to pressure. It was soon found, however, that a great mechanical resistance existed, especially from the ovary, which, in conjunction with the extreme irritability of all the tissues, and the difficulty of avoiding undue pressure on the rectum and nerves below, and the ovary and uterus in front, afforded a combination of difficulties seldom to be encountered. The result, however, has been most gratifying, not merely in the relief of the patient, but in confirming the great practical principle, that by relieving sensitive tissues from pressure, local and general, nervous irritations will subside.

The stomach in a few days, after the use of a pessary, was greatly relieved; food could be readily taken and retained, and sleep, hitherto interrupted by the constant retching, was enjoyed, very generally without an anodyne. All the miserable sensations of the brain, with the reflex influences on other organs, were moderated. The recovery has been steadily progressing, with, of course, alternations from various causes, especially at the catamenial periods, which still bring much pain, and occasionally some of the old symptoms, such as aphonia, perverted smell, cephalalgia, &c. It would, perhaps, be interesting to the physiologist to point out, with precision, the regular succession of improvement; but here we can merely say that the distress in the spine rapidly diminished; the tenderness over the vertebræ, and the pain

soon followed; and then she obtained some command of the right lower extremity, with more ability to turn in bed; a very gradual increase of capability to extend this limb, and afterwards to move it in bed; then the power to have her head elevated, and more activity of her mind, so that she could enjoy being read to. In about three months, she could move about her room on crutches, and once more take pleasure in the society of her friends. Several troublesome symptoms were long in disappearing; the pain near the umbilicus in defecation continued for some six months, but has entirely disappeared; the pain in the eyes, especially that irritability of the nerve which prevented her reading or using her needle, was very persevering, as, indeed, is quite common in these uterine troubles, it would occasionally disappear for days, and even weeks, and then would return. An analogous and usually simultaneous disturbance of the brain, with distress of various kinds, was also very persistent, and even still occasionally returns, and is to her the most distressing symptom. The inability to sit comfortably was also slow in disappearing, and even this spring a peculiar cushion is often required.

Last September her powers of progression began decidedly to improve, at first by means of crutches; but by the end of October she could readily walk about her room without any artificial support. In January of this year, she walked out of doors, and soon was able to walk a mile, or even further; but a soreness, or rather weakness, in the right ankle, forced her to walk very slowly; of late, however, her ability to walk rapidly is continually increasing. Occasionally there is uneasiness in sitting down, and some trouble about the brain and eyes. All of which symptoms are gradually diminishing, both in frequency and intensity. At the present time, October, 1860, she is able to walk from two to three miles a day, with ease and rapidity; the right ankle has gained strength; very little uneasiness is produced by the sitting posture, and with the exception of some disturbances of the head and eyes, and some suffering at her catamenial periods, she appears to be well, and has resumed her usual domestic and social duties.

All the phenomena, from the beginning of her suffering, have been manifestly dependent on the pressure of the ovarian tumor, the uterus or the pessary, one or all, upon the pelvic tissues. Just in proportion as such pressure was moderated,

changed or removed, has been the diminution, the alteration, or disappearance of special symptoms. Sometimes the pain in the right limb would be increased or diminished; sometimes there would be more of the umbilical pain from the act of defecation, then it would diminish; frequently the head and eyes would be relieved, then become a source of annoyance. Vaginal examinations and operations were, therefore, continually demanded, to alter the form or the size of the pessary, or to change the points of pressure so as to alleviate or destroy the suffering.

The slow progress of the case has been entirely due to a fixed position of the ovary—whether from adhesions or other cause, cannot, of course, be positively ascertained—so that it yielded very slowly to the pressure of the pessary; frequently it overcame this pressure, and made the instrument impinge against other tissues, causing itself irritations. This difficulty not unfrequently exists, even in ordinary cases of retroversions of the uterus, from the fundus being firmly fixed in its unnatural positions. In all such cases great patience and perseverance are demanded. No force can be employed, as the pain and inflammation excited would be intolerable and dangerous; but by careful and frequent attention, any sign of inflammation may be avoided, until all pressure from the tumors is gradually and often entirely removed, to the great happiness of the poor sufferer, whose mind and spirit are even more relieved than her body. The principle, that the pessary should be worn without exciting nervous or organic irritation is never to be forgotten.

ANOMALOUS CASES.

Anomalous cases will of course occur in an extensive practice. Some of them may be very analogous to those of common occurrence, and others not readily to be explained, or completely relieved.

Of this character, are enlargements probably of lymphatic glands in different portions of the pelvic cavity, which not only maintain the symptoms of irritation, but becoming excessively irritable themselves, render the treatment by pessaries more difficult. Instances of this character have already been detailed.[1]

[1] See page 142.

There are other cases in which, after a retroverted or other displacement of the uterus, ovary, &c., has been relieved, or where no displacement originally existed; yet, the symptoms of sacral irritation from pressure were present, in more or less intensity, and, perhaps, no cause could be detected by investigation per vaginam, per rectum, or through the abdominal walls; and where no examination of the spinal column threw light on the source of irritation.

Such cases we can imagine depend on various causes, such as scybalous collections in the colon; mesenteric, ovarian, or osseous tumors, too high up from the floor of the pubis, or too deep-seated in the abdomen, to be recognized. Most of such patients remain great sufferers for years; any treatment has but a palliative influence. Their general health is often very good; and not unfrequently there is a spontaneous disappearance of symptoms, especially at the cessation of the catamenia. Death very seldom ensues, as the organic life is often very good; but, occasionally, from nervous dyspepsia, and the consequent nausea, vomitings, diarrhœas, &c., secondary symptoms may become so severe, that a life of suffering at length finds relief in the grave.

TREATMENT.

From the remarks on the cases above presented, it appears that all displacements of ovarian and other tumors in the cavity of the pelvis, producing nervous irritation, should be managed on the same principles as already indicated for the treatment of uterine tumors. Mechanical measures must be so arranged, as to remove all pressure from the nerves of the pelvis or other sensitive tissues.

In the upward displacements, however, of enlarged ovaries into the cavity of the abdomen, no other attention is ordinarily required than is demanded for the general health and strength of the patient. All attempts to discuss such tumors, by evacuating measures and by alteratives of any kind, prove useless as regards the tumors and positively injurious as respects the health and strength of the patient. The terrible operation of gastrotomy for the removal of such solid tumors is, we think, indefensible:

inasmuch as in itself, it is very dangerous and often fatal; moreover, the diagnosis is necessarily very difficult, it is sometimes impossible to determine whether the swelling be ovarian, uterine, mesenteric, or even whether there be any actual tumor present. If an ovarian enlargement could be positively recognized, who can determine whether there be not such universal adhesions, as to render the operation altogether nugatory? On the other hand, most of these patients, as has been mentioned, will enjoy health and strength, free from irritation and pain even for a long life, when not subjected to inefficient drugs, or to the knife of the surgeon.

The question respecting ovariotomy is different when there are collections of watery, gelatinous, purulent, or other fluids in the ovaries; as such cases, after the lapse of months or years, are generally fatal. The difficulties of diagnosis and the dangers of the operation may then be carefully contrasted with the dangers to which the patient is exposed by her disease; and the decision may occasionally be in favor of the operation. Let it, however, be remembered that many of these ovarian dropsies have disappeared, either spontaneously or under the effect of remedial agents. A very interesting case of the kind has occurred to the author in the person of a lady, who had an ovarian tumor in the left iliac fossa; pregnancy supervening, this tumor became dropsical, so that when delivery occurred at term, the abdomen remained exceedingly distended, with decided fluctuation over its whole extent. Under the careful attention of my friend and former pupil, Dr. Ludlow, to whom the case was committed, the dropsy entirely disappeared, and she now enjoys excellent health and activity. The chief means employed were tonics, preparations of iodine internally and externally, and moderate compression by means of bandages.

PART III.

DISEASES OF SEDATION.

CHAPTER I.

SEDATION AND ITS CONSEQUENCES.

PERHAPS the design of this work will not be fully accomplished without noticing the state of a part or of the whole system, directly opposed to excitement or irritation. Inertia or sedation may exist: as irritation is an increase of the vital phenomena or actions of a part or of the whole, sedation is a decrease of those phenomena. In a moderate or normal state, we may say, it is inertia, or torpidity; in a more severe or morbid state, it is sedation. As irritation is the result of an irritant acting on the irritability of a part, so sedation is the result of a sedative acting on the same irritability. It is a depression of the organic or animal actions, or of both. The torpor of the extremities, of the surface, or of the whole body, from exposure to cold, is a very pure and common example of both organic and nervous sedation; as well as the pallor and coldness of the feet and hands, so frequent in nervous people, who, with great irritation, it may be, of the brain, have sedation in the extremities.

Sedation does not necessarily imply a loss of power or debility, with which it is too often confounded. Vital power is the capability of resisting injurious influences, or of enduring action. Debility is the diminution of power, sedation a diminution of action. The reaction which follows the exposure to cold air or water manifests an abundance of vital power, often, indeed, an increase of power. Hence sedation is generally very transitory, rapidly appearing and disappearing, alternating speedily with states of irritation. In excitable temperaments, there is such a sense fre-

quently of depression and exhaustion, that patients and even their friends are terrified, by the so-called "weakness" of the sufferer; but in a few minutes, perhaps, all these sensations vanish, and the ordinary manifestations of activity and power are observed. Reaction may rapidly ensue, although not unfrequently it occurs more slowly, but still without any real diminution of strength. Of course, sedation may and often does coexist with debility. Hence, in very weak persons sedation is more serious, and may be followed by prostration or collapse, that is, by a loss of power as well as by a loss of action. This is a sinking or dying condition, or as regards a portion of the tissues, it is a gangrenous state. The proper designation is a loss of power or of strength, in which sedation is a consequence; but generally sedation implies merely a diminution of action without loss of vital tone or vigor.

Organic Sedation.—Every one is familiar with examples of sedation in the organic or circulatory system. Whenever there is pallor of the skin or mucous membranes, there is, for the time, a diminution of the activity of organic life, of the circulation, and of the secreting and nutritive functions. The pallid, contracted condition of the skin, its dryness and harshness, are evidences of sedation. Often also the mucous membranes of the eyes, nose, mouth, vulva, rectum, &c., exhibit the same pallor and the same diminution in the size of their capillary vessels. All direct evidence that can be collected, and all analogy indicates the same condition of the internal organs in many cases; hence we speak of torpor of the brain, heart, lungs, liver, stomach, bowels, uterus, kidneys, &c. This is organic sedation; whether the cause arise directly or indirectly; whether it be primary or secondary.

Nervous Sedation.—Examples of sedation or inertia in the organs of animal life are equally numerous; but such is the intimate connection between the nerves and the bloodvessels, that it is not easy to present pure examples of nervous sedation, *i. e.*, of diminution of nervous influence when the circulation remains undisturbed. Hence cold feet and hands from exposure to cold, or from uterine or cerebral excitements, although primarily and essentially dependent on the nerves, indicate necessarily torpor of the circulation, so that less blood goes to the part.

There are, however, examples of pure nervous sedation, in many cases of functional amaurosis, where the optic nerve is comparatively or completely inefficient, when there is no organic disease; so also there are analogous states of the nerves of hearing, smelling, and tasting, &c., sometimes transitory, sometimes persistent, from the sedation of the nerves appropriate to these senses. In early life, the organs of generation in both sexes are inert, and the same torpor or inefficiency returns in old age with the decline of nervous excitement.

All are conversant with the languor, lassitude, "sensations of weakness," characteristic of certain individuals from natural or acquired temperament, or resulting from inordinate exercise. An increase of this muscular languor may render motion very difficult, requiring a powerful exercise of the will to rouse up the nervous energies. In other cases there is a suspension of nervous influence altogether, as respects the nerves of sensation, of motion, or of both, as from injuries of the brain, spinal marrow, or of the nerves going to a part or organ. This is "paralysis." The muscular tissue may be perfect in its texture and organic action, but the nervous influence is absent; the muscle therefore does not contract, it is in a state of perfect sedation. Physicians and surgeons are familiar with cases of local paralysis of the eyelids, of the face, of the extremities, of the œsophagus, stomach, bowels, bladder, rectum, &c. Sometimes there is still sensation, but as in injuries of the spinal marrow, there is often loss of sensation as well as of motion. In all such cases there is sedation in the parts involved, even though the remote or essential cause be of an irritant character.

The sedations of a portion or of the whole of the nervous system caused by various poisons, narcotics, alcoholic stimuli, antispasmodics, &c., are well known, and are generally exemplars of nervous sedation, whether resulting directly or indirectly, primarily or secondarily, from the operation of these agents.

CAUSES.

These examples of organic and nervous sedation indicate perhaps sufficiently its *causes*.

INDIRECT.—They are very frequently *indirect*, as from irritations in one part producing sedation in another tissue or organ. Sedation is often the result of previous inordinate excitement, and is thus indirectly caused by the feelings of exhaustion from great muscular effort, the indulgence of animal passions, or the relaxing effects of heat, either with or without moisture.

DIRECT.—Sedation may result *directly* from mechanical causes, as severe contusions upon a part—as in the "asphyxiated" conditions of certain tissues from blows, or of the brain in cases of concussion.

Sedation also arises directly from the abstraction of natural stimuli—for example, caloric, as it influences a portion or the whole of the body; or oxygen, as regards the lungs; or the absence of food from the stomach, of bile from the intestines, of mental and moral sentiments from the brain, &c.

Again, direct sedation may be produced by certain medicinal agents, such as sedatives, narcotics, and antispasmodics. Many of these articles act frequently indirectly; but all sooner or later, also, develop some excitement of the nerves, and eventually of the bloodvessels.

CONSEQUENCES OF SEDATION.

The *consequences* of sedation vary from innumerable circumstances, especially from the character and the intensity of the cause, the nature of the tissues concerned, whether vascular or nervous, and whether the influence exerted be on a part or on the whole system.

Generally, it may be said, there is a diminution or suspension of the secretions, excretions, and other functions of organic life, when the capillary tissue is involved. Thus, when cold is applied to a part, the circulation and the organic actions diminish gradually, until, in extreme cases, the part is frozen or sphacelated. When the whole economy is involved, there is sedation of the general nervous and vascular tissues, as indicated by the diminished excitement of the pulse, heart, muscles, and spinal and cerebral centres, until universal torpor and eventually death ensue.

INFLUENCE OF NERVOUS SEDATION ON ORGANIC ACTIONS.—As regards the nervous system, every degree of torpor may often exist with apparent impunity; but, as the nerves have physiologically some control over the organic actions, there is sometimes a disturbance of these actions in cases of nervous sedation. This may perhaps be exemplified by the diminished size of paralytic limbs, but more especially by the state of the uterus, ovaries, and mammæ before puberty, and their atrophied condition in old age, when the peculiar nervous excitement and passions have disappeared.

INFLUENCE OF ORGANIC SEDATION ON NERVOUS ACTIONS.—Sedation in organic actions has a much more distinct influence, however, on nervous functions, inasmuch as the bloodvessels permeate all the organs of animal life for their nutrition and sustenance. Hence any variation of circulation must influence directly the organ, which these vessels penetrate. The cerebrum, the seat of animal life, is of course dependent on the organic life for its nourishment, development, and integrity. Hence, inflammations of the brain produce delirium, stupor, &c.; and congestions, active or passive, cause dulness, drowsiness, &c.

Passive Congestion.—In the sedation of organic life the activity of the circulation in a part is diminished; but it does not necessarily follow that the quantity of blood in the part is lessened. Frequently this is the case, as already exemplified in the skin, especially of the extremities after long exposure to cold. The arterial circulation is diminished, and the veins are for a short time slightly turgid, and give a purplish hue to the surface, but they gradually empty themselves, so that a general pallor exists.

Facts from observation and experiment, which need not now be detailed, prove that the fluids thus excluded from the extremities and surface gradually accumulate in the large venous vessels of the interior, in the brain, lungs, heart, liver, spleen, &c.; and, to some extent, even in their extreme radicals, on the mucous surfaces. At the same time there is, internally as well as externally, a deficiency of the quantity of blood in the arterial system, namely, in the left side of the heart, aorta, and its ramifications. The collection of venous blood in the tissues is termed "passive

congestion"—the accumulation of blood *in* a part, but not an increase of the flow *to* the part.

Such passive congestions seldom exist from pure sedation, except in the large cavities of the head, chest, and abdomen; but they may often be observed externally, from a different class of causes, as when a ligature is thrown around the arm, in the turgescence of the veins of the lower extremities, in varices or from the pressure of the gravid uterus. Owing to the functions, and still more to the peculiarities of the venous circulation in the head, chest, and abdomen, passive congestions of the brain, heart, lungs, and the chylopoietic viscera, are by no means unfrequent.

Facts and illustrations might be easily adduced; but perhaps they occur to the minds of all. When oxygen is excluded from the lungs, asphyxia results, which always implies passive congestion of the pulmonary artery and right side of the heart, with a comparative emptiness of the pulmonary veins, and the left side of the heart. The effects of this congestion are, by reason of the pressure on the organs involved, to increase the sedation, and to cripple still further the activity of their functions; this pressure is often augmented by the effusion of seroid, mucoid, or bloody fluids. These consequences of venous or passive congestion are familiar to all, from the effects of ligatures to a limb; there is, first, venous turgescence, then effusions of serum, then of blood, and eventually, mortification. So, in the brain, passive congestions are followed by effusions of serum or blood, constituting "venous or passive apoplexy." Similar results are observed in the lungs, liver, &c. The functions of the organs at times are so much diminished, that death frequently is the consequence.

In the viscera of the chest and abdomen, spontaneous relief is more frequently experienced, as the effusions may have taken place on exposed surfaces, as the mucous membrane of the bronchial tubes or of the alimentary canal. Large discharges of seromucoid fluids, or of pure blood, escape through these canals, to the relief, it may be, to the recovery of the patient, as is often seen in hæmoptysis, hæmatemesis, and melæna; or in some moderate cases, free expectoration, or profuse emesis or catharsis of watery fluids are followed by marked improvement.

Reaction.—Reaction, often, however, relieves sedation. In

the nervous system, all the varieties of pure nervous irritation and sedation are continually and often with great rapidity, alternating with each other, as has been frequently exemplified;—nervous chills with flushes of heat; coldness or torpor of the extremities appearing and disappearing, with nervous headaches, &c.

So also in organic life, the cause being removed, or stimuli, natural or artificial, being employed, reaction follows, sometimes moderate, sometimes so severe that other dangerous accidents occur. After exposure to cold air, or to cold water, the reaction is moderate, and beneficial. The individual feels better and stronger; hence, the "tonic effects of cold"—directly "sedative," indirectly "tonic."

If the reaction be more severe, then morbid influences, inflammatory and febrile, are apt to follow. If, again, the reaction be still more sudden and severe, active congestions, apoplectic effusions, ensue with fatal results to a part or to the whole. So also in idiopathic fevers, patients often die in the cold stage, from great sedation and passive congestion; but sometimes reaction occurs, developing the hot stage, sometimes so severe, that death results from violent excitement, and active congestion.[1]

TREATMENT.

The *treatment of sedation* from this general summary of its nature and consequences, may be easily deduced, so far at least as the general principles are involved. The details are, however, often difficult of execution, and require great judgment and much experience.

STIMULATION.—The important principle or indication is, to stimulate appropriately the depressed actions of the tissues or organs.

In local sedations, direct and indirect measures are perhaps equally important.

Direct Stimulation is demanded in cases of pallor, coldness, and

[1] A more extended account of sedation and passive congestion, with their consequences, was published by the author in the American Journal of the Medical Sciences, May, 1832.

other evidences of diminished circulation in the extremities or on the surface of the body; by dry and moist heat; by frictions, especially with stimulating liniments, rubefacients, &c. When there is much numbness, diminution of sensibility, sensations of muscular weakness, or paralytic symptoms, in addition to frictions and rubefacients, passive and active motion should be enjoined, and perhaps direct or indirect electric or galvanic currents may be advantageous.

In sedations of the brain, mental and moral stimuli may be conjoined with physical agents. In sedation of the lungs, the free access of pure air is essential; in torpor of the stomach, liver, and bowels, the judicious administration of suitable food is required; in all of these cases much is gained by the use of mercurial and other alteratives, to revive the activity of the organic actions, functions, &c.

Indirect Stimulation.—As sedation so frequently arises, however, from indirect causes—as from irritations in other organs—indirect measures are all important in its treatment. The cause being removed, the sedation disappears; there is a natural disposition to this reaction, to an equalization of excitement, which is often very readily evinced. In irritations of the brain, sedative measures, such as leeches, cups, cold, &c., to the head, are not merely advantageous in diminishing cerebral excitation, but also in relieving the sedation of the extremities. Cold water to the head is as essential for cold extremities, as heat to the feet. This principle is equally true, whether the cerebral excitement be nervous or organic, whether neuralgic or inflammatory. This general truth, of course, applies to all other analogous cases, in all parts of the body, *cæteris paribus.*

While acting on this principle, discretion should be exercised to prevent a too sudden or an excessive reaction. In cerebro-spinal affections, if the reaction be violent, subsequent collapse even of a serious character may be the consequence. While in organic life, inflammation, gangrene, and death may be the result of inordinate reaction.

In general sedation, all the varieties of stimulants are usually demanded, not merely the external—as rubefacients, &c.—but the internal, as alcohol, camphor, ether, capsicum, &c., assisted by alteratives to promote the capillary actions, the secretions, and

functions of the various tissues. The danger of such cases is often very great, not merely from the fact that all the vital organs are simultaneously involved, but that a passive or venous congestion exists, increasing the sedation, and interfering with all attempts at reaction. If, therefore, the case be severe, no reaction ensues; all stimuli, however powerful or freely exhibited, prove inefficient; collapse and death follow, as is constantly observed in the bad forms of venous congestions of the brain, lungs, heart, and even of the chylopoietic viscera; or in the cold stage of fevers—in "congestive fevers," so-called. When the congestion is moderate, reaction, whether spontaneous or artificially excited in the heart and arteries, is rapidly followed by the relief of the venous engorgement of the internal viscera. Thus, in the mild cases of asphyxia in new-born children, or in adults from breathing impure air or immersion in water, a few slight inspirations, assisted by frictions, hot applications, and the internal exhibition of stimuli, are very efficient in resuscitating the unfortunate patient.

In other cases there are often evident but ineffectual attempts at reaction, even when assisted by powerful stimulation. There is so much pressure on the brain, so much distension of the right side of the heart, so much contraction of the bronchial tubes and cells from venous congestion of the lungs, that all efforts are in vain. The organs are oppressed by the quantity of fluid in their tissues. In such apoplectic cases, experience has proved that great good is obtained by general bleeding. When a vein is opened in the arm, if the vital power be not too far exhausted, dark venous blood flows, at first very slowly, but then more and more freely; until, especially with the help of the usual internal and external stimuli, the pulse rises, and the vital viscera, being relieved of their enormous load, act freely, and the danger is, at least temporarily, obviated. Perhaps all have witnessed the delightful effects of this combination of enervating and stimulating measures in venous or passive apoplectic conditions of the brain and lungs. Many of the practitioners in Philadelphia, and elsewhere, were very successful in the sinking stage of cholera maligna by resorting to the lancet; they found that the loss of blood facilitated reaction, with the consequent disappearance of the watery effusions into the alimentary canal, and the muscular pains and

spasms. The same practice has been tried in the cold or congestive stage of fevers, but by no means with such favorable results.

If reaction be dangerous in cases of local sedation, it is, of course, much more to be apprehended in general sedation for reasons now evident, and demands the best exercise of the faculties of the most experienced and judicious physician, to prevent effusions, inflammations, &c., in vital organs; or, if such lesions have ensued, to prevent fatal results. Febrile reaction may frequently be anticipated, with or without local inflammation, after sedation, and becomes more dangerous when with the sedation there is a real loss of power, as in the cases of fever, severe hemorrhages or long abstinence. In all such cases, the delicate task of the medical attendant is to moderate irritation, without increasing the exhaustion; to sustain power even by tonic medicines and nutritious diet, while action is restrained by those anti-febrile and inflammatory remedies, which the exigencies of the case may demand.

CHAPTER II.

SEDATION OF THE UTERUS.—AMENORRHŒA.

From these observations on sedation, the rôle which it exerts in the irritable diseases of women must be very evident. It is comparatively rare, if irritation exists in one organ, that sedation is not present in other organs. If there be great cerebral excitement, as in violent passions, nervous headaches, &c., there is generally coldness and even pallor of the extremities. If puerperal convulsions ensue during labor, there is a comparative cessation of the pains and contractions of the uterus. Hence the important practical principle of "counter-irritation" is as true in regard to the cerebro-spinal as the vascular system. To "equalize" the excitement of the nervous system, is as important an indication as to equalize the distribution of blood throughout the economy. This is true, notwithstanding the acknowledged fact that sedation or irritation usually involves a disturbance of the organic as well as of the animal life. For, there can be no doubt that, in numerous cases, the primary and important irritative disturbance is located in the nerves. This nervous irritation or sedation occurs, and is then followed by organic irritation or sedation.

In a large majority of the diseases of women, irritation of the nerves is primary, sedation secondary and of minor importance, especially as it usually exists in the external surface, in the extremities, and not in the internal or vital organs. Hence, under such circumstances, there is very seldom passive congestion in the external tissues; as the blood, carried to the exterior in diminished quantities, gradually returns by the veins with little delay to the interior—leaving the surface pallid, cold, or sometimes with a bluish tint. When reaction occurs spontaneously or by excitants, the nervous excitement of the surface is soon succeeded by a renewed activity and development of the capillary circulation and functions.

There are, however, cases of general sedation of the nervous system which demand some attention, and occasionally an analogous state of some important viscus, as the uterus, for example.

SEDATION FROM MORAL CAUSES.

Certain *moral affections*, as disappointment, anxiety, grief, fear, &c., depress the energies of the brain and nervous system. Hence, there arises inactivity not merely of the mental and moral being, but also of the physical. There is languor, lassitude, weakness, exhaustion, indisposition and inaptitude to muscular effort; there are feelings of dulness, of fulness or vertigo about the head, of oppression, stricture, or even of distension about the heart and lungs; of similar sensations about the præcordia; of loss of appetite, with flatulency and other dyspeptic symptoms; torpor of the liver, stomach, bowels, &c., with the usual indications of diminished external excitement.

There is general sedation in such cases, the inactivity of the heart, arteries, and capillaries exist, as well as of the brain; although this latter being the organ of the mental and moral feelings, was the original source of mischief. This diminution of the external and internal circulation, although much more moderate than in those cases arising from cold, is accompanied by venous congestion, which increases the sensations of uneasiness and fulness in the head, chest, and abdomen, and depresses still more the activity of the vital actions. Reaction may and sometimes does ensue from change of the thoughts or feelings; but should grief or anxiety be continued, the inaction will be followed by serious consequences in important viscera. From a trifling or depressed appetite and bad digestion follow deterioration of the blood. It becomes, therefore, light-colored, less nutritive and stimulating. This deterioration is increased by the torpor of the liver, lungs, skin, &c. The patient becomes "anæmic," so called, or even "chlorotic," names given to this cachectic state, from the pallid, bluish, bronze, or greenish tinge given to the tissues. The confinement to the house, and the want of fresh air and exercise aggravate the symptoms; so that the patient, from this state of melancholy, hypochondriasis, and despair, sinks sooner or later into those

chronic organic ailments, varying with different temperaments, termed scrofulous, tubercular, dropsical, &c. In many cases the congestions of the heart are so great, that hypertrophy and other chronic affections ensue. The patient may, indeed, be said almost literally to die of a "broken heart."

SEDATION FROM PHYSICAL CAUSES.

These cases of sedation with its consequences, anæmia, chlorosis, &c., may arise from physical as well as moral causes.

They often depend on hereditary predispositions; on bad physical education, as regards especially diet, air, and exercise; on all those causes which indirectly or directly exhaust power, as from premature or powerful exertion of the mind, from excitement of the passions, from great muscular efforts, from febrile, inflammatory, or persistent nervous affections. From this exhaustion of power, of course, there follow sedation, congestion, and their results. These sedative and atonic states at least predispose to disease, and are too often followed by a miserable train of functional and organic complaints.

If this asthenia exists, as is not unfrequently the case, in early life, there is no natural development of the economy; at least such developments are slow. The usual age of puberty arrives without there being proper development of the skeleton, of the adipose tissue, of the mammæ, uterus, ovaries, &c. The peculiar secretion from the womb does not appear. Puberty is deferred, sometimes for years. This condition has unfortunately been termed *emansio mensium*, as if the failure of the catamenia was of itself a disease, and not merely one of the signs of general asthenia or sedation.

This non-appearance and also the disappearance of the menses, both of which so universally treated of in books as a disease, *amenorrhœa*, are, like dysmenorrhœa, leucorrhœa, menorrhagia, &c., but indications of a pathological condition of the uterus or its appendages, or else of a want of development of these organs or of their non-existence.

There is often, in cases of non-appearance of the menses, *atrophy* of the uterus, of the ovaries, and of all the genitals. The age of

adolescence or womanhood has arrived; but there is no proportionate development of the organs or functions. It is the continuance of childhood, a delay of puberty, and not merely tardy menstruation; for, all the other characteristic phenomena of womanhood are also absent.

If these views be correct, it results, necessarily, that the popular notion—no doubt originally a professional axiom, and perhaps still maintained in some quarters—is unfounded, namely, that the non-appearance of the menses is the cause of all this asthenic or anæmic state of the system, leading to the mischievous idea and injurious practice, that the flow is to be brought on, in order that the health may be restored. The reverse is the true pathological and practical view; the health must be restored, then the organs will be developed, and their functions will be executed; the ovarian vesicles will maturate, the uterus will respond, and menstruation will appear as a sign, very significant, among others of puberty, as well as of restored health.

If amenorrhœa, the non-appearance and the disappearance of the menses, is, therefore, not a disease, but a symptom or sign of an abnormal or morbid state of the uterus or its appendages; then all attempts to induce the flow of the catamenia, without a careful investigation of the condition of the pelvic viscera, are unscientific. They are but little elevated above the efforts of the empiric, which may or may not be successful, may be useful or injurious, instead of being founded on scientific principles deduced from the pathological state of the organs involved.

This view is powerfully enforced by the fact, that girls may be healthy and strong, in whom there is not only no appearance of the menses, but in whom there is no uterus. Cases of this kind are upon record.

Cases.—During my practice, I have met with four cases in which no uterus could be discovered.

The first was a tall, thin, pallid young woman, of eighteen years, who had been treated for "obstruction." She felt well, with the exception of languor; her organic actions were good, the external genitals and mammæ moderately developed; but no uterus could be detected. The vagina was apparently normal; it was about two inches in length when stretched, but abruptly terminated as a pocket or "cul-de-sac." No solid body could be

felt beyond it, by a finger in the vagina or in the rectum, or by a sound in the bladder. The extremity of the sound in the bladder could readily be felt by the finger in the rectum, the tissues of these organs being thus brought into close contact above the vaginal sac. Several years afterwards I learned that this lady had married; but neither menstruation nor pregnancy occurred.

A second case was under the notice of many physicians in Philadelphia, and none could detect a uterus in her pelvis. She was a stout, healthy, well-developed young woman, of about twenty-six years of age, and of a fine ruddy complexion.

The third case was a married woman, of the same age, in whom neither menstruation nor conception had ever occurred.

A fourth case I examined this summer. She was a young woman, who had been married six years, with good developments and health, but had never menstruated or conceived. The physical examination gave no evidence of the existence of a uterus; the vagina was about one inch and a half long.

Atrophy of the uterus has often been detected by examinations during life, in cases of emansio mensium. In post-mortem examinations, not only atrophy of the uterus has been seen, but also of the ovaries. Sometimes no uterus or ovaries could be discovered.

A further confirmation of the impropriety of treating amenorrhœa without a proper investigation of the condition of the pelvic cavity, is found in cases of *obstruction of the vagina or of the neck of the uterus*. In such instances there is, at the age of puberty, an apparent failure of the menses, but there is no real failure. The menses are secreted, but not excreted; they are retained in the body, from the hymen, for example, being imperforate. All the signs of puberty and of the menstrual nisus exist, but there is no flow; month after month, even year after year, the symptoms return without any discharge. The fluid accumulates in the vagina, or perhaps in the uterus, until a tumor, every month enlarging, is observed in the abdomen to the discomforture and alarm of the patient and her attendants.

Case.—The only case I have seen was that of a thin and delicate young girl, fourteen years of age. The fluid seemed entirely confined to the enlarged vagina, as through the delicate parietes of the abdomen a small body, apparently the uterus, was felt

near the umbilicus, appended to an elliptical swelling rising out of the cavity of the pelvis. On perforating the hymen, a discharge of some thirty ounces of a very thick dark-purplish fluid, without any signs of putrefaction, followed, the tumor immediately disappeared, and the supposed uterus could no longer be detected through the abdominal walls.

When the obstruction from natural deformity or disease exists in the upper part of the vagina or in the neck of the uterus, the fluid is necessarily confined to the uterus, and causes its hypertrophy, as in pregnancy, for which it has unfortunately been mistaken. Such collections have also been classed under the general head of "hydrometra," dropsy of the uterus, from which it must be carefully distinguished.

It is manifest how vain, and how injurious even, must be all medicinal treatment of such apparent cases of amenorrhœa or emansio mensium. They are really not medical, but surgical cases. They demand the perforation, or perhaps even the excision, of the hymen, the removal of the strictures or adhesions of the vagina, a puncture, by means of a suitable canula and trocar, in the direction of the canal of the cervix, or, it may be, in some very extraordinary cases, into the body of the uterus, per vaginam or per rectum.

If this important principle be established—that amenorrhœa is a symptom, and not a disease—the actual pathological condition of the patient's general system, or of the uterus and its appendages, must be examined, in order to prescribe, conscientiously as well as scientifically, for her relief.

These *pathological states* are innumerable, but perhaps some general arrangement may be made under a few heads, and a few facts and illustrations given to assist in the diagnosis and therapeutics of affections often obscure and troublesome.

Asthenia.—Amenorrhœa may depend on asthenia, a want of vital power, a state of general atony attended by sedation, and often by anæmia, emaciation, or even chlorosis, according to its degree, persistence, or original and acquired complications.

This state has perhaps been sufficiently alluded to. In minor degrees there is merely tardy development, or debility resulting

from bad air, confinement, want of good food, or of sufficient exercise.

In a few months or years, especially under favorable *hygienic treatment*, such as good, simple, nutritious food, exercise in the country, bathing, &c., the strength is increased; nutrition is more rapid; the secretions and excretions become abundant; the uterus, in common with other organs, becomes developed; and its functions, in conjunction with those of the ovaries, are evolved, so that menstruation follows and conception may ensue.

In more decided cases of anæmia and chlorosis, medicinal agents may be required, in addition to simple hygienic measures, to give tone to the economy, to facilitate the actions of the nervous and vascular systems, the establishment of the proper digestive and secretory functions; and thus to purify and enrich the circulating fluid, and to assist nutrition and development. These seem to be the successive links of this physiological chain.

To produce these desirable results, much can be done in addition to pure hygienic measures. To excite an appetite, and give tone and activity to the digestive functions, so that food may be readily taken, and, when taken, be digested; *tonics*, from the mild, bitter infusions and extracts, to the strong preparations of cinchona, iron, zinc, copper, arsenic, &c., become very valuable.

Moreover, all that class of remedies, which, with or without a tonic influence, facilitate the gradual development of the secretory and nutritive functions, and known by the name of *alteratives*, are often of great importance, such as the alkalies, ipecacuanha, mercurial preparations, the mineral acids, iodine, and cod-liver oil. This will also include diaphoretics, diuretics, and even laxatives. These laxatives are all-important, if judiciously employed; they should be used, not as cathartics or purgatives, or direct evacuants, which would be positively injurious, but as "peristaltic persuaders," simply to obviate the sedation or torpor of the muscular coat of the bowels. Constipation, with all its direct and indirect consequences, may thus be obviated, and no positive exhaustion or debility ensue. Such articles as rhubarb, aloes, senna, sulphur, colocynth, &c., which have a tonic as well as a laxative influence, are therefore to be employed. They may be advantageously combined with tonics and alteratives, and

thus augment their direct and indirect advantages in restoring action and strength to the delicate asthenic girl.

This treatment for asthenia is equally important in such states of the economy, whether the emansio be complete or partial. At the age of puberty, some menstrual efforts without any secretion are often manifested; in some, a leucorrhœal discharge ensues; in others, it is pinkish or more or less elaborated. These are favorable indications; but the treatment must still be continued unremittingly.

Asthenia and anæmia, however, are not necessarily connected with amenorrhœa, in some cases, as from premature excitation of the nervous system, menstruation may be established or even become profuse. This, M. Virey well calls "precocious menstruation." The precursory and attendant indications of puberty are absent; but, there is a full development of the genitals, from a premature excitement of the nervous system, the mental, moral, and animal sentiments, passions, &c. This is nervous irritation in a debilitated system; it increases exhaustion directly by the discharges, and indirectly from the depression which succeeds excitement. Hence, the sedation or debility in precocious menstruation, demands as much if not more, than in ordinary cases of asthenia, the same hygienic and invigorating regimen.

Moreover, the condition of the patient is not altered by the fact, that the catamenia although once established, had, from any cause, disappeared. This is a case of "*suppression of the menses*," as termed by systematic writers; but, in no essential respect, does it differ from the already described cases of emansio mensium in asthenic individuals. The debility may be so great, that no secretion occurs; but in other cases, after secretion has been established, exhaustion supervenes, and then the patient is reduced to the same condition as if the menses had not originally appeared.

In all such cases of partial, irregular menstruation, or complete amenorrhœa, great hope may exist that the patient, if favorably situated, and properly treated, may recover.

Organic Diseases.—There are cases where either originally as a cause, or secondarily as an effect of these cachectic states, positive inflammatory, or organic disease exists in some tissue or organ of the economy.

The imperfect digestion, the irritating character of the unassimilated food, the acid and putrefactive character of the ingesta of the stomach and bowels, the bad, illy elaborated state of the various secretions from the liver, stomach, pancreas, bowels, &c., arising from the impure state of the blood, as well as from the want of power in the secreting tissues; all prove more or less irritating to the mucous membranes of the alimentary canal. Hence gastritis, enteritis, and colitis, not unfrequently ensue, with their reflex influences on the œsophagus, pharynx, mouth, &c., aggravating as well as complicating the original disturbances. Under such circumstances, any of the many forms of organic chronic disease may be induced. Irritations often remain fixed on particular tissues or organs, until changes of structure, softening of the tissues, suppurations, ulcerations, &c., result to the destruction of the organ and the life of the sufferers. Thus tuberculous, or scrofulous affections of the brain, lungs, heart, liver, intestines, &c., arise; indeed, there may be induced any variety of disease, even of a malignant type, followed by colliquative diarrhœa, vomitings, and dropsical effusions prior to complete prostration, from which there is no reaction. Such cachexia may be hereditary, and may appear at or soon after birth, during childhood, or after adolescence; but, in all cases, it either prevents the appearance of the catamenia, or causes its disappearance. The amenorrhœa is not the cause, but the result; and, therefore, should never be treated as the disease—ipse morbus—but as a secondary, and often an unimportant symptom. If, by any fortunate circumstance, the chronic disease and the asthenia be relieved, then the uterine discharge may ensue; its appearance may indeed be hailed, not as the removal of the cause, but as a strong indication of returning health. In phthisis pulmonalis, all are familiar with the gradual disappearance of the menses, as the organic disease becomes more and more decided, and even in less terrible affections of the pleura, lungs, liver, &c., amenorrhœa may ensue. Although there should be a partial return of the menses, encouraging the patient and her friends, yet, in all instances, the treatment ought to be founded on the condition of the diseased organ and general system, and not on the condition of the uterus and its appendages.

RHEUMATISM AND GOUT.—Amenorrhœa follows also in the train of rheumatism, gout, cutaneous and other metastatic diseases.

Dysmenorrhœa, menorrhagia, hæmorrhagia, and other forms of uterine irritation have been already mentioned as dependent on the translation of the morbid excitement to the uterus. The reverse is also true. The translation may be from the uterus to other tissues or organs—the latter being in a state of irritation, the former of sedation. Hence, occasionally we have amenorrhœa either under the denomination of emansio mensium, or of suppressio mensium.

Case.—I attended a very interesting young lady, of eighteen years of age, who for some two or three years had suffered severely from acute rheumatism. The irritation had fixed itself chiefly in the right hand and forearm, producing some deformity of the hand, from which she never fully recovered. I found that she had never menstruated. Her rheumatic complaints were relieved after a few months; the catamenia then appeared. She afterwards married, and became the mother of children.

The same result from metastasis to other organs may also follow after the appearance of the menses. There is also a close connection between amenorrhœa and some of the varieties of *eruptive and cutaneous diseases.*

The treatment is to be founded on these pathological facts, so that the usual means, by diet, medicine, &c., are requisite for the original affection. While inordinate irritation is moderated in the suffering tissues, measures should be instituted to determine nervous and vascular excitement once more to the uterine organs, precisely on the same principle, as, when gout affects the brain, heart, or lungs, "derivation" should be made to the surface of the body and to the extremities.

In acute attacks of rheumatism, gout, &c., derivation to the pelvic viscera should be made by mild, but still very efficient measures; such as pediluvia, hip-baths, local vapor-baths, fomentations, poultices, warm vaginal and rectal injections, and occasionally stimulating enemata of senna, aloes, turpentine, &c., to the bowels.

In chronic cases, such means may be assisted by rubefacients, blisters to hypogastrium, to the sacrum, to the thighs, &c. In such instances, also, resort may be had to internal remedies, espe-

cially to purgatives; as senna, colocynth, rhubarb, aloes, which have their chief influence on the large intestines, and it is supposed sympathetically on the uterus. The treatment of such chronic cases may demand the employment of all those means, which are supposed to have a direct or even a specific influence over the uterine functions, known by the expression *Emmenagogues*, which will hereafter be noticed.

Fevers and Phlegmasiæ.—A suspension of uterine secretion, partial or complete, is the result sometimes of acute fevers and of the phlegmasiæ. In the former, such is the universal disturbance of the economy, that perhaps there is no function but is partially disturbed, and many are completely suspended, from the deficiency of nervous action, from congestions, &c. The stomach, liver, and uterus suffer alike in this prostration of their peculiar functions. In the same manner, in the phlegmasiæ of important organs there may be a suspension of uterine secretion, or transference of irritation to the affected organ.

In all such vascular disturbances, amenorrhœa is a secondary circumstance. Every practitioner addresses himself almost exclusively to the organic disease, and looks for a return of the menses on the patient's restoration to health. Such return will generally be manifested; but sometimes the injury sustained is more permanent, and the usual course of derivative means, and perhaps occasionally of emmenagogues, may be demanded to relieve the sedation of the uterus.

Nervous Irritations.—In other cases of amenorrhœa this transference of irritation from the uterus to other organs involves not chiefly, as in the last mentioned cases, the organic life, but mainly the nervous system. There is nervous *sedation* of the uterus, but nervous *irritation* of other organs, a diminution or suspension of the menstrual secretion, but increased congestion and consequent effusion or secretion from other tissues or organs.

The type of this morbid state is observed in the physiological condition of the uterus and mammæ during lactation, there being sedation of the uterus and suspension of its secretion, while in the mammæ there is excitement with an abundant excretion.

The causes of such normal and abnormal states of the uterus

and mammæ are entirely obscure; but that such conditions do exist, and that there is a close connection with the nervous system, there can be little doubt.

It seems hardly requisite to present facts confirmatory of the domain of the cerebro-spinal system over the uterine functions, especially as so much has already been detailed in the former parts of this work. Attention, however, may be fixed on the fact, that when certain peculiar changes occur in the brain and its appendages, there follow the development of the genital organs, and the establishment of their wonderful functions at the age of puberty. When, however, another inscrutable change occurs at the climacteric of woman's life; the ovaries, uterus, and mammæ fall into a state of sedation and of atrophy. Again, there is a special nervous excitement and consequent congestion at every menstrual period, in the non-parturient and healthy female. During the intervals of the regular periods, the menstrual discharge is often re-excited by any excitation arising from the influences of the mind, of the emotions, feelings, and sentiments. The essential influences of the nervous system in the erections and congestions during fecundation are universally acknowledged. Allusion has already been made to the sedation of the uterus and its functions by the depressing influences of anxiety, melancholy, fear, &c. A young lady fell down a flight of stairs while menstruating; there was an immediate cessation of the discharge, which did not return for two years. During lactation, also, there is a suspension of the uterine functions. In such cases the mammæ are the irritable organs; the mental and moral emotions, whether exciting or depressing, then influence their actions, congestion, and secretions even more, apparently, than the same emotions, under other circumstances, affect the uterine functions. The transient thought of her bright and healthy infant will instantaneously augment the turgescence of the breasts of a devoted mother, and her supply of nutriment; while the sickness or death of the child will rapidly cause their collapse, and the diminution, vitiation, and arrest of their secretion.

As, in health, peculiar conditions, therefore, of the nerves have such wonderful influences on the uterus, surprise need not be experienced, if morbid states of the nervous system produce disturbances of the uterine functions; although the true nature

of these peculiar states of the nerves may be, in no degree, understood.

Thus amenorrhœa occasionally occurs in girls who are apparently healthy. The phenomena of puberty are decided; the skeleton, the muscles, the organs of generation, the mammæ, the adipose tissue, are all well developed, under the influence of good rich blood, which distends the capillaries, and gives the ruddy tinge of health to the whole surface. The brain is active; the muscular, mental, and moral powers are all indicative of perfect adolescence. Nevertheless, there is no menstruation. It is a case of emansio mensium in a strong girl, arising, therefore, not from asthenia, but from some peculiar state of the nervous system; there is a sedation, that is, a want of that peculiar excitation which gives origin to menstruation. In some such supposed cases, there may be an absence or an alteration in the structure of the uterus or of the ovaries, &c., or an obstruction in the vagina, or some other cause, explanatory of the non-appearance of the menses. But in many cases no such cause of amenorrhœa can be detected, and indeed does not exist; for, eventually the menses appear and return regularly.

This same state may also be observed in cases of suppression of the menses, from any accidental cause, as mental disturbances, exposure to cold, &c. The menses stop, but the organic life continues very good. The cases are numerous of young women whose menses have thus disappeared, and yet they have enjoyed good health for a longer or shorter time, or even for the rest of their lives.

In these cases of amenorrhœa, where the irritation is located in the nervous centres, the consequences may be severe, although seldom dangerous. The symptoms of cerebro-spinal irritation are often developed. Usually the patient appears perfectly well, is cheerful, happy, and actively devoted to her ordinary pursuits, but with a nervous system so susceptible, that the least impression disturbs it. A disagreeable object, an unpleasant odor, a transitory mental or moral emotion, will sometimes produce sensations of exhaustion, giddiness, languor, and even complete syncope; and if the cause be more powerful, as fear, joy, anger, or severe pain in any portion of the body, we have manifested the various forms of hysteria, such as headaches, a sense

of suffocation, globus hystericus, spasms, and convulsions. Often with or without severe nervous irritation, there is more or less congestion of particular organs, followed by increased excretions, secretions, and, it may be, effusions of blood from the nose, lungs, stomach, bowels, &c., generally to the partial or complete relief of the symptoms.

These hysterical phenomena sometimes vanish speedily, and the ordinary appearance of health is soon manifested. But this hysterical state may continue for years, with varying intensity; however, if there should be an appearance of the menses—that is, if the proper uterine nervous irritation should occur—there is a decided relief; the catamenia being established, the patient is better. Nevertheless the relief, even then, is not always complete; hysterical symptoms often continue, probably from causes formerly noticed under the head of nervous irritation.

The return of the menses is often partial; they are pallid, or even white, and then afford less relief to the economy.

Such patients often enjoy excellent health, but occasionally in chronic cases they lose their healthy aspect, and assume a pallid and sallow condition of the surface, a want of activity and excitement not only of the vascular system, but of the thoughts and feelings, with much muscular languor and weakness; a kind of premature senescence, instead of the ruddy glow, the sprightliness and buoyancy, the activity and hilarity so associated with our ideas of a healthful and well developed girl. When the absence of the menses continues, the patient may, as detailed under the first and second of these pathological states, fall gradually, not merely into this condition of general sedation or premature decline of vital actions, but into the positively morbid conditions arising from asthenia, with or without organic disease.

The instances, therefore, of failure of the menses in girls whose systems are well developed, and whose organic health is excellent, seem to depend on some peculiar inscrutable state of the nervous system. This system has, as we have seen, a predominating influence over woman, on her generative system, the appearance of the menses at puberty, and the disappearance at the change of life; hence, it may safely be inferred that it has a similar influence on the morbid and irregular conditions of this function. When a peculiar nervous excitement is fixed on the pelvic viscera

at puberty, the menses occur; when this excitement is deficient, they do not appear, or appear in an imperfect state. The general cerebro-spinal symptoms, the hysteria, are present, therefore, frequently when there is no menstrual effort. These hysterical symptoms may be partially relieved by the removal of the exciting causes, by the occurrence of secretions from the skin, bowels, and the kidneys, or by the establishment of the catamenia; but even in this last event, the relief is seldom complete. More or less nervous irritation often remains and is slowly dissipated, as changes in the nervous system occur from the alterations in the modes of living, the influence of marriage, gestation, &c.

The same state of things prevails in cases of suppression of the menses. There will be found the same conditions of the general nervous and vascular systems, whether sthenic or asthenic or cachectic.

In the sanguine temperament, with the usual hysteric phenomena, there will, in the disappearance as in the failure of the menses, be evidences of plethora, with determinations to particular tissues, occasionally followed by effusions of serous or bloody fluids, or actual hemorrhage, to relieve the engorgements. In the more chronic cases, where there is less plethora, and generally not so much activity and strength, the hysterical and nervous symptoms will be less violent, it may be, and the evidences of congestion comparatively trifling. Still, in many cases, as in the non-appearance of the menses, there may be partial congestions of one or more tissues, followed by discharges of blood, &c., at intervals more or less regular—"vicarious, or metastatic menstruation"—but these afford only partial relief to the nervous symptoms. There may, also, be an incomplete return of the menses, the discharge being imperfect in quantity or quality, sometimes it is mere leucorrhœa.

In a few cases the menses may return, but the original injury to the nervous and vascular systems may not be obviated, even for a long time, perhaps not until other influences than the mere condition of the menstrual function are exerted to rectify the economy.

Cold.—Exposure to cold is another common cause of amenorrhœa.

The modus operandi of cold, or the abstraction of caloric, has already been alluded to. It has a direct sedative influence, first on the nerves, and secondly, on the circulation in diminishing its rapidity, and in producing passive congestions of the great viscera of the head and body. Also, when the reaction is rapid and severe, apoplectic congestion may be induced, or, in more moderate cases, inflammatory or febrile diseases; although in most instances, of strong, healthy individuals, where the degree of cold has not been severe, the reaction is beneficial, tonic and even stimulating in its influences. Great good often results, therefore, from the judicious local or general use of cold air or cold water. The whole system is invigorated, and particular functions stimulated and strengthened. A good appetite, for example, and a good digestion, which imply good secretions from the stomach, pancreas, liver, &c., are induced. The same is true as regards the uterine functions. Thousands of women, especially in savage life and among the strong and laborious in civilized countries, plunge into the river or ocean, even when the menses are flowing, not merely with impunity, but sometimes with advantage. The discharge is not checked, but may even become more profuse. Such hardy persons will for hours stand in damp and wet places, frequently without any protection to their feet, or even immerse their limbs in cold water, during the catamenia, with perfect impunity.

Seldom, however, can such exposure be ventured on by the delicate, refined, and sensitive child of civilization, whose physical education has been neglected, and whose mental and moral sentiments have been developed at the expense of the health and strength of her corporeal system.

In such, a general or local cold bath, standing in cold and wet places, or even getting the shoes or stockings accidentally damp, may cause a disappearance of the menses for the time, and occasionally even prevent their return. A young friend and patient of mine, of much talent and mental culture, anxious to be present at an evening party, immersed her feet in cold spring water for an hour during her period; she effectually arrested the flow for the time, but so greatly injured her health, that she remains an invalid, although her menses afterwards returned, and she has become a wife and a mother.

The reaction which ensues after exposure to cold may be fol-

lowed by catarrhal or other inflammatory symptoms, but usually these are transitory. In some cases there are no evidences of fever or inflammation, yet certain bad effects of the exposure remain. These are manifested not simply by the sedation of the uterine functions, but of other organs—as of the chylopoietic viscera, in the loss of appetite, the imperfect digestion, the torpor of the liver, of the bowels, &c. The brain, lungs, and heart, with their dependencies, suffer more or less, with the consequent deterioration of their functions, and of the purity and richness of the blood, &c. A premature senescence is manifested, almost precisely as when such suppressions are caused by mental and moral impressions. This state of depression from cold may remain apparently stationary for years, the patient having "feeble health;" or, under unfavorable circumstances, and when additional causes are operative, she may gradually sink into a complete state of asthenia or cachexia, with their miserable and even fatal results—diseased viscera, dropsies, &c. In many instances, partial reactions of the nervous system occur, showing themselves in the form of headaches, neuralgia, or other varieties of nervous irritations, perhaps with partial congestions of organs or tissues, when effusions, secretions, and hemorrhages—passive or active—"vicarious menstruation," may follow.

CONCLUSIONS.

All these pathological states connected with amenorrhœa are generally regarded simply as owing to the arrest of the menstrual flow, and therefore to re-establish the discharge is, to the masses, the only indication: they suppose if the flow be absent, the patient is sick; if it be excited, the patient will be well.

If the history presented be true, the incorrectness of this opinion is evident. The suspension of the menses is doubtless very injurious; it is an arrest of an excretion; it implies the diminution of nervous and vascular excitements of the uterus, a morbid state or sometimes a want of a proper development of the ovarian vesicles, of the uterus, &c., and probably the non-elimination of elements of a noxious character from the blood, and the consequent depravity of the circulating fluid. All this, and even

more, may be true; but, the mental or physical phenomena that caused this suppression had not a mere local effect on the uterus and its appendages, but also a similar influence on other organs —as the brain, heart, and their dependencies. Hence arises the trouble to other functions, as well as to that of the uterus; hence, the want of proper activity of other organs; hence, congestions; hence the want of proper elimination of noxious elements from the lungs, from the liver, &c., as well as from the uterus; and hence, of course, the general deterioration of the animal economy.

This view is enforced by the fact that the restoration of the menstrual function, although a most valuable phenomenon or sign of improvement, does not necessarily re-establish the health of the patient. The catamenia, more or less elaborated, may flow, conception may ensue, and even healthy children may be born, but the patient may continue an invalid for years.

The results of treatment confirm this view. Whatever confidence may be placed in specific remedies—"emmenagogues," as they are termed—to re-excite the uterus, almost every practitioner, elevated above the level of the empiric, has found himself compelled to institute a general course of treatment, having no direct, but merely an indirect and secondary influence upon the pelvic viscera.

As, therefore, emansio mensium exists from certain peculiar inscrutable changes of the system, nervous and vascular, although there has been no apparent exciting cause, such as cold, inflammations, mental and moral influences; so, also, the same states exist in suppressio mensium, where such exciting causes have been operative. Practically as well as theoretically, the differences, if any, are not appreciable. Amenorrhœa, in all cases, is a sign, a symptom, therefore, of abnormal states of the uterus, of the ovaries, of the secretory organs, or of the general nervous and vascular systems.

CHAPTER III.

DIAGNOSIS AND TREATMENT OF SEDATION OF THE UTERUS.

DIAGNOSIS.

THE *Diagnosis* of amenorrhœa is of course generally without difficulty. Nevertheless, in some cases, much knowledge and experience are required to decide the nature of the case.

The most frequent mistake is to regard cases of *delayed puberty* as a diseased state. Mothers, nurses, and empirics, often commit this fundamental error, and resort to the so-called emmenagogues, often with positive injury. Care should be taken to examine strictly as to the developments of the economy, and as to the symptoms of approaching menstruation, whether any indications of uterine irritation have been manifested. If no evidence exists of these changes and efforts, it is not a case of "failure of the menses," but one of tardy development.

Again, if development has occurred, but no discharge has followed, and the patient enjoys good health, it is possibly merely a state of *tardy menstruation*, which demands no interference; or, it may possibly be, that there is an absence or at least an atrophy of the ovaries or uterus, or of both.

If all the symptoms of menstruation have occurred, not merely once, but several times without any evacuation, a careful examination will be requisite to determine whether there be no *obstruction* from an imperforate hymen, contractions of the vagina, or cervix uteri. Especially are such examinations demanded, when the abdomen begins to swell, and the moral as well as the physical character of the maiden is involved in the decision of her medical attendant.

The diagnosis between amenorrhœa and *pregnancy* is generally easy, after the fourth month, in healthy women; but, during the

first four months, and even afterwards, especially when complications from obesity, from dropsical or other collections exist, the diagnosis is often exceedingly difficult, and will sometimes tax all the powers of the physician. The difficulty is often increased, as in many instances the patient will not, or cannot offer any essential assistance. She throws all the responsibility upon her physician.

Ladies often deceive themselves and their attendants. Anxious, when married, to have a family, they usually take it for granted that if there be no menstruation, there must be pregnancy; so that not merely a few weeks, but perhaps months elapse, before their doubts are excited, and the mistake is revealed. Such mistakes are sometimes made, even when there has been almost every month some sanguineous discharge. I have known a delicate, emaciated young woman, under her mother's advice, during ten months of this supposed gestation, make all the usual preparations for herself and child; of course, she was perfectly amazed when informed of her error. In another case, a delicate married lady, sustained by the opinion of her husband, committed the same error, although she had been the mother of four children. In females married late in life, where cessation of the catamenia occurs not very long after marriage, and where there has been an enlargement of the abdomen, such false suppositions are not unfrequent. The diagnosis is the more difficult when there is any great development of the abdominal tissues, preventing satisfactory external examination. The physician must be very cautious in venturing to destroy hope, and to pronounce the swelling of the abdomen "ventus seu adeps et præterea nihil."

Physicians are occasionally called to cases of pregnancy, unfortunately, in girls who have never been married. They insist that they have an obstruction, and nothing else; and very universally they deny not merely the existence, but the possibility of pregnancy. Such cases are extremely delicate, involving in the result of his examination the character, perhaps the reputation of the physician, as well as that of his patient. No decision ought to be made unless four months are supposed to have elapsed; and even after quickening, the expression of opinion should be given with as much reserve as is consistent with truth

and justice. I have heard women deny the possibility of such an event, even after labor had actually commenced.

It is well known that pregnancy has been mistaken for dropsies; and, on the other hand, paracentesis abdominis has been performed where there was no peritoneal effusion.

Amenorrhœa, coexisting with hypertrophy of the uterus, simple or complicated with tumors of the uterus, or with tumors of the ovaries, or of the mesenteric glands, requires often great care to distinguish it from pregnancy.

Case.—A young lady had an abdominal swelling, and no menstruation. A most experienced physician, in a neighboring city, was called in consultation, and pronounced it a case of pregnancy. The young lady and her friends, of high position and religious character, repelled the suggestion with virtuous indignation. Subsequently, a post-mortem examination revealed an enormous collection of gelatinous matter, vindicating the character of the lady, and injuring the reputation of her physician.

In all cases, the greatest caution and care should be exercised when abdominal tumors exist in conjunction with amenorrhœa, as perhaps there are few practitioners of extensive experience, who have not cause to regret that they trusted too much to a hasty examination, and to the character and assurances of his patient, in making a diagnosis of such delicate and complicated cases.

Prognosis.—The *prognosis* in amenorrhœa must be necessarily very uncertain, depending, as the history now given shows, on the ever varying condition of the tissues and organs of the body, and on the general health. It can merely be said, that if the health be restored, the prognosis is favorable, that is, if the general disease be cured, this symptom, amenorrhœa, will usually disappear.

TREATMENT.

If the views presented be correct, there is, perhaps, no treatment for amenorrhœa, which can be called direct, that is, having a positive immediate influence to re-establish the flow of the

menses; no confidence can, therefore, be placed in specific medicines for this purpose, in the so-called "Emmenagogues." The almost universal experience of the profession confirms this view. The employment of such specifics, is a last resort, a kind of forlorn hope to the experienced physician; while it becomes a fruitful source of deception and consequent mischief to the sufferer, and of profit to the empiric, who, in public and private, lauds his "infallible remedy." Nevertheless, there are general and also local measures which are all important in the management of the various pathological states connected with amenorrhœa.

Removal of the Cause.—The first general indication is the removal of the cause, so far as this is still operative, or to palliate it, if not remediable. This is the essential, the all important principle in the management of amenorrhœa, regarding, as we have done, the non-secretory state of the uterus as a sign or consequence of various unnatural or morbid states of the pelvic viscera, and of other organs.

Asthenia.—In all cases, therefore, of asthenia where there is a failure or suppression of the menses, partial or complete; the whole effort of the judicious practitioner, addressing himself to the mental and corporeal being, should be to invigorate the economy, and to give tone to the nervous and vascular systems by all the direct and indirect means he can employ. The regulation of the exercise of the mental and moral powers, the inculcation of the importance of suitable food, pure air, exercise, bathing, and all other indispensable hygienic measures, are the foundations of his practice, and are to be assisted by alteratives, tonics, and occasionally by stimulants.

Organic Diseases.—Where this asthenia is complicated with organic diseases, the latter must, of course, receive special attention, secundum artem.

Rheumatism, Gout, &c.—Where gout, rheumatism, or other metastatic diseases coexist with amenorrhœa, they demand primary attention for their removal or palliation, while suitable measures are employed to determine the nervous and vascular excitements again to the uterus and its appendages.

Fevers and Inflammations.—The same principle should regulate the physician in all the febrile and inflammatory complaints of

an acute or active character. When the inflammation is located in the ovaries or the uterus, the local evacuants, necessary to affect resolution, act on the principle of removing the cause, which, in this case, is the phlogosis.

Mental and Moral Disturbances; Exposure to Cold, &c.—When amenorrhœa exists from mental or moral disturbances, from exposure to cold, or other causes usually transitory, the injury sustained by the nervous and vascular system, often remains long after the exciting cause has disappeared. This deserves constant and scientific attention, that the function of the uterus may be resuscitated.

All these truths are practically acknowledged by any regular practitioner, who, whatever may be his confidence in specifics, never neglects what is termed general treatment.

Local measures are often important when there is organic irritation, such as inflammatory disturbances of the pelvic viscera, and also in cases of nervous irritations and congestions. They are more efficient, if any indication of the menstrual nisus be present.

Cups and Leeches.—The employment of cups to the sacral region, or to the hypogastrium; of leeches to the abdomen, to the groins, to the upper part of the thighs, to the pudendum, to the vagina, and to the uterus, have often been very efficient in relieving excitement and congestion, and thus promoting secretion. There are but few who have not found such practice useful. Two observations may, however, be made.

First. It is remarkable that the relief, afforded by the artificial discharge of blood, is by no means proportionate to that which ensues from the natural secretion. From six or eight ounces of blood really does not relieve a patient as much as half an ounce or an ounce of menstrual discharge.

Second. Judging from my own experience, direct loss of blood from the vagina or the uterus is not as efficient in any degree as from the adjacent external tissues—"a derivative leeching," as it has been termed. Whether this comparative inefficiency of the loss of blood from the organ involved arises from the mental and physical suffering attendant, more or less, on the operation, effected by means of a speculum, or on the soreness and inflam-

mation ensuing from the leech-bites, or some other cause, may not be clear; but, in many instances, the irritation has been but partially relieved, and in some positively augmented.

Scarifications to the neck of the uterus have been proposed; but these also require the use of a speculum, with its mental and physical objections; and the loss of blood is comparatively trifling, while the subsequent irritation is sometimes considerable.

It has been suggested to draw blood from the interior of the uterus by *suction*. A perforated bent tube, resembling a silver catheter, is introduced into the uterus, and to the other extremity an exhausting apparatus is affixed. Some blood can doubtless be obtained in this way from the delicate and vascular lining membrane of the uterus; but, it cannot be easily imagined how such loss will counterbalance the pain and irritation of the intra-uterine operation, severe even in the passive states of the organ, and, of course, much more so where congestion or inflammation exists.

Fomentations, etc.—Under the head of local measures in morbid excitements of the uterus, with no secretion, must be placed all those agents termed relaxing, operating by promoting secretion—such as fomentations, poultices, warm vaginal and rectal enemata. They are very soothing, and although they determine blood to the part, they favor secretion and relaxation —just as the application of a warm poultice to an external phlegmon.

Cases of amenorrhœa dependent on great local congestion, or on metritis or ovaritis, are comparatively very rare. In the large majority of cases there is sedation in every sense—organic as well as nervous—of the uterus and its appendages, demanding in many instances remedies of a different character.

Revulsives or Derivatives.—These all act by determining excitement from a tissue or tissues where it is inordinate, to those where it is deficient. They equalize excitement so far as they are operative. They are exceedingly valuable, and perhaps the most reliable, in the estimation of the modern therapeutist. If, therefore, general remedies, whether tonics or evacuants, have in any degree rectified the system, if local inflammatory or organic changes be subdued, and especially if there be any premonitions

of returning uterine action, means should be adopted to relieve the sedation of the nervous and vascular tissues of the womb. We should revulse from the organs unduly excited, to the uterus.

These measures are familiar to every one, but some of the more important may be noticed, as many have been relied upon, in popular as well as professional practice, as if specific—as being really emmenagogues—while they act merely as revulsives.

In states, therefore, of debility or sedation, not only of the uterus, but of other organs, great good is obtained, *pro tempore*, by stimulating diaphoretic measures, to be resorted to especially at the expected period. They not only determine from the large congested viscera to the cutaneous and mucous surfaces; but they favor secretion. Thus, *hot baths*, general and local, *hot drinks*, *hot fomentations*, alcoholic and vegetable, are greatly relied upon. With women, and even physicians, this practice having been often successful, peculiar specific virtues have been attributed to hot toddies of gin, rum, &c., to hot infusions of peppermint, spearmint, catnip, parsley, pennyroyal, madder, tansy, rosemary, &c. They all, however, are advantageous, in equalizing the circulation, and facilitating the secretions from the skin, the mucous membranes, and of course from that of the uterus. Their operation is greatly facilitated by those medicines termed *diaphoretics*, exhibited with or without anodynes, as the occasion indicates.

Laxatives, but not cathartics or active purgatives, have been always much depended on. They act perhaps universally as revulsives, from the head, lungs, or other organs, to the stomach, and intestines. They not only relieve constipation, but restore the secretions of the liver, stomach, intestines, &c. In this point of view they are more efficient when combined with alteratives, in minute doses—as of mercury, ipecacuanha, antimony, &c. Some aperients, such as sulphur, rhubarb, senna, and especially aloes, act mainly on the large intestines, and thence sympathetically on the uterus. Hence, aloes and some other laxatives have been universally regarded as specifics in amenorrhœa.

Stimulating enemata operate also as revulsives to the intestines and secondarily to the uterus. They are really useful in hastening any disposition to menstrual secretion. Enemata of senna,

aloes, and turpentine, have had much effect, and are often regarded as specifics.

Simple or stimulating diuretics, such as balsam copaiba, spirits of turpentine, tincture of cantharides, sweet spirits of nitre, infusions of juniper berries, gin, &c., act as revulsives to the kidneys and the pelvic organs, but have no real pretensions to peculiar influences on the uterus.

RUBEFACIENTS are not to be neglected when symptoms of menstruation are present, in cases of amenorrhœa. Although they are not very influential, they are useful in assisting other revulsive measures, and when applied in the neighborhood of the uterus, assist in determining excitement to its tissues. Perhaps the most important are cantharidal blisters, as they not only favor secretion, but have much direct or indirect influence on the bladder, the rectum, and perhaps on the vulva, uterus, &c. They may be applied to the region of the sacrum, to the hypogastrium, or to the upper, and especially to the inner portion of the thighs.

The mammæ sympathize so directly with the uterus, that practitioners have hoped, that by irritations applied to these glands, the uterus would sympathetically respond. Dry and moist heat, mustard plasters, blisters, and dry and wet cups, have been applied to the breasts; and stimulating liniments and plasters have been employed, but with very doubtful benefit.

Any success attending this revulsive treatment in the re-establishment of uterine action, will of course be equally efficient, where vicarious discharges have occurred from other organs. As the natural function returns, the local congestions and unnatural discharges from other organs will probably disappear, at least they will demand no positive treatment. All direct attempts to check vicarious menstruation, from the nose, ears, stomach, rectum, &c., are exceedingly dangerous, as the irritation and congestion might be transferred to vital viscera, and with even fatal results. Should it unfortunately happen that the brain, heart, or lungs, be the seat of the congestion, with or without seroid or bloody effusions, the treatment should be chiefly revulsive. Powerful agents of this character may occasionally be demanded, and, if the congestion of the brain, heart, or lungs, assume a decided apoplectic character, general or local bleeding may be

temporarily employed, as in cases of passive congestion, to relieve the oppressed viscera, while the bad effects of such evacuations may be obviated by stimuli, tonics, nutritious diet, &c.

Local Stimuli have had their advocates, and in the form of warm water or vapor directed to the cervix uteri, have already been favorably mentioned as adjuvants.

Stimulating washes, particularly the aqua ammoniæ, in the proportion of ten drops to the ounce of water or milk, have been recommended; but the success has been but trifling. Injections of ammonia and also of the nitrate of silver have been thrown into the cavity of the uterus with reputed success; but certainly this may be termed rash practice, as the presence of the instrument itself gives pain, which will be aggravated by the injection of even simple water, and much more, of such powerful or almost caustic stimuli. Irritations are excited which may not be confined to the uterus, but extend through the Fallopian tubes to the peritonæum, with probably fatal results. Beside, these fluids may possibly at once pass through the Fallopian tubes, and thus directly excite peritonitis.

Mechanical stimuli have not been neglected. The occasional passage of bougies, or the metallic uterine sound or probe, has often been employed. More lately, in cases of amenorrhœa, the intra-uterine pessary has been recommended, as affording a permanent irritation. But few successful cases have been reported of these measures. My own experience is, that they are altogether futile. I have frequently been called upon to pass the probe in cases of delayed menstruation; and, even where dysmenorrhœa had previously existed, there has not been any hastening of the menstrual discharge. I am now in attendance on a young lady who has come to our city, for relief, if possible, from a dysmenorrhœa of many years' duration. I have passed the uterine sound once before, and twice since the time for the regular period—now delayed for two weeks—and yet, excepting the pain of the operation, and a slight reddish discharge for a few hours, she has no indication of her catamenia. On the contrary, she feels better than usual, and has not as yet had her usual premonitory symptoms.

This result might, a priori, have been anticipated by the phy-

siologist and patholgist. Such mechanical operations excite pain and contraction of the uterus, that is, "nervous or animal irritation;" hence, by condensation of the walls of the uterus, blood would be excluded, not invited to its vessels. The trifling sanguineous "show," from the disturbance of the delicate epithelium of the lining membrane, is no proof to the contrary. Hence bougies, as formerly mentioned, are occasionally useful, in chronic menorrhagia, and therefore would probably be inefficient in amenorrhœa.

If a probe or an intra-uterine pessary, be left in the uterus, the result is practically the same, but the cause entirely different. The continued irritation produces organic disturbance, it may be inflammation; this is a state also opposed to menstruation, as we have already seen, metritis as well as ovaritis is a cause of amenorrhœa. That bloody discharges are produced by intra-uterine pessaries, there can be no doubt; but hemorrhages from the uterus are not the catamenia: they afford but partial relief; they are not the results of that peculiar inscrutable excitement of the uterus, of the ovaries, and of the nerves, necessary for the formation of a true menstrual evacuation, which relieves the system, depurates the blood, and is indicative of restored health, and of an aptitude for conception. That after the use of intra-uterine pessaries, the regular return may sometimes be observed is very probable; but this ought, we think, to be regarded as an accident, as a mere sequence, not an effect. This possibility ought not to establish a principle or to sanction the use of a disagreeable, painful instrument, which is liable, as formerly mentioned, to very serious, if not dangerous results.

These observations are applicable, equally if not more forcibly, to the employment of suction by an apparatus already mentioned, to the internal surface of the uterus. What effect ought reasonably to be anticipated from the abstraction of a small quantity of blood mechanically from the internal surface of the uterus, either as a substitute for the important menstrual evacuation, or, as an irritant to that peculiar nervous excitement and active congestion of the uterus, ovaries, and all the pelvic and adjacent viscera requisite for the uterine function? The mechanical injury from the passage of the intra-uterine probe in this instance will be aggra-

vated by the suction-power employed on the delicate mucous membrane of the uterus.

EMMENAGOGUES are medicines, which are reported to have a peculiar physiological influence on the uterus and its appendages, so as to excite them to perform the menstrual actions or function.

Are there such remedies? It is possible, but the experience of the profession, up to the present hour, renders it exceedingly doubtful. We have already characterized them as the "forlorn hope" of the scientific physician, who, finding all his science and experience inefficient, falls back on such supposed specifics, and continues his warfare with some lingering expectation of an eventual victory.

In his choice of such measures, the practitioner must be guided by the knowledge of the actual state of his patient, as to her general system, and the pelvic viscera, by the known modus operandi of the articles suggested, and by the reputation which may have been accorded to them by good authorities. His practice must be somewhat empirical or tentative, but still under the guidance of science.

Many of the supposed specifics have already been noticed, under the head of tonics, diuretics, cathartics, and other revulsives, and the list could easily be extended.

Many of them belong to the class of alteratives. *Mercury*, so universally useful as an alterative, is perhaps as important in amenorrhœa as any single remedy.

Iodine has been also hailed as an emmenagogue, but has failed as such; it may, however, be advantageously employed, either by itself or in combination, in various states complicated with amenorrhœa.

Senega polygala has certainly no specific effect, although strongly recommended by the late Professor Chapman, whose practical acumen was almost unrivalled.

The excellent authority of Dewees is pledged to the utility of *guaiacum*, especially the ammoniated tincture of the gum; but his successors cannot indorse it: when useful, it acts, indeed, as a tonic stimulating diaphoretic.

Sabina, as a powder, an oil, or an extract, has long been

regarded as having a special influence on the uterus, and has been employed, out of the profession, with much reputed success, not merely as an emmenagogue, but as an excitant of the uterus to produce contraction during pregnancy. Nevertheless, professional confidence in its virtues is at present by no means great.

Helleborus, in sufficient doses, will nauseate and purge, and this may facilitate uterine secretion; but, in some cases, in my experience as well as in that of other practitioners, it appears to have favored the return of the menses when no perceptible influence was exerted on the stomach or bowels.

The *Secale cornutum*, or *Ergot*, has strangely been added, by many, to the list of emmenagogues. Experience, however, has condemned it, and theory sanctions the sentence. Under peculiar circumstances, it has a wonderful or specific influence on the uterine nerves and muscles, in exciting painful contraction; but the suggestion is very crude, that it is calculated to excite organic actions, congestion, and secretion. In the former case, as a peculiar stimulant to the uterine nerves, it produces, in the parturient state, contraction of the muscular fibres, condensation of the substance of the uterus, and diminution therefore of the size of the bloodvessels, relieving congestion and arresting hemorrhage; and, in the unimpregnated condition, may arrest menorrhagia and hæmorrhagia of the uterus, in cases of laxity of its tissues. Of course, this is far from indicating any tendency to promote congestion or secretion from the womb, when they are deficient.

Nux vomica and *Faba St. Ignatii*, with their various preparations, have been proposed as emmenagogues. As tonics, in small and repeated doses, they are very useful; but in larger doses they are dangerous; and, since they operate chiefly on the nervous and muscular systems, it is not probable that experience will confirm the suggestion, that they have specific influence on the organic actions of the uterus; at least, there is as yet no general testimony in their favor.

Extract of the *Chenopodium olidum* has been lately recommended; the *Lauro-cerasus*, as a strong decoction, and, indeed, many other articles at present attract attention, some of which may possibly prove successful as adjuvants, under the direction of the enlightened physician.

Matrimony has been recommended in amenorrhœa. The sexual

excitements have doubtless the most direct influence on the development of the ovaries and the uterus, and the establishment of their functions. They may give origin, as formerly mentioned, even to precocious menstruation; they thus confirm the argument as to a controlling, if not an original, influence of the nervous system over the functions of generation. The excitement, therefore, of these feelings by marriage, and the additional specific stimulus of the semen masculinum, promote, in favorable cases, the catamenial function. Girls, thin, pallid, and with but few of the signs of womanhood at the time of marriage, often develop very rapidly after its consummation; the nervous system and the organic life are equally excited, the blood becoming richer and nutrition more active, even when no conception has ensued. In such cases, partial or complete amenorrhœa often disappears, and hopes of maternity may be entertained.

Nevertheless, great caution should be exercised by a physician in giving sanction to matrimony in cases of amenorrhœa, there are so many ethical, and legal, as well as physical questions involved. His approbation should always be withheld, unless he is satisfied that there be no deficiency of the ovaries or uterus, no fixed organic disease, and no incurable mal-condition of the patient's general system or of any special organ. He should be convinced that it is a mere uncomplicated state of sedation of the uterine tissues.

Electricity, galvanism, electro-galvanism, and electro-magnetism, have, in succession, been suggested as important therapeutical agents, in various forms of disease, especially in those dependent on the nervous system. Fashion has, unfortunately, had its influence in the scientific as well as in the gay world. After the discovery of galvanism, in 1786, and especially of the Voltaic pile, in 1800, great expectations were entertained of their therapeutical effects, but these were found to be illusory.

In 1825, these hopes were revived, by the suggestion of employing them in conjunction with acupuncture, so that the course of the electric or galvanic influence could be accurately directed, or localized. This was also attempted by denuding two separate portions of the surface of the body, to each of which plates were affixed, connected with the opposite poles of a battery. Numerous as were the experiments made in this city, and elsewhere,

with bright anticipations and reputed success, the practice soon fell into disuse.

During the last few years, the hopes of the learned and the enthusiastic have been resuscitated, especially since the discovery, by Faraday, of "electricity by induction-currents," in 1831, and the suggestion, by Duchenne, that the physiological influences of direct electricity and that by induction are different. Dr. Duchenne has ingeniously arranged an apparatus to localize the influence of this inductive electricity, and to direct it upon an organ or tissue involved. Some reports are very favorable, and great attention is now paid by regular and irregular practitioners to this subject, especially in the treatment of cerebro-spinal diseases, such as neuralgia, paralysis, &c. Analogous effects have been anticipated, perhaps too readily, as regards organic life, its actions and functions; but, as yet, there have been no decided results. Inflammatory affections of the skin, and of the mucous membranes, have been induced by this agent, as well as an increased flow of saliva and other secretions; but how far therapeutical advantages may result in organic diseases, is very doubtful.

As an emmenagogue, electricity has been recommended for very many years, but, almost universally, without decided success. It is now again brought prominently before the profession under the form of "Faradization," or "electricity by induction-currents," by means of Duchenne's and other apparatus, for localization. The results are yet to be determined; one practitioner, M. Becquerel, declaring, after repeated trials, that it uniformly failed. Another, Dr. Althaus, states, that in twenty-four cases of amenorrhœa, twenty were cured by this means.

Another mode of employing galvanism, which ingenuity has suggested, is by the galvanic pessary. Some fifteen years ago, Dr. Rose, formerly a regular physician in this city, employed a vaginal flat disk pessary, with the upper or uterine surface made of silver, and the lower of zinc, but probably with no success, as unfavorable reports have ever been given of its influence.

Dr. Simpson has suggested that his intra-uterine pessary, when constructed with the style or uterine portion of zinc, and the vaginal portion of copper, will be beneficial in amenorrhœa; and cases are given by himself and others of success from their employment. We have already noticed the dangers attending the

use of these intra-uterine supports, in their mechanical effects on the tissues of the uterus; and such influences will probably not be lessened by the decomposition of such metals as zinc and copper, under any galvanic process, which might be induced by the fluids of the uterus or vagina. The question also is in abeyance whether the bloody discharge, which may result, is a pure hemorrhage from physical or galvanic excitement, or a proper menstrual evacuation.

We will venture the following general conclusions, and express a few cautions on the subject of Electricity in its various forms.

First. No specific or peculiar virtues are to be expected from it as an Emmenagogue. It is a mere stimulus at best, and should be placed among the class of local stimuli.

Second. Its effects on organic actions are trifling, uncertain, and very generally indirect, and of course not reliable.

Third. In cases of neuralgia, spasms, paralysis, &c., it may sometimes prove advantageous, but merely in those instances where the general or local irritation has, spontaneously or by therapeutical means, been entirely relieved, and a simple stimulus is demanded.

Fourth. Much science and judgment are required to regulate the proper direction of its influence, as well as the choice of the kind of electricity, direct or indirect, which the peculiarities of the case demand; and, especially, it is necessary to control the intensity of the current. Not only spasms and convulsions have resulted from injudicious employment of electricity; but, in sensitive women, the whole nervous system has remained morbidly irritable for many years after its application.

GENERAL REMARKS.

From the history of amenorrhœa, it is manifest that the patient should be constantly under the supervision of the practitioner. During the supposed intervals of the menstrual nisus, every effort must be made to rectify the system, and to relieve local diseases, so as to favor the developments and functions of the whole economy. When the return of the period is expected, the circulation must be determined to the pelvic viscera, as much as

practicable, by equalizing the general excitement; by promoting secretion from the cutaneous and mucous membranes, universally; by revulsive remedies, internal and external; by direct stimuli to the uterus; and, sometimes, by the employment of medicines, supposed to act specifically on the uterine function.

The scientific and judicious physician will know how to assist his hygienic by his medicinal measures; how to combine laxatives, alteratives, tonics, stimuli, and specifics, so as to facilitate the establishment of the general health, and, secondarily and consequentially, the development and secretions of all the organs of the economy. Disappointment must, however, often ensue, as the causes of amenorrhœa are frequently irremovable; but, in other cases, he may anticipate as much success, as in the treatment of other functional diseases.

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