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THE CHANGE OF LIFE

IN

HEALTH AND DISEASE.

THE CHANGE OF LIFE

IN

HEALTH AND DISEASE.

A CLINICAL TREATISE

ON THE

DISEASES OF THE GANGLIONIC NERVOUS SYSTEM

INCIDENTAL TO

WOMEN AT THE DECLINE OF LIFE.

BY

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BRITISH AND FOREIGN.

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PREFACE.

GYNÆCOLOGY, or the accurate study of diseases of women, is the youngest branch of medical literature, for it began in 1816, with Recamier and the better means of diagnosis that he introduced. The time that has elapsed since then, may be divided into two periods, the first extends from Recamier to Simpson, the second we are still in the midst of, and it dates from our illustrious countryman. The galaxy of Paris physicians who followed the lead of Recamier, had for object, to bring the sexual organs of women within the range of the general laws of pathology. Velpeau, it is true, taught the frequency and importance of uterine malformations and displacements, but inflammation was accepted as explaining most uterine diseases, and the therapeutical tendencies of this epoch were essentially medical without disparagement of surgery. Such was also the tendency of Dr. Henry Bennet's work, when in 1844, he made known to the profession in England what had been done in France.

With Simpson began the more exclusive surgical tendencies that are still in the ascendant in England and America. He started the treatment of uterine displacements and flexions by pessaries, intra, and extra uterine, and while mature pathologists still hope to find a pessary, that can support and rectify the womb, without damaging it, every young gynæcologist has a pet pessary of his own, that no one else believes in. At one metropolitan school, the students are taught, that most diseases of women are caused by some twist or displacement of the womb and that a pessary is the keystone of uterine therapeutics.

Simpson devised the slitting of the womb for the cure of

sterility, but when transplanted into America, his operation, in the hands of Dr. Marion Sims, became one for the cure of most diseases of women. It is difficult for us simple-minded Englishmen, to withstand American advocacy of surgical operations. They speak with the prestige of ovario-tomy, successful after having been pooh-poohed for a quarter of a century, by all the great surgeons of Europe. They dazzle us by prodigious statistics, of which cases given in detail are few, while failures find no place; so when Dr. Marion Sims told us, that in a short time, in one hospital, he had cured 500 women, of all sorts of uterine diseases, by slitting the cervix, up to its union with the body of the womb, the more experienced amongst us were very much astonished, while the younger men rushed off to the instrument makers, and followed the new light, at the slower pace suitable to our placid nature. They soon found however that the operation did not fulfil Dr. Marion Sims's promises, that it was some-times attended by very serious accidents, and then they heard, that Dr. Sims's most promising pupil, was busy sewing up the wombs he had helped his teacher to divide. Sometime ago we heard again from America, that Dr. Emmet had discovered a new operation for the speedy cure of the ordinary run of uterine cases. This new operation was again supported by hundreds of cases, not only of his own, but also of his pupils: cases without definite particulars; and without mention of failures, dangers, or of deaths. As some of our American friends express surprise that we have not adopted this new operation with the same enthusiasm as we did Dr. Marion Sims's, it is worth while considering what we are now asked to do.

I gave it to be understood, that until Simpson made his mark, somewhat too large a part was given to inflammation for the explanation of uterine pathology. Since then, the tendency has been to undervalue the importance of this most impor-tant element of general pathology and of daily practice. Dr. Emmet, for instance, does not take the trouble to discuss what relates to inflammation in his voluminous work, he simply asserts that the womb cannot be acutely inflamed, except after

parturition; in his large practice, he seems never to have met with cases of acute internal metritis, than which, I have never seen disease so sharply accentuated or less amenable to treatment. As for chronic inflammation of either the substance, or of the lining membrane of the womb, he says it is a sheer impossibility. Thanks are due to any man, who will frankly say what he thinks on any important matter; but, when writing 855 pages on diseases of women, to dismiss in two pages, the relations of inflammation to diseases of the womb, is neither scientific, nor scarcely respectful to what has so long stood as the keystone of uterine pathology; but let us see what Dr. Emmet puts in its place.

Subacute or chronic inflammation of the cervix, which so often shows itself by uterine ulceration, is for him a myth, a delusion, and nothing but the everted rim of a more or less lacerated cervix. He considers the womb to be so little up to its work, as to be always lacerated by parturition, and that what has been hitherto known as ulceration, is nothing but uterine ectropion. This theory, however, cannot possibly explain the same kind of uterine ulceration, often met with in married women who are sterile, and sometimes in single women, so I may ask to be credited when I affirm, that endocervicitis and ulceration are often met with in women who have borne children, without being caused by laceration. Dr. Emmet asks us to treat these comparatively mild cases by extensive division of the neck of the womb, sufficient paring away of tissue, and by the resewing of the divided cervix. But this is not all, while admitting that Nature often heals whatever laceration may have occurred, he maintains that it does so after a bungling fashion, by means of a very untrustworthy kind of cicatricial tissue, which is to be cut away, says the Master, "if the cervix be large or causes neuralgia;" to be cut away, wherever found, and under all circumstances, say the pupils, for fear of future mischief. So now, in America, the womb is to have no peace; if its mouth be surrounded by a rim of ulceration, a delicate and serious operation is to be performed, and however sound the tissues may be, the same operation is

recommended, should it be possible to detect any trace of a long-healed laceration. Of the many patients attended by me, during the last thirty years, I cannot remember a bad case of cacoplastic cervix, with endo-cervicitis, that I have not been able to cure, by preliminary intra-cervical incisions, deep enough to drain long-congested tissues, followed by the application of potassa fusa cum calce, and the subsequent dressing with tincture of iodine, so I do not see why the risk of a much more dangerous operation should be run, even in bad cases, except in a limited number that I have no time to specify. We are not, however, allowed to reserve trakéloraphy for long-standing cases of cacoplastic cervix with endo-cervicitis, we are actually asked to adopt this operation, as the best means of curing the comparatively mild cases of endo-cervicitis and ulceration, when the cervix seems otherwise healthy and not much larger than usual. These cases can be cured in two or three months by such applications, as the acid nitrate of mercury, or nitrate of silver, coupled with proper medical treatment, and it would be preposterous indeed to treat them by trakéloraphy; to do so, would be to justify the French, who call the operation "*une débauche chirurgicale.*" Trakéloraphy was not favourably received, when it was lately discussed at the Obstetrical Society of London, but it is a valuable operation for well selected cases. At all events the question is now before the profession, and the ever-increasing number of highly intelligent general practitioners, who become our judges on ceasing to be our pupils, know well how to discount the hobbies of Metropolitan authorities, and the decision may be safely left to them.

I have seized this opportunity of entering another protest against the too frequent use of the knife, in the treatment of uterine affections, but it must not be supposed, that I consider what precedes to be necessary, for the safeguarding of the interesting objects of my solicitude in the present work. No, they have fortunately reached that most enviable time of life, when the womb is well-nigh safe from the onslaught of American surgery and the more vexatious

permanent irritation of pessaries that do not fulfil their object. The comparatively peaceful tenor of pathology at the change of life, has reacted favourably on the author. He knows, that he will no longer be called upon to oppose the crotchets of esteemed fellow-labourers, and that in a perfect spirit of peace, he may set himself to describe the closing scenes of the life of woman.

It may be well to remind the reader, of the several milestones on the road that leads from the cradle to the grave, seven, fourteen, and twenty-one are clearly written on the first part of it; forty-two, forty-nine, and sixty-three, though less deeply cut, are distinctly visible, on those that mark the last part of the journey. These dates point to periods of the human life characterized by very important changes, many of which give a peculiar aspect to the physiology of the human being, and impart a family likeness to the diseases of epochs justly deemed critical. No division of labour is so praiseworthy as the study of these great periods of human life; and if many of those who fritter away their meritorious energy in writing monographs, would devote it to thoroughly investigating the physiology and diseases of the great periods on which Nature has put a special stamp, they would very much assist the young medical men who have to begin practice with a serviceable knowledge of such definite diseases, as are gathered into hospitals and can be read of in books. They soon find, however, that such diseases are comparatively rare, and that their time is taken up in attending to a host of odd ailments they have never heard of, and of slight but complicated infirmities of various organs that find no place in medical literature.

The results of the last census have not been published, but according to that taken in 1861, 1,177,535 of our fellow-countrywomen of the age of forty-five and under fifty-five, were alive in Great Britain and Ireland, so I can scarcely exaggerate the importance of a work which tells their history, records the probabilities and the inevitabilities of their future, while investigating the many diseases by which it may be

chequered. This volume professes to do so, and it was originally founded on the tabulated estimates of the symptoms and of the diseases of five hundred women who were at the change of life, or who had passed the ménopause. In this new edition I have kept to the original plan, giving a paramount importance to physiology, without which, the diseases of any critical period cannot be understood. Although I have retained the statistical information on which the work was based, I have drawn largely on my experience among the upper classes of society during the last twenty-five years, so as to rectify any pathological one-sidedness that would arise from the statistics having been principally derived from hospital practice: and as my work, was the only one on the subject in the English language, it has led to my having been consulted by a very considerable number of women suffering from diseases of the change of life.

In carefully studying the nervous affections of women, at their critical periods of life, it became long ago clear to me, that there were important nervous diseases, not to be referred either to the brain or to the spinal cord, and that must therefore be ascribed to the ganglionic division of the nervous system. Treading cautiously on debatable ground, in successive editions, I tried to improve on what I had already done, so as to raise the pathology of the ganglionic system, out of the slough of wild and silly hypothesis in which it has so long slumbered. When we consider the vast improvement made in the last half-century, in the pathology of the brain and of the spinal cord, it is surprising, that so little has been done for ganglionic pathology, although Marshall Hall said of it "that it was another vast field of inquiry, sure to reward by great discoveries, those who would work at it in a proper way." I hoped, that Claude Bernard, by his masterful experiment on the cervical sympathetic, had given the key for the right understanding of ganglionic pathology, and that some one, like Marshall Hall, practitioner and experimentalist, at the same time, would have well used that key to open up its secrets, but twenty-five years have elapsed since that experiment was made

known, and to the best of my limited knowledge, no one has yet done so.

Mine is only a clinical history of ganglionic diseases, carefully studied in their rise, progress, and subsidence, at the successive critical periods of the life of woman. Having established beyond dispute, that the sexual organs, or rather the ovary, produces certain well-defined ganglionic diseases, and that some of these determine cerebro-spinal affections, I have sought to show that in all probability the same affections may be sometimes determined by other viscera. I have also attempted to prove that the central epigastric ganglia, the "cerebrum abdominale," of former writers, has definite functions and important diseases. It will be for labourers in the same field to say how far I have succeeded in the attempt.

E. J. T.

27, Seymour Street, Portman Square,
May 1, 1882.

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CHAPTER I.

INTRODUCTION.

The terms "Climacteria" in Latin, "Climacteric disease," "Change of life," "Critical time," "Turn of life," in English, "Temps critique," "Age de retour," "Ménopause," in French, and "Aufhören der Weiblichen Reinigung," in German, are understood to mean a certain period of time, beginning with those irregularities which precede the last appearance of the menstrual flow, and ending with the re-settlement of health.

Variable as is the duration of this time in different women, it receives a certain degree of precision from the date of the last menstrual flow, which divides the change of life into two periods. When in the course of this work I speak of *cessation*, I always mean the cessation of the menstrual flow. There is no medical term to designate the time included between the first indications of the failure of ovarian energy, and cessation, women call it "the dodging time," but in the course of this work, I shall often use the words "the change" to indicate the *pre-cessation* part of the change of life, in contradistinction to the *post-cessation* period, which begins at cessation, and concludes with the permanent restoration of health.

Although the importance of this epoch has been denied by Tissot, Dewees, Meissner, Saucerotte, and Landouzy, their opinion is not held by the profession, as is evident from the writings of Fothergill, Sir C. M. Clarke, Dr. Meigs, and Dr. G. Bedford. The last author has truly stated, that "in addition to structural and malignant disorders so frequent at

this period, there are many forms of eccentric nervous disturbance, various forms of temporary or permanent paralysis, and varieties of simple nervous irritation, involving no peculiar lesion, but numerous beyond calculation." Lisfranc completely adopted the popular belief in the dangers of the change of life; and Moreau de la Sarthe says, that "the change of life is characterized by headaches, syncope, leipothymia, general or partial spasmodic affections, hypochondriasis, various symptoms of hysteria, and of insanity." Brierre de Boismont and Dr. Dusourd have recognized the vast influence of the change of life on the health of women, and I shall have frequent occasion to refer to their valuable works. I cannot equally commend the only two works expressly written on this subject, with which I am acquainted, —one by Gardanne, in 1816, entitled *Avis aux Femmes entrant dans l'Age critique*, and the other, a treatise by Dr. Menville, published in 1840, and called *Du Temps critique chez les Femmes*. These two works have little scientific merit, but their hazardous assertions have suggested inquiries which would not otherwise have been undertaken, and they have afforded me some valuable cases.

Some admit, with Voisin, the frequency and singularity of nervous affections at the change of life, but deny that they are caused by the monthly retention of a few ounces of blood; whereas it is only contended, that the cessation of the menstrual flow and the attendant or subsequent occurrences, physiological or morbid, are induced by structural changes progressing in the ovaries, and by their various reactions on the system. Another objection is founded on an erroneous interpretation of statistics. Benoiston de Chateauneuf and Odier de Genève have shown, that if a large number of women, between the ages of forty and fifty, be compared with a similar number of men at the same periods of life, the rate of mortality will be greater among the males than the females. Those who argue from these results, might as well say, that parturition has no influence on the health of women, because it has little on their mortality; and, moreover, Fin-

layson has shown that, at all periods of life, more men die than women. Those who deny that the change of life is a critical period, argue as if *critical* meant *fatal*. In medical language, crisis means a gradual change leading to some *decisive* action for better or worse, to recovery more frequently than to death. Instead of flowing on in smooth tranquillity from the cradle to the grave, the stream of life is marked by rapids, which have been called critical, metamorphic, or developmental epochs, and during which an unusual predominance is acquired by one or by several of the organs which together form the human body. The object of each successive critical readjustment of our frame is, to ensure the greatest possible amount of health for each subsequent period of life. This object is quietly effected in the vast majority of cases, but sometimes the constitution only rallies after having been severely shaken for a certain period, varying according to constitution and temperament. In many, the critical changes of dentition and puberty are brought about without ill-health, but in some, these epochs are marked by a prolonged condition resembling convalescence, or by serious disease. At all critical epochs, the activity of some important apparatus may be too powerful, and disturb the functions of its allied organs, as the reproductive organs do the nervous system to produce hysteria, or it may be too feeble to re-act with sufficient energy on the system, and there will ensue chlorosis. Whether the energy of the preponderance-seeking organ be above or below par, health may be impaired, for the system may not re-act well against stimuli, whether physical or emotional. With regard to the pathogenic influence of the critical periods of life, first and second dentition seem to influence both sexes in the same way. Puberty is common to both, but the impulse then given to the constitution of man by the sexual apparatus is, in general, fully effective and all-sufficient to ensure its permanent activity until extreme old age; whereas in woman, this crisis is very liable to be delayed or perverted, and even when puberty has been effectually established, the health of woman is dependent on

those oscillations of vital power which render menstruation healthy or morbid. Matrimony, pregnancy, parturition, lactation, are like critical periods, curing some complaints, giving greater activity to others; and when, after having lasted thirty-two years, the action of the reproductive organs is being withdrawn from the system, there arise a series of beautifully adjusted critical movements, the object of which is to endow a healthy woman with a greater degree of strength than she had previously enjoyed; but if the seeds of destruction have been slumbering for years within her, the change of life will give them increased activity. Thus Dionis of old, and Madame Boivin, Dupuytren, Tanchou in our time, have shown, that the greatest proportion of cancerous affections and polypi of the womb are complained of at that period, and, according to Velpeau, it is the same with cancer of the breast, as well as with adenoid, and neuromatic tumours of the breast. If the term critical be taken in a more restricted sense, as indicating a period in which the system finds relief by critical discharges, what time of life is so rife with critical phenomena? The floodings, leucorrhœa, diarrhœa, and perspirations are eminently critical.

This volume will forcibly show the evil effects of the change of life; its sanative influence cannot be so easily depicted, as patients consult the profession for actual disease, not to tell of diseases previously cured. With respect, however, to women who had been suffering for many years from intractable chronic affections, that had baffled our best efforts to bring about recovery, the results of cessation are often very unsatisfactory. "You will be all right after the change," is the well-known answer a woman of forty gets, when complaining of any chronic ailment, particularly pelvic. This haphazard prediction fails as often as it comes true. The very unusual state of congestion to which the womb is liable during the largest half of the time allotted to sexual involution renders women liable to inflammatory affections of the uterine mucous membrane, even when their sexual organs have been previously sound. When, on the contrary, more

or less diseased sexual organs have to be involuted, the dodging time is generally marked by a stationary, if not by an aggravative pathology. The change is, however, less a cause of disease, than a detective of disease, that has been insidiously progressing for a considerable time. The congestion caused by the suspension of the menstrual flow sometimes makes inflammatory affections more acute, and often gives an impetus to simple hypertrophy, and to caco-plastic formations. Even after cessation, periodical pelvic congestion does not immediately abate, and organic diseases are often rather made worse than better. As the ovaries become more and more involuted, there is less and less tendency to pelvic congestion, then inflammatory affections of the uterine mucous membranes disappear, the womb diminishes in size, and even large fibroids may become harder, smaller, or even calcified.

I have notes of some forty patients, who for many years before the ménopause were confined to their bed or sofa by chronic uterine inflammation, and who made marvellous recoveries very soon after the change was effected, so as to take once more an active part in those pleasures and duties of society, from which they had been divorced for ten or fifteen years. Out of many similar cases, in which recovery was neither rapid nor perfect, I cannot call to my recollection a single instance in which some improvement was not obtained. Twenty-six women who had ceased to menstruate, were no longer troubled by habitual leucorrhœa, and doubtless many have suffered for years, from unrecognized uterine affections, which are at last completely cured by the change of life. Prolapsus of the womb was cured in three cases; thirty-five women ceased to suffer from uterine deviations, though they still existed. In four cases, varicose veins had gone down; in twenty-four, piles had disappeared, and in eight other cases they had ceased to bleed. Fifty-three women spoke of the great additional strength obtained, and of the abatement of their liability to dyspepsia. Ganglionic affections then often lose their gravity and become less frequent,

and the same remark applies to almost all cerebro-spinal affections, even to insanity, for Esquirol has seen many women remain maniacal so long as menstruation lasted, who immediately and spontaneously recovered after the ménopause.

Reporting on the female lunatics at Colney Hatch, Dr. Davey says :—"There are many females between the ages of forty and fifty, whose recoveries may be expected when the uterus shall have become quiescent, and when the brain shall have lost a fertile source of irritation and disease. Unfortunately it happens that the poor classes are much too unmindful of the health of women at the critical period of life, and pay too little attention to the means whereby the uterus may be assisted in its efforts to preserve its due influence on the human economy; and therefore insanity is of so frequent an occurrence among women." I dwelt on this subject in my work on "Female Hygiene," contending that in many of the worst cases, there was a prospect of the mental faculties being restored at the change of life; and, quoting my suggestion, Sir W. C. Hood has admirably pleaded the cause of many most unfortunate women, confined for life at Broadmoor for infanticide, or other murders, committed during a temporary attack of puerperal mania, rightly observing, that* though there may be danger in restoring them to society while impregnation is possible, and therefore another attack of puerperal mania, there can be none in releasing them sometime after the change of life. The late Dr. Ferrus, Inspector-General of French Prisons, entertaining the same opinion, tried the plan, and women have been restored to society, for ten or twelve years, without a relapse having occurred.

The following case related by Négrier, exemplifies the intimate connexion between marked ovarian action and insanity, as well as the beneficial influence of cessation :—

Case 1.—Madame X. was tall and lymphatic, and had been badly brought up. Menstruation first came at twelve, was very painful and irregular, accompanied by epigastric oppres-

* "Criminal Lunacy." by W. C. Hood, M.D. Messrs. Churchill.

sion, palpitation, convulsions, hypochondriasis, and suicidal mania. During the year that followed marriage, at thirty-eight, the attacks were less severe, but they became more so, on the menstrual flow becoming scanty, and she never conceived. Some days before the menstrual period, Madame X. became melancholy and secluded herself; there were lumbar and lower-limb pains, radiating from the right iliac fossa. She had made twenty different attempts at suicide, and when detected, was ashamed of herself and promised not to do it again. The fits would last five or six days, being most severe on alternate months. During the dodging time, the fits were less severe, always coinciding with the menstrual flow; they failed to come in winter, and ceased altogether when menstruation left off at fifty-four.

The critical nature of a period is shown by its effects on the health in ensuing years, thus puberty is not only the crisis of most of the complaints of the preceding epochs, but it determines the health of the subsequent period for good or evil; in like manner, the change of life not only terminates critically many complaints of the preceding years, but it governs the state of health during the whole subsequent period of life, so much so, that from the manner in which this crisis is accomplished, I believe it possible to predict whether, in after life, health will be good or bad. Fifty-three women, in whom there had been no menstrual flow for five years, and whose health had been habitually bad, spoke of their great additional strength of constitution, and this result may be taken as a rule which harmonizes with the popular belief. It is shown by the greater longevity of women, by their being less liable to sudden death, and by their general immunity from disease, for the little said about women, in works on diseases of old age, is a strong proof of the good health with which they are generally blest during the last stage of existence.

In treatises on diseases of women, the critical time and its infirmities are generally dismissed with half a page, and in none of our classical works have I found diseases of the

change of life brought within the range of the laws of general pathology and general principles of treatment; not even in the works of those who think it wrong for a medical man to make diseases of women the sole study of his life. Large experience has taught me, that the deficiencies of medical literature are reproduced in the practice of our most eminent practitioners. I do not pretend that nothing is done to relieve the sufferings of women at the change of life, but not enough, and that a placebo is given, where systematic treatment is required.

It used to be the same in America, for Dr. Meigs says: "too little regard is paid to the dangers of the crisis; and when the threatening consequences of mismanagement or misapprehension have become startling, those fatal mutations are attributed to some trivial cause, and the victim passes away to the sound of the passing bell, and no increase of knowledge, acquired by such a mournful experience, stands in the way of the next victim to a management as unwise as it is thoughtless. The complaints which women often make at the change of life are frequently hushed with the unsatisfactory reply, that such complaints are owing to the change of life, and are likely to cease whenever the change shall become complete. A physician has no right, by his opinion, to put to sleep the anxieties of his patient, and to save himself the trouble of thinking by so unphilosophical a mode of proceeding. Whenever, therefore, a female, at this period, which is universally admitted to be a critical and dangerous time for her, comes to complain of symptoms referable to some morbid condition of the reproductive tissues, it is clearly our duty to give a considerate attention to her case, and not to dismiss her, until our judgment should be fully satisfied as to the therapeutical or hygienical indications of the case."

So much for pathology; and with regard to the physiological results of this great change in comparatively healthy women, I will say, with M. Flourens, that "from forty to fifty-five is a period of *invigoration* for both sexes, a period

in which the daily work of nutrition proceeding in all our tissues renders them healthier, and thereby ensures a more perfect performance of all the functions. This change is insensibly worked out in man, but in woman the passage is often perilous, and the result is more marked. The great improvement in the general health subsequent to the change of life is a notorious fact." Although the phenomena of the change of life are principally due to ovarian involution, it is helped by structural changes, proceeding alike in both sexes, and due to coming age. For instance, Sir W. Jenner has reminded us, that about fifty, the spleen grows smaller, the lymphatic glands waste, and Peyer's patches smooth down and lose their peculiar structure."

Dr. Day, in his work on "Diseases of Old Age," has not failed to note the true character of the changes taking place at cessation, for he shows how the climacteric *decay*, which often occurs in men at sixty-two, is less frequently observed in women, not only because women lead a less tumultuous life, but because their constitution has been so remodelled by the change of life, that causes of decay have less hold over them. The immense importance of this change on the subsequent lifetime of women cannot be too highly rated, for as it is well got over, or full of suffering, so will the subsequent lifetime be healthy or otherwise. It is a *final* settlement, for if it does not give activity to fatal pathological seeds, previously sown in the system, the rest of life is generally passed in uninterrupted health, longevity being attained more frequently by women than by men. This invigoration of health is sometimes accompanied by a very great improvement of personal appearance, when the emaciated put on a fair amount of fat; which "suave incrementum" is both comely and conducive to health. Others do not recover health, without some sacrifice of feminine grace, their appearance becoming more masculine, the bones projecting more than usual, while the skin is less unctuous, and tweezers are required to remove stray hairs from the face.

The effects of the disturbance of ovarian action on the *mental* faculties towards the first part of the change of life have been already alluded to. There is almost always, while the change is proceeding, a partial paralysis of that force which controls ganglionic and of cerebral power, causing endless varieties of nervous irritability, and an amount of confusion and bewilderment, which for a time may deprive women of the mental endowments to which they had acquired a good title by forty years' enjoyment; but I shall have to treat of this in the chapter on hygiene.

I am of those who maintain physiology and pathology to be interdependent, and their rate of progress to be invariably coincident; so I attribute the little knowledge medical men have, of diseases of the change of life, to the neglect in which physiologists have left many questions relating to this epoch, and I believe that a better understanding of its pathology is not to be attained without a careful investigation of its physiology, which I shall attempt in the next chapter.

PART I.

PHYSIOLOGY

OF

THE CHANGE OF LIFE.

CHAPTER II.

PHYSIOLOGY OF THE CHANGE OF LIFE.

Puberty and the change of life are caused by anatomical changes in the same organs, the one by ovarian *evolution*, the other by ovarian *involution*. At puberty the ovaries increase in size, become more vascular, and let fall ovula and cause menstruation. Little is known of the anatomical condition of the ovaries *during* the dodging time, and those in hospital practice would do well to ascertain what particular appearance they present in women dying at that epoch. After cessation, from smooth and turgid, the ovary becomes shrivelled up, so as to resemble a peach-stone, and it becomes more and more difficult to trace the cavities of the Graafian vesicles, for their hypertrophied walls are pressed together. Later in life it is more and more atrophied; having been found not larger than a horse-bean, and the place of the ovary is sometimes only indicated by a small mass of fibro-cellular tissue. This ovarian atrophy determines corresponding changes in the Fallopian tubes, which contract and are sometimes obliterated; it also causes the womb to become atrophied, and its neck thinner and shorter. Virchow has noted the closing of the internal os uteri in old age, and I have found an obliteration of the os uteri in nine women, whom I had occasion to examine, from ten to fifteen years after cessation. It is well known that the vagina often becomes narrower and shorter, and there is a shrivelling up of the pampiniform plexus, which previously supplied the organs of generation with a large amount of blood. The mammary glands are likewise atrophied after cessation,

whereas during the change of life they are often congested and painful, if not otherwise diseased.

It will ever be a matter of surprise how so many phenomena of health and symptoms of disease can be determined by two little oval bodies, whose structure does not appear to be complicated, but the fact is unquestionable. They may be energized by that nervous centre of sexual power that Golz and Frensberg have located in the spinal cord, opposite the fourth lumbar vertebra; but as there is no perfect exercise of sexual power without well-formed ovaries, it is well worth attempting to explain the varied manner in which these organs influence the system in health and disease. The ovaries influence the various parts of the body through the medium of their nerves, for as they have both ganglionic and cerebro-spinal nerves, they can re-act on both the ganglionic nerves and their centre, and on the cerebro-spinal nerves and their central organs. Whether the ganglionic be considered an independent system of nerves or an offshoot of the cerebro-spinal nervous system, all agree that vaso-motor nerves follow every capillary to their minutest ramifications, and govern the nutrition of all and every part of our frame. It is known that all important organs of nutritive life are supplied with ganglia and a plexus of ganglionic nerves, that they all communicate together, and with a larger plexus and more voluminous ganglia, situated in the epigastric region; and before these foci of nervous matter had been noticed, Galen had called the epigastric region, the lever of the forces by which the animal economy is moved. Without entering into details, which will be found in a subsequent chapter, I shall merely state, that while sensation and motion are intimately dependent on the cerebro-spinal system, nutrition is dependent on the ganglionic, and that there is a conservation of ganglionic nervous power in the central ganglia, which give and receive from each viscus a variable impetus. Many pathological facts, to be hereafter set in order, are not to be accounted for without taking it for granted, that the solar ganglia form an important centre of nerve force, capable of

controlling and of disturbing the various parts of the body, as by some subtle invisible fluid analogous to electricity, of which I shall speak as nervous fluid. Reasoning then from the facts to which I have alluded, it seems that the human frame is so constructed, that its various component organs can re-act upon each other in the way most conducive to health, until the age of puberty. At that time health often fails, and the whole system languishes, unless the reproductive organs come into full activity. From puberty until the change of life, the health of women cannot be maintained without an appropriate amount of ovarian influence. If this ovarian aura re-acts healthily, it augments the power of the epigastric nervous centre, causes the functions of nutrition to be performed with increased energy, and gives an instinctive consciousness of strength. If, on the contrary, this ovarian aura be inefficient, the epigastric centre of ganglionic action is half paralysed, and uneasy sensations will be felt at the pit of the stomach, feelings of sinking and faintness, actual fainting being sometimes induced. There is sometimes pain, oftener anomalous sensations; and frequently a state of defective nutrition or chlorosis, a disease doubtless generally met with at puberty, but also of occasional occurrence during pregnancy and lactation, and at the change of life. If the ovarian stimulus be insufficient, this will retard the first appearance of menstruation, cause the flow to come irregularly, or for a time suspend its recurrence. If the ovarian stimulus be too strong or defective, it re-acts with morbid energy on the other abdominal viscera, similarly endowed, each with its special ganglionic plexus and ganglia. It is not surprising that organs similarly endowed should sympathize, that whether at each menstrual period, at puberty, or at the change of life, undue ovarian influence should give rise to more or less nausea and sickness, or to a perverted appetite; that it should cause the intestinal canal to secrete more gas or mucus than usual, thus determining diarrhœa; that it should force the lower part of the bowel to perspire blood; and that it should increase the

amount of water passed by the kidneys, and the sediments contained in the urine, or render more abundant the amount of saline water perspired by the skin. If, at each menstrual epoch, or at the beginning or cessation of the reproductive functions, the ovarian stimulus be too abundant or too energetic for the allied abdominal organs, then may also arise painful or strange sensations in the ovarian regions. Some amount of pain is perfectly consistent with the healthy performance of the menstrual crisis, with its inauguration at puberty, and with its demise at the change of life, for when the ovarian influence is defective, as in chlorosis, there is often no pain. The too abundant or too powerful ovarian action, after anomalous sensations in the ovarian regions, causes pain, oppression, or distressing sensations in the epigastric region, and globus hystericus; but its area of action is not confined to ganglionic nerves, or to nerves intimately blended with them, for through the medium of spinal nerves the ovarian stimulus acts on the spinal cord, and so develops energy, that, whether at the monthly ovarian crisis, at puberty, or at the change of life, there arises frequently a tetanoid condition of the system, a state of nervous irritability, shown by an impossibility of repose, by a continued state of restlessness, by the fidgets, by what a French writer has called "impatiences organiques," or by hysterical convulsions. Or there may be numbness of some part of the skin, local anæsthesia, local paralysis, called hysterical in young women, and occasionally paraplegia or hemiplegia. The strength of the ovarian nisus, or the relative weakness of the nervous system, may be inferred, from the fact of death having occurred in the midst of hysterical convulsions, without any lesion being detected in the cerebro-spinal system. The ovarian influence having reached the ganglionic centre, it affects the brain by the pneumogastric nerves, so that at each menstrual epoch, at puberty, or at the change of life, the undue influence may be shown, in some by distressing headaches, continued fretfulness, peevishness, and capriciousness, called temper, by a temporary perversion of moral

feeling, or by moral insanity. In others, excessive ovarian action is manifested by motiveless high spirits or depression, by delirium, then called hysterical, and very frequently there is more or less of what I have termed pseudo-narcotism, in which case the cloud is no longer on the moral instincts, but weighs on the mental faculties, which are for a time, in a state of misty haziness, the brain feels muddled, memory is faithless, there is an unconquerable desire to sleep during the day, even when the night has been good. This state of the nervous system amounting in some cases to coma and lethargy. Having thus briefly sketched the varied phenomena which attend on the successive stages of the reproductive function, I am able to open the investigation of its terminal crisis.

Sexual involution has an ill-defined beginning and end, and only one fixed date, that of cessation. In the following table I have placed side by side, the results obtained in Paris by B. de Boismont, and in London by Dr. Guy and myself. It will be seen, that although the date of cessation varies from the twenty-first to the sixty-first year, yet it may generally be expected from forty to fifty. Thus, out of B. de Boismont's 181 cases, in 114, cessation took place between forty and fifty inclusively; in 330 of my 500 cases, cessation occurred during the same decennial period: and out of Professor Hannover's 312 cases of cessation in Denmark, 250 occurred during the same period of time.

Table I.

Dates of the Cessation *of Menstruation.*

Age at Cessation.	Paris. B. de Boismont's cases.	London. Dr. Guy's cases.	London. Dr. Tilt's cases.	Total cases.
21st year	2	...	...	2
24 ,,	1	...	...	1
25 ,,				
26 ,,	1	...	...	1
27 ,,	1	1	1	3
28 ,,	1	1	...	2
29 ,,	1	...	...	1
30 ,,	...	1	10	11
31 ,,	3	...	1	4
32 ,,	2	...	4	6
33 ,,	...	2	1	3
34 ,,	4	1	2	7
35 ,,	6	3	6	15
36 ,,	7	1	2	10
37 ,,	4	5	7	16
38 ,,	7	5	6	18
39 ,,	1	7	10	18
40 ,,	18	33	42	93
41 ,,	10	24	17	51
42 ,,	7	24	26	57
43 ,,	4	23	24	51
44 ,,	13	24	23	60
45 ,,	13	45	49	107
46 ,,	9	34	31	74
47 ,,	13	25	42	80
48 ,,	8	38	37	83
49 ,,	7	25	32	64
50 ,,	12	37	49	98
51 ,,	4	14	27	45
52 ,,	8	13	16	37
53 ,,	2	8	9	19
54 ,,	5	2	7	14
55 ,,	2	1	6	9
56 ,,	2	2	4	8
57 ,,	2	1	2	5
58 ,,	...	...	4	4
59 ,,	...	...	1	1
60 ,,	1	...	1	2
61 ,,	...	...	2	2
Total.	181	400	501	1082
Average date of Menstruation.				
Years.	44·0	45·8	46·1	45·7

In the first place, it will be noticed, that the average date of cessation is higher in proportion to the amount of cases, that the average of the 1,082 cases is forty-five years nine months, and that more women cease to menstruate in the fiftieth year than in any other, which is confirmed by Mayer's experience at Berlin, and by that of Lieven, at St. Petersburgh. Moreover, this table does not give the date of normal cessation, for in it were included, along with healthy women, those who suffered from ovario-uterine diseases. During the last ten years I have become more and more aware of the fact, that when cessation is retarded to the fiftieth year, and still later, it may be generally explained by the co-existence of uterine disease. I therefore conclude that there was a considerable amount of uterine disease among the women who were stated to have ceased to menstruate at fifty and much later in the preceding table, that is in 120 women out of 1,082. It will be seen, that in twenty-seven out of these women, sudden cessation, before the fortieth year, was accounted for by sudden shock to the sexual system, by cold or fright or a fall during a menstrual period. Carefully weighing what I have learnt on the subject, I conclude that the average *normal* date of cessation in England is more likely to be under forty-five than forty-five years and nine months, as made out in the table here given. It is evidently desirable to have a correct knowledge of the average *normal* date of cessation, for it will enable us to be on the look-out for any uterine affection, that may prevent involution, whereas the date of cessation in *morbid* involution is likewise important, marking a turning-point in the progress of a case. That date stands at the end of a more or less troublesome pathological period, and points to the gradual mending of many sexual diseases. Doubtless, the date of cessation, in any given case, can only be certified after the event, but the probability of its having occurred enables a practitioner to promise a more favourable future.

What little is known of the comparative date of cessation is shown by the following table:—

TABLE II.

Comparative dates of Cessation in different Countries.

Countries.	France.		England.		Central Germany.	Denmark.	Norway.	Lapland.	Russia.
	Paris.	Rouen.	London.	Manchester.					
Number of Cases.	178	190	500	1586	824	312	391	34	100
Average Date of Cessation.	44·0	48·7	46·1	47·5	47·0	44·8	48·9	49·4	45·9
Observers.	Brierre de Boismont.	Leudet.	Tilt.	Whitehead.	Mayer.	Hannover.	Faye and Vogt.	Vogt.	Lieven.
Sources of Information.	Traité de la Menstruation.	Paris Medical Congress.	This Work.	On Abortion and Sterility.	Paris Medical Congress.	Work on Menstruation.	Paris Medical Congress.	Paris Medical Congress.	Paris Medical Congress.

It is difficult to understand why there should be a difference of nearly five years between the dates of cessation of 312 Danish and 391 Norwegian women, but the similarity of results obtained by Professor Faye and Dr. Vogt should suggest to my friend Dr. Hannover to test the date of the ménopause in Denmark, by more extended figures. There is nothing positively known respecting the date of cessation in tropical climates. It is difficult to believe the Hindoo medical student, who, out of his own circle of acquaintance, gave Dr. Webb* a list of thirteen Hindoo women in whom cessation occurred at the following very late dates:—

Years.	Cases.	Years.	Cases.
50	1	63	1
56	2	64	1
57	1	65	1
58	1	67	1
59	1	68	1
60	1	80	1

* "Pathologica Indica," Part II. p. 279.

I could not match this list, from amidst those who consult me, nevertheless, a comparatively late date of cessation in India is rendered probable, by Hindoo legislators placing the ménopause at fifty, and in the Koran, women are only considered too old to have children, after the fifty-third year of their age.

Having thus stated what is known about the average normal date of cessation, the value of exceptional cases remain to be considered. It would be very wrong to consider as menstrual, whatever vaginal blood-flow occurs late in life. Chronic inflammation of the uterine mucous membrane of the body or of the cervix, cervical ulceration, uterine polypi, give rise to a vaginal blood-flow, which may put on an imperfect periodical appearance, as does an hæmorrhoidal flow sometimes in man. Therefore cases of very late continuance of the menstrual flow have no value, unless the medical men who report them can vouch for the absence of ovario-uterine disease in such cases. Although ovulation and menstruation do not stand in perfect relation, as cause and effect, still they generally coincide, and as the persistance of menstruation is noticed in almost all cases of very late parturition, all such cases may be taken as proving unusually late cessation. Dr. Fordyce Barker* has lately done good service, by showing, that the instances of parturition at sixty-two and later, that have passed from one book to another, are founded on hearsay, misquotation, or positive perversion of texts. It may be going too far, to say with him, that parturition is impossible after fifty-five, for there were many well-authenticated cases of protracted menstruation many years beyond that date, and I have myself known the menstrual flow to continue regularly up to the sixty-first year, in two ladies of a remarkably strong constitution.

Mr. Robertson, of Manchester, cites a case where menstruation ceased at fifty for about twelve months, after which

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* "The Age of Women when the Capacity for Child-bearing Ceases," *Philadelphia Medical Times*, 1874.

it became regular and continued so until seventy. Dr. Meyer, of Berlin, in his remarkable paper * mentions his having ascertained that out of 6,000 women, menstruation was still progressing in twenty-eight at the age of fifty, in eighteen at fifty-one, in eighteen at fifty-two, in eleven at fifty-three, in thirteen at fifty-four, in five at fifty-five, in four at fifty-six, in three at fifty-seven, in three at fifty-eight, in one at fifty-nine, in four at sixty, in four at sixty-two, and in three at the age of sixty-four, the seven last cases occurring in the upper classes. Hannover, in Denmark, has only noted the exceptional occurrence of cessation in one case at fifty, two at fifty-one, three at fifty-two, one at fifty-three, and one at fifty-four. Auber attended two women, one sixty-eight and the other eighty, who for the previous years had again menstruated. The flow came regularly, lasted three or four days, and during that time they were more nervous than usual. Meissner states, that a woman who first menstruated at twenty, bore her first child at forty-seven, and the last of seven other children at sixty. Menstruation ceased and reappeared at seventy-five, continuing until ninety-eight, then stopped for five years, again to return at the advanced age of 104. In 1812 she was still alive. Dr. E. W. Lane, Scarboro', Georgia, lately reported a case of regular menstruation extending from the fourteenth to the sixty-ninth year, and irregularly till the seventieth. At the necropsy nothing unusual was discovered in the genital organs. The patient had been under Dr. Lane's observation for twenty-five years, and its being supplemented by a necropsy adds much to its value. In the case of a lady, who only became regular, during the last years of her life, and who died at seventy-two, the autopsy was made by Dr. Brierre de Boismont and Dr. Bouvier, who describe the ovaries and all the sexual organs, as in the state in which they are found in girls of eighteen years of age, a condition given by Negrier as the rule in cases of protracted menstruation.

With regard to authentic cases of late parturition, Dr.

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* Congrès Médicale International de Paris.

Fordyce Barker has confined a lady in her fifty-second year. Dr. Marion Sims has met with two cases of parturition at fifty-two, and a negro woman was *said* to be sixty, when she was confined twenty years after her last confinement; but the age of negroes is seldom to be depended on.

"I am able," said Mr. Roberton, "to speak confidently concerning three women, who had children at advanced ages, one in her fiftieth year, another in her fifty-first, and the third in her fifty-third year. In these instances, menstruation continued up to the period of conception." Mr. Davies, my colleague at the Farringdon Dispensary, has confined a lady of her thirteenth child, at the age of fifty-three, after which there was no menstrual flow.

After careful research, Dr. Fordyce Barker has only found one case, based on the evidence of a respectable medical man, after careful investigation of documentary proof of the fact, where a woman, who had reached the age of fifty-five, has given birth to a child. The case was reported by Dr. Davies,* formerly of Hertford, and now of London.

The following tables extracted from the Registrar General's Reports show that many more women than is supposed bear children late in life, and that cessation must not be lightly assumed:—

TABLE III.

Fecundity of Women at various Ages.

Ages of Mothers when their Children were born . . .	Under 20	20—25	25—30	30—35	35—40	40—45	45—50	Above 50	Total.
Children born from 1831 to 1835 . . .	8301	70,924	121,781	126,808	98,950	49,660	7022	167	483,613

Thus, out of 483,613 women who became mothers, from under twenty to above fifty, no less than 7,022 bore children from their forty-fifth to their fiftieth year, and 167 were mothers after having passed their fiftieth year—that is to say,

* *London Medical Gazette*, Vol. xxxix.

that 7,189 women out of 483,613, or one in about sixty-seven, bore children after the time when the menstrual flow usually ceases.

The Irish fecundity table to which Dr. Routh refers in a paper on procreative power,* is equally conclusive:—

TABLE IV.

Table of the Number of Marriages, and the Issue from such Marriages, occurring in the Eleven Years ending 1841, *for Women of the Ages under* 17, 46–55, *and above* 55.

Age of Husband.	Age of Wife.	No. of Marriages.	Prop. of Children to 100 marriages.	Age of Wife.	No. of Marriages.	Prop. of Children to 100 marriages.	Age of Wife.	No. of Marriages.	Prop. to 100 Marriages.
Under 17	Under 17.	661	256	46 to 55	1	0	Above 55	1	0
17—25		9847	262		35	51		3	0
26—35		4066	252		145	51		12	0
36—45		313	248		227	39		15	20
46—55		36	205		428	22		52	10
Above 55		18	128		295	10		136	12
Total ...		14,947	257		1131	26		219	12

Thus it appears that in ten years, out of 427,977 women married in Ireland at different ages, there were no less than 1,131 married between their forty-sixth and fifty-fifth year, and 219 were married after their fifty-fifth year. Those who wish for further evidence of the fact under discussion may consult the Registrar-General's Seventeenth Report.

The following table shows similar results in a northern latitude:—

TABLE V.

Fecundity Table for Sweden and Finland.

Age.	Annual Average Number of Deliveries.	Proportion to 100 Females living.
15 to 20	3,298	2·48
20 — 25	16,507	12·56
25 — 30	26,329	21·64
30 — 35	25,618	22·82
35 — 40	18,093	18·32
40 — 45	8,518	9·54
45 — 50	1,694	2·28
50 — 55	39	·05

* *London Journal of Medicine*, 1850.

In the paper referred to, Dr. Routh has published corresponding results derived from two London institutions. At the St. Pancras General Dispensary, out of 1,527 women confined, the age of twelve varied from forty-six to fifty-seven. Two of the twelve were fifty-five and one fifty-seven. At the Westminster General Dispensary, out of 2,509 women confined, the ages of six varied from forty-nine to fifty-six. Dr. Taylor* has given the following table, drawn up by Neverman, which shows how suddenly the number of pregnancies diminishes after the forty-fifth year :—

TABLE VI.

Of 10,000 pregnant women, 436, or $43\frac{3}{5}$ per 1,000, were upwards of 40 years of age. Of these 436 women,

101 or $10\frac{1}{10}$	per 1,000	were	in their	41st year.
113 or $11\frac{3}{10}$	„	„		42nd „
70 or 7	„	„		43rd „
58 or $5\frac{4}{5}$	„	„		44th „
43 or $4\frac{3}{10}$	„	„		45th „
12 or $1\frac{1}{5}$	„	„		46th „
13 or $1\frac{3}{10}$	„	„		47th „
8 or $\frac{4}{5}$	„	„		48th „
6 or $\frac{3}{5}$	„	„		49th „
9 or $\frac{5}{5}\frac{0}{0}$	„	„		50th „
1 or $\frac{1}{10}$	„	„		52nd „
1 or $\frac{1}{10}$	„	„		53rd „
1 or $\frac{1}{10}$	„	„		54th „

Judging from many of the cases just recorded, fecundity was as remarkable as the protraction of the menstrual flow ; and if so many women bore children after forty-five, it was not because they had married late, but because their ovaries had been endowed with exceptional vitality. This view is supported by the experience of Mr. Roberton, who states "that in eleven women, three had a child, each in the forty-ninth year, and the other eight, had each a child beyond that age ; I ascertained, that the aggregate number of their children was

* "Medical Jurisprudence," p. 568.

114—*i.e.*, ten and a fraction for each woman, a fact indicating that they must have married rather early in life. Concerning the age of marriage in two out of the eleven, one married at eighteen, had two children before she was twenty-one, and brought forth her fourteenth child in her fiftieth year; the other was married from a boarding-school, at a very early age. In her fifty-third year she was delivered of her twelfth child."

Protracted menstruation is also proved by the following table :—

TABLE VII.

Ages of Women dying from Childbirth in the Year 1852 *in England and Wales.*

Ages.	Deaths from Metria.	Deaths from Childbirth.
15 and under 20	50	80
20 „ 25	210	340
25 „ 30	231	461
30 „ 35	217	486
35 „ 40	173	544
40 „ 45	78	313
45 „ 50	13	51
All Ages	972	2275

I have insisted on the frequency of pregnancy late in life, because grievous mistakes have often followed the practitioner's persuasion of its impossibility. To my knowledge, pregnancy late in life, has been mistaken in three cases for an ovarian tumour, and was treated by iodine, mercurials, and tight-bandaging, causing the death of the child, and serious damage to the mother's health. The popular belief, that parturition is more dangerous to the mother, when occurring late in life, is confirmed by Dr. Matthews Duncan, who has made out, that if a woman has a large family, she only escapes the extraordinary risk always encountered at a first confine-

ment, to encounter another extraordinary risk, at a ninth or subsequent labour, and his statement is confirmed by Dr. Hugenberger of St. Petersburg.

In concluding this inquiry, it is right to remark, that as there are no details given respecting the woman said by Dr. Routh to have been confined in her fifty-seventh year, at the St. Pancras General Dispensary, Dr. Davies' case must be accepted as fixing the date of possible parturition for women. The Court of Chancery does not even accept this dictum of science; for *In re* Widows' Trusts, Vice-Chancellor Malins made an order for payment to two ladies respectively. One of the ladies was a widow, past fifty-five, the other a spinster, aged fifty-three years and eight months. In both cases the parties were entitled absolutely, subject to the contingency of having children.* In Forty *v.* Forty, Vice-Chancellor Kindersley decided that an unmarried lady, aged fifty-three, might be presumed to be beyond the age of child-bearing. Taylor remarks, "The question may be considered definitely settled. A woman who has passed the age of fifty-three is presumed in law to be past the age of child-bearing."†

Date of Morbid Cessation.—What were the causes of morbid or long protracted cessation? It is reasonable to admit, that the ovaries may be long paralyzed by the sudden shock of grief, or by the reaction of some visceral disease, and that they may resume their proper functions, when that disease is cured, and the patient's health is better. Mr. A. Brown‡ has published the case of a woman who had not menstruated since her forty-second year, when after suffering seven months from swelling of the liver and pains in the loins, she was critically relieved in her fifty-sixth year, by the sudden appearance of menstruation, which was repeated ten times, and perfectly re-established her health. The discharge must be repeated with some kind of regularity, to be admitted

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* 40 *Law Journal Rep.*, N.S., 380.

† Taylor's "Principles and Practice of Medical Jurisprudence," London, 1873, vol. ii. p. 306.

‡ *London Medical Gazette*, vol. xxi.

as menstrual ; for fever may cause metrorrhagia, as it has done epistaxis. For instance, Gardanne gives a case, wherein an abundant menstrual flow is said to have come, for the last time, after six months' stoppage, to a woman forty-nine years of age, during a bilious fever, in which emeto-cathartics were given. This might have been merely uterine hæmorrhage, as in Bohnius' case, where the ingress of fever is stated to have brought on a return of menstruation, in a woman eighty years old. The same remark applies to a statement lately made by Mr. Wood, of the return of the menstrual flow, in a lady aged sixty-nine, in consequence of the death of a favourite son ; and at sixty, to her sister, as the result of a fright. In like manner I have three patients aged fifty-two and upwards, very much subject to heats and flushes, and in whom worry and excitement cause the womb to bleed. Cessation is oftener delayed by affections of the womb, than of any other organ, and most frequently by uterine fibrous tumours. Uterine polypi have the same effect, and in some of Dupuytren's cases of uterine polypi, the menstrual flow lasted from the forty-ninth to the fifty-sixth year; even in these cases, the sanguineous discharge should not be considered menstrual unless it occurs periodically, or with periodical paroxysms. I have sometimes found that soft hypertrophy, ulceration of the neck of the womb and other uterine diseases coincided with an unusually protracted menstrual flow, and as the earlier observers had not the means of recognizing such diseases, their cases of late cessation are invalidated, to a great extent. I repeat that there may be uterine bleeding without menstruation, and I do not consider it as menstrual in the case of a woman, who at seventy had an attack of apoplexy, and a red discharge from the vagina, although the uterus was found full of blood, and the tubes and ovaries much injected. In another case, likewise reported by Andral, a woman died at seventy-five, of hemiplegia from extravasation in the left side of the cerebellum, the womb was also full of blood, and its tissues intensely red.

With Dr. Dusourd, I consider ovarian activity to be com-

mensurate with constitutional vigour, because all those in whom I have observed the menstrual flow to be unusually prolonged, were remarkable for strength and good health. Neither should the philosopher lose sight of the connection between the unusual prolongation of ovarian life and longevity, remarkable in several of the preceding cases, and I believe that life is longest, in those women in whom puberty is retarded, as it is proved to be the longest in cold countries, where the average date of first menstruation is delayed beyond the average in temperate climates. The protraction of cessation to the fifty-fourth year, which is said by Dr. Robert Cowie to occur frequently in the Shetland Islands, corresponds with the frequent occurrence of longevity in the same islands. It is fair to assume, that when the ovarian nisus is healthily manifested, it indicates a corresponding healthy activity of the other functions of vegetative life; and when it is unusually prolonged, it implies, in all that relates to vegetative life, a corresponding power of that endurance on which depends longevity.

The Director of the Bureau of Statistics at Vienna has made some interesting researches concerning the comparative longevity of women and men in Europe. He finds that out of 102,831 individuals who have passed the age of ninety years, 60,303 are women, and only 42,528 are men. In Italy, 241 alleged centenarian women are found for 141 men of the same age.

Another means of judging whether in a temperate climate cessation will be retarded, is the circumstance of its first appearance being later than usual. In some of the cases of very prolonged menstrual flow, it first appeared as late as twenty and twenty-two. On comparing thirty-three women, who had first menstruated from eight to eleven, with thirty-seven women, in whom menstruation had been retarded from the eighteenth to the twenty-second year, I obtained the results shown in the following table :—

TABLE VIII.

Date of last Menstruation in the EARLY *Menstruated and the* LATE *Menstruated.*

Years of Age at Cessation.	Cases of early Menstruation at from 8 to 11.	Cases of late Menstruation at from 18 to 22.
30	2	1
31	1	
34	1	
35	1	
37		1
38	1	
39	2	1
40	2	3
41	1	1
42	2	1
44	2	2
45	3	3
46	1	7
47	2	2
48	1	3
49	3	3
50	4	4
51	1	2
52	1	
55	1	1
58	1	2
Total	33	37
Average Date of Cessation.		
Years	44·6	46·8

Two years and three months is a remarkable difference between the two averages, 45·7 being the average of the date of cessation in 1082 women, and Hannover confirms my finding. On the other hand, Dr. Mayer's figures confirm the assertion of Burdach and Mende, that this does not hold good in central Germany, for while out of 722 women, 13 per cent. who first menstruated from eleven to thirteen ceased to menstruate at fifty; 11 per cent. who first men-

struated from eighteen to thirty-one, ceased at forty-seven. The numbers in my table are too small to be conclusive, but they certainly tell against the contrary opinion of Raciborski, who seems to have been too strongly impressed by very exceptional cases, like that cited by Descuret, of a woman who first menstruated at two years of age, married at twenty-seven, had a numerous family, and menstruated regularly up to her fifty-third year.

I now come to the causes of early cessation, or premature ovarian paralysis. As human life is often cut short long before the time specified by the Psalmist, so the reproductive force with which the ovaries are endowed may be extinguished, long before the average date of forty-five. On careful consideration of forty-nine cases, wherein menstruation ceased suddenly, from the twenty-seventh to the thirty-ninth year inclusively, I was unable to detect anything peculiar to their constitution with the exception of eight, whose strength was below the average. None of the forty-nine had married too early or were addicted to prostitution, which have been erroneously given as causes of early cessation by Meissner. They were not subject to profuse menstruation, as asserted by Gardanne. They were not more than usually affected with disease of the reproductive organs, as stated by Meissner, neither did the diminished extent of the menstrual function indicate less reproductive power, for the average amount of children was a little more than three, for the twenty-six married women out of the forty-nine.

If women of the same family sometimes cease to menstruate at the same age, it may be a coincidence, but I have repeatedly known sisters to cease to menstruate at the same time of life. I attend two out of seven sisters; they all first menstruated, from the tenth to the thirteenth year, and in all menstruation ceased about the fortieth year. Dr. Mayer has found, on comparing women of the lower and higher classes, that menstruation came later and ceased earlier in the lower classes, while in the upper classes menstruation came sooner and ceased later.

Out of the forty-nine cases in which the menstrual flow was suppressed from the twenty-seventh to the thirty-ninth year, in twenty-seven I found sufficient cause to explain the fact, as will be seen from the following table :—

TABLE IX.

Causes of Early Cessation in 27 Women.

Nature of Cause.	No. of Women.
Parturition and lactation	3
Miscarriage	1
A fall on the sacrum, during a menstrual flow	2
Suppression of menstrual flow, from frost or intense cold	2
Bleeding from the arm, at a menstrual period .	1
Getting wet through, during a menstrual period	1
Violent purging, the result of medicine . . .	2
Cholera	2
Rheumatic fever	2
Bronchitis, with fever	2
Fright	9
Total	27

Some of these cases deserve a few words of comment. Lucy A., aged fifty-three, had never menstruated since a miscarriage at thirty-two, although her health has been better ever since, and Cohnstein has also found, that abortion hastens cessation.

W. N., now fifty, a tall, stout-looking woman, had a child at thirty-four, continued to flood for eight weeks. She suckled her child for a year, but has never menstruated since. Elizabeth A., a woman of average strength, aged forty-seven, had a child ten years ago, suckled it eighteen months, and menstruation did not return. In such cases, ovarian energy seems exhausted by parturition and lactation,

and Nature seizes the opportunity to put a sudden end to the menstrual function. Julia L., a chlorotic-looking woman, aged forty-five, had no menstrual flow, since she was thirty-three, when, during menstruation, she missed a few steps and fell on her back, and the ovaries were so paralysed by this mechanical shock that they never recovered. Emily F., a healthy-looking person, aged forty-eight, last menstruated at thirty-nine, when the menstrual flow was suddenly stopped by exposure to severe frost. She often had leucorrhœa during the two years which followed, but did not otherwise suffer. Another woman, aged thirty-four, went out shopping on the first day of menstruation, the weather being intensely cold; the flow was suddenly stopped and never returned, health remaining uninterruptedly good. In such cases cold has the same paralysing influence as a fall, and similar effects may be produced by cholera or violent purging. Dusourd relates three cases, where the menstrual flow ceased after the supervention of diarrhœa, coming about every month and lasting for a few days; and he has known the menstrual flow to cease in three women, from forty to forty-three, after an abundant hæmorrhoidal flow. Fever has so powerful an effect on the viscera principally endowed with nervous energy by the ganglionic system, that one can understand why it should be a cause of ovarian paralysis. As at puberty the menstrual flow is sometimes suddenly brought on by emotion, so fright and the sudden communication of bad news are the most frequent causes of sudden early cessation. The ovaries and womb are stunned by a nervous shock as the frog's muscles are by electric shock. Ann G., was fifty-nine, and the menstrual flow ceased at thirty-nine, being suddenly suppressed by grief for the death of her husband. The same occurred at thirty-four, to Maria B., now aged fifty. Jane O., a healthy woman, had a flooding at forty-five, while witnessing an execution, and the menstrual flow never returned. Elizabeth C., a dark-eyed, thin, sharp, and wiry old woman of seventy-one had enjoyed excellent health until her thirtieth year, and had been

nursing a child sixteen months, when her husband suddenly dropped down dead at her feet. Stunned by the blow, she let the child slip from her arms, lost her senses for a few hours, and her milk "turned to water." For a time she felt a good deal shaken, but was always able to attend to her household duties; and her health soon became as strong as usual, and continued so until lately, although the menstrual flow had not appeared since her twenty-eighth year, and although the system had not been relieved by leucorrhœa, diarrhœa, piles, or by systematic treatment. A woman had been quite regular up to the age of thirty, when she threw a dead rat on the fire, thinking it was a coal; she retched for hours; for four years there was no menstrual flow, and after that an occasional show, at irregular times. Eliza S., aged fifty-two, had been regular from eighteen to thirty-nine, when she was bled at a menstrual period for rheumatic pains in the shoulders. Immediately after being bled, she vomited for an hour, had intense perspirations, but never menstruated again.

I have seen internal metritis cause cessation at twenty-nine; but I do not agree with Scanzoni, that premature cessation is to be expected as the ordinary result of internal metritis, neither does my experience agree with that of Dr. Emmet, who thinks that early cessation is caused by Dysmenorrhœa, partly obstructive and partly inflammatory; but I have repeatedly known cessation to occur about thirty, when it had been habitually scanty, as if the system found it too great an effort to continue the flow.

On the Artificial Induction of the Change of Life.—American audacity having taught us not to be afraid of the peritoneum, it was soon proposed to bring on the change of life by castration, and the removal of the ovaries is to be sanctioned when they compromise life or reason. The operation is justifiable, when in the absence of a womb, efforts of menstruation seriously disturb the nervous system, when diseased ovaria evidently cause mania or epilepsy, and also when interstitial fibroid tumours menace life by flooding. Castration should never be performed without consultation,

and both relatives and patient should be made to understand that the effect of operation is to sterilize a woman.

Diagnosis of Cessation.—Every well-marked condition of the constitution has its peculiar physiognomy, and even at the beginning of the change of life, there is generally something in the appearance which leads to a suspicion of what is taking place. The physiognomy at such periods often indicates debility and suffering, not to be accounted for by disease; the complexion is pale or sallow, or there may be a drowsy look, or the dull, stupid astonishment of one seeking to rouse herself to answer a question. In several of my worst cerebral cases, there was the same permanent knitting of brows expressive of a mind constantly on the strain. An unusual development of hair on the chin and upper lip, coming on after forty, is often indicative of a coming change. There is also an unusual power of generating caloric, indicated by the habit of throwing off clothing and opening doors and windows even in winter, to the great annoyance of other members of the family. In other respects the appearance of women at the change of life varies according to the type they affect.

Women at the change of life present three types—1st. The Plethoric. 2nd. The Chlorotic. 3rd. The Nervous.

1st. The Plethoric type is unmistakeable, with its turgid tissues, its over-florid countenance in a state of perspiration, its helpless or half-intoxicated appearance. The pulse is often full and bounding, though it may be weak and thready in florid and stout women.

2nd. The Chlorotic type is recognisable by the sallow or semi-chlorotic skin, the weak pulse, the arterial murmurs, and various symptoms of debility. Even on the blanched face, faint flushes may bring out perspiration.

3rd. All women are unusually nervous at the change of life, but some present a well-marked nervous physiognomy. The over-anxious look, the brimful eye, the terror-struck expression, as if fearing to see some frightful objects, and the face bedewed with perspiration, are sometimes met with.

The change of life may be predicated when, after forty, there is a gradual diminution in the quantity of the menstrual flow, for this was noted in 171 out of the 637 women; the gradual prolongation of the inter-menstrual periods is another good sign, and it occurred in 99 cases. An occasional flooding at a menstrual period is a good sign, and the coincidence of sweats and flushes with any of these symptoms is strongly confirmative of the change of life.

When the menstrual flow has been for many months absent or irregular, too scanty, or too abundant, in women answering to the above description, I look upon cessation as probable, whatever may be the age, unless the absence of the menstrual flow can be satisfactorily explained by lactation, pregnancy, or uterine disease. In the absence of all other signs, the change of life is to be suspected when, for the first time, towards the forty-fifth year, the menstrual flow comes at irregular intervals. Nevertheless disease or pregnancy are so frequently taken for cessation, that it is well to show how mistakes occur.

Cessation may be confounded with I. Chlorosis. II. Inflammation of the womb. III. Uterine Polypi. IV. Uterine Fibrous tumours. V. Uterine Cancer. VI. Pregnancy. I shall briefly illustrate these assertions, by recording the mistakes which have occurred to myself or others.

I. Case 2.—Chlorosis mistaken for Cessation.—Anne W., aged thirty-three, and married, had an anæmic hue of countenance. The menstrual flow first came at thirteen; had been regular and without pain until twenty-two, when she married, and had one child at twenty-four. There had been a gradual diminution of the menstrual flow for the previous year, with intense debility, epigastric faintness, and drenching perspirations, and a loud *bruit de souffle* in the carotids. Was it a case of chlorosis in a married woman, or chlorosis occurring at cessation? I inferred the latter from the *gradual* failing of the menstrual flow, and the pertinacity of the flushes and perspirations. A camphor mixture, a belladonna plaster to the pit of the stomach, and sulphate of iron in pills, cured the patient, and when I saw her again three

years afterwards, her health was good, but there had been no return of the menstrual flow.

II. Uterine Inflammation, mistaken for the Change of Life.—The beginning of involution is announced by menstrual irregularities, or by the absence of the menstrual flow; but as these are the symptoms of uterine disease, medical men should rather think menstrual irregularities dependent on uterine disease, than on the change of life, when these common symptoms of both states occur before forty. When consulted about women, said to be "changing" before forty, I generally find the menstrual flow is merely checked by constitutional disease, or by some organic affection of the sexual organs, and that menstruation returns when the system is strengthened or the disease cured. This is why, out of 1,082 women, cessation occurred before forty, in only 115, and in 27 of these it could be accounted for by shock. It would take long to relate the cases that have come under my notice in which careful consideration of the symptoms would have led to the discovery of a surgical disease, the successful treatment of which was followed by regular menstruation for many years. I have been repeatedly consulted about flooding, respecting which the patients had been assured "that the loss depended on the change of life, and that it could not be interfered with without danger." In many of these cases, on examination, I have found various forms of uterine disease, and in some severe cases, flooding was a symptom of internal metritis. A lady, aged forty, had presented marked symptoms of uterine disease, with prolonged menorrhagia, frequently recurring for about two years, during which time she was repeatedly told by an eminent practitioner, that it all depended on the change of life, and that it must not be interfered with. If he had examined, he would have found an enlarged podgy cervix, with a ragged surface. It took long to cure this patient, and cessation did not occur till six years afterwards. I have been repeatedly consulted by women about forty-five, who had been much weakened by long-continued inter-menstrual

dribbling of blood from the womb, which had been ascribed to the change of life. In some such cases, I have found an irritable vascular ulcer, around or in the os uteri. When a married lady, aged 51, consulted me, she had profusely menstruated for the previous four years, and there had also been a constant dribbling away of blood from the womb between the menstrual periods. She was a complete invalid, and suffered much from the cerebral symptoms of the too great loss of blood. In this case there was a vascular ulcer dipping into the cervix, and one application of acid nitrate of mercury stopped the blood flow.

Uterine disease should be thought of rather than the change of life, particularly before forty, when pus is said to be mixed with the blood, that comes away between the periods, or when there is a mere dribbling of blood from the vagina, or an habitually prolonged menstrual flow. The fortnightly recurrence of the period, points to uterine disease, for out of 637 women, there were only 33, in whom the period recurred at shorter periods, than twenty-one days. The flooding of uterine disease occurs irregularly, and keeps less to menstrual periods, than the flooding of the change of life.

Case 3.—Ulceration of the Neck of the Womb, mistaken for Cessation.—Mrs. J., a delicate-looking lady, with light hair and grey eyes, was forty-seven. The menstrual flow came at seventeen, without much disturbance. She married at twenty-five, and had three children, the last seven years ago, when her health failed, and the menstrual flow became irregular as to time and quantity, being sometimes very scanty, and at others so abundant as to confine her to the bed or sofa for ten days. There were frequent bearing-down pains, often followed by leucorrhœa. For the last year, there had been no menstrual flow, but always a little leucorrhœa, which, every month, became very abundant. She was nervous, irritable, and troubled with flushes and perspirations. The change of life was thought to have occurred; but, struck with the unusual persistence of leucorrhœa, ever since her last con-

finement, I examined, and found the neck of the womb three times its usual size, the os uteri patulous, rough, and extensively ulcerated. This was treated first by the application of the solid nitrate of silver every fourth day, and then by iodine applied to the surface of the womb, which was cured in six months. Eight years afterwards, when I again saw this lady, I learnt that a few weeks after I had ceased my attendance, she was taken poorly in the usual way, and that the menstrual flow had been regular ever since.

Phœbe B. The menstrual flow gradually stopped at thirty-one, after suckling, and as it remained absent for a year, cessation was supposed to have taken place. On examination, however, I found extensive ulceration of the neck of the womb, and the menstrual flow went on as usual, on that being cured by surgical treatment. In such cases, the error of diagnosis would be prevented by a surgical examination.

III. **Case 4.—Uterine Polypus mistaken for Cessation.**—Mrs. P., a thin lady of moderate stature, with dark hair, hazel eyes, and a blanched countenance, consulted me when forty-two years of age. The menstrual flow came at seventeen, and was regular until twenty-two, when she married. She had one child, and menstruation continued regularly for several years; she then became subject to a red discharge, sometimes slight, at others very abundant. She was very weak, had palpitations on the slightest exertion, but no headaches, hysteria, flushes, or perspirations. Her medical man called the case, one of premature change of life, but had he made an examination, he would have found a polypus the size of a hen's egg, hanging from the cavity of the womb, by a pedicle about as thick as the little finger. I removed the polypus, and the menstrual flow returned, and continued regular for five years afterwards, and I have seen several similar cases, although, as a rule, uterine polypi retard cessation.

IV. **Case 5.—Fibrous Tumour of the Womb, during the Change of Life, supposed to be Pregnancy.**—Mary B., aged

forty-seven, unmarried, a tall, stout woman, of a sanguine temperament, dark hair, and a florid face. Menstruation first appeared at fifteen, and was regular, and very abundant up to the fortieth year. For the last seven years, the flow was always irregular, and had often amounted to a flooding, with intense bearing-down pains. During the same time, she had been subject to frequent flushes and sweats, and to much pseudo-narcotism. Now her eyes look heavy and bewildered, her head feels giddy and stupid, she is afraid of falling; there are considerable abdominal enlargement, vesical tenesmus, and morning sickness. On examination, I found the womb much enlarged by an interstitial fibroid, and I thought the case one of uterine fibroid at the change of life. Subsequently, the menses were suppressed for four months, and as the abdomen had increased in size, she consulted one of my colleagues, who pronounced her pregnant. The result proved that I was right, for soon after, menstruation returned, and was irregular for the following year. In this case, the age of the patient, the prolonged irregularity of the menstrual flow, the persistency of pseudo-narcotism, of the flushes and perspirations, made it probable that these symptoms were produced by the change of life. The sanguineous discharge caused by fibrous tumours and polypi, and the flooding they determine, are often confounded with the menstrual discharge and with the flooding of cessation, but this may be correct if the flooding be periodical.

V. The floodings of cancer are not unfrequently considered indications of the change of life, particularly when they occur in women about forty-five, and who present a healthy appearance, an error which can only be prevented by an examination.

VI. Pregnancy occurring late in life is often taken for cessation, the more so as, at whatever age occurring, it is not unfrequently accompanied by the flushes, perspirations, and many of the nervous symptoms which characterize cessation. Under these circumstances it is better to give a very guarded

opinion. Thus De la Motte relates, that a lady, for fear of having children, would not marry before fifty-one, and when she became pregnant, all the symptoms were considered to depend on the change of life.

Case 6.—Mrs. C., aged forty-eight, thin and nervous. Menstruation had been irregular for a year previous to marriage, six months ago, and after that she only once menstruated. There was no morning sickness, but abdominal uneasiness, distension, and throbbing; while the clothes, during that six months, had not required letting out. Dr. West saw the patient several times, doubted at first, and then denied pregnancy. When I saw her, the breasts gave no sign of pregnancy, the abdomen was enlarged by flatus; but the womb could be felt, as a solid central lump above the pubis. I thought the patient pregnant, and ordered rest and sedatives; and, in due time, she was confined of a seven months' child.

It more frequently occurs that the first symptoms of the change of life are mistaken for pregnancy. This is sometimes the effect of imagination; for some women have such a dislike to becoming old, that, if married, they would rather believe themselves with child; and they indulge this persuasion, until sometimes, like Harvey's widow, all hope vanishes in wind. The patient's belief in pregnancy may, however, be founded on more solid data. The menstrual flow stops, the abdomen gradually enlarges, and women, who have had children, are convinced they feel the moving of the child, the breasts swell and distil a milky fluid, there is sickness and extravagant desires; if a flooding takes place, the symptoms abate, but may again recur, to be again relieved by flooding, and these floodings of cessation may be looked upon as miscarriages. B. de Boismont relates three cases of this description, and Fodéré two. The following are instances that have occurred in my own practice:—

Case 7.—Cessation mistaken for Pregnancy.—Mary C., married, aged forty-five, a tall, delicate-looking woman, with blue eyes and dark hair, thinks herself pregnant, and has

been told so by several practitioners. The menstrual flow came at eleven, and was attended by little disturbance both before and after marriage, at twenty-seven. For a year the menstrual flow has been either abundant, with large clots, or very pale, and for the last six months, it has been altogether absent, the abdomen gradually enlarging, the breasts becoming swollen and sore, with leucorrhœa and globus hystericus. On examination, I found the abdomen enlarged, but without the central round tumour of a pregnant womb. The womb was small, with a virgin orifice, so I felt convinced that the patient was not pregnant, and I inferred the change of life, from the long continuance of menstrual irregularities, the continued epigastric faintness, the flushes and sweats. My usual treatment relieved the patient; for some successive months she had an abundant vaginal mucous discharge, which was not interfered with, as there was no uterine disease. When fifty, there had been no return of the menstrual flow.

Case 8.—Cessation supposed to be Pregnancy.—Sarah B., a tall, thin woman, of a sanguine temperament, says she is thirty-five. The flow first appeared at fourteen, was unattended by pain. She married at eighteen, has had five children, but has never been well since her last confinement, two years ago. Hypogastric pains were habitual, the menstrual flow irregular, had the appearance of dirty water, and had been absent seven months, when the abdomen enlarged, and she now feels a fluttering similar to what she felt when pregnant. The breasts are swollen and discharge moisture, and the nipples are surrounded by a dark circle interspersed with a few pseudo-follicles. Notwithstanding these signs of pregnancy, and the patient's assertions, I did not think her pregnant; for there was no solid umbilical tumour, no softening of the neck of the womb. The irregularities of the menstrual flow, the appearance it at last assumed, coupled with a great liability to flushes and perspirations for the last three months, were my reasons for thinking the change of life had occurred, and, several years after, I ascertained that I was right.

In the preceding cases, I believe that connexion taking place during the change of life, induced a nervous condition of the ovaries and womb, capable of determining most of the symptoms of pregnancy; and when the abdominal swelling, the nausea, the enlarged breasts persist for months, the supposition of pregnancy might be easily admitted, and the rightful heir to an estate might be defrauded without the possibility of detection, if the woman had already borne children, unless an investigation were made soon after the supposed event. Gooch has noticed another class of cases simulating pregnancy occurring at the change of life. The uterus is torpid, the intestines are flatulent, and the omentum and abdominal parietes have grown very fat, women having then, what Baillie called, "a double chin in the belly." The most notorious blunder of this description, was in the case of Joanna Southcott, who although sixty-four, was said to be pregnant by many medical men. The walls of her abdomen were coated with four inches of fat, and the omentum was one lump of fat. It is evident, that if women marry about the time of cessation, and are fat, and anxious to have children, they may have some of the subjective symptoms of pregnancy, morning sickness, painful breasts, the sensation of something moving in the abdomen, so that it is impossible to deny pregnancy, unless after examination, when the body of the womb will be found of the usual size, and the cervix hard. Two years after cessation, a married lady who had never borne a child, persuaded herself, that she was pregnant, on account of a slight increase of abdominal swelling. She would not allow an examination, but engaged a monthly nurse, and made all other arrangements. After a time an examination was made, and the womb was found unimpregnated. For many months she was very hysterical, and had long fits of crying and depression. Many remedies and doctors were tried without benefit, whereas six weeks of hydropathy restored her to good health, which has been now maintained for many years.

Spurious Pregnancy at Cessation mistaken for Pregnancy.—In some women, the fibrinous constituents of the

blood unite, and come away as an ovoid "mole" in the midst of parturient pains, or else embryonic structures turn to hydatiform disease. In both cases the womb really enlarges, and is able to cause all the sympathetic disturbance of pregnancy. Dr. More Madden believes hydatiform disease to be more frequent at the change of life, than at any other time, but I have only observed it once, at forty-eight.

Case 9.—Many years ago, I was consulted by a lady who moved in good society, was forty-five, unmarried, stout, and of a florid complexion. The menstrual flow came at fourteen, had been regular and with little disturbance, until the previous two years, when it became irregular, being sometimes very scanty, at others abundant and containing large well-formed clots, coming away with intense abdominal pains. There had been no menstrual flow for the previous six months, and the abdomen had attained a size sufficient to attract attention; her appetite was capricious, and there was morning sickness, which led to the report, that the lady was in the family way, which report soon reached the ears of a gentleman to whom she had long been engaged. On making a careful examination, I found the womb much enlarged, but still it was not so large as it should have been, had the patient been six months pregnant. The neck of the womb was shorter than usual, but not soft as it generally feels in the sixth month of pregnancy. The breasts were swollen, the nipples surrounded by a darker circle than habitual; but there were no follicles. Taking these circumstances into consideration, and bearing in mind, that ever since the menstrual flow had been irregular, the patient had been constantly troubled by flushes and perspirations, I said that the lady was suffering from the symptoms of the change of life, complicated by chronic enlargement of the womb. A course of purgatives, mild tonics, and sedatives somewhat relieved the sickness and nervous symptoms, but the size of the patient seemed rather to increase than diminish. Two months after I was first consulted, or eight months after the

menstrual flow had first stopped, I was sent for in the middle of the night, and found the patient in pains resembling labour pains, and after these had lasted several hours, a substance was passed about the size of a Seville orange. Its external surface was rough, in part coated with well-organized fibrine, and on being cut open it was found to contain limpid serum. The walls of this hæmatic cyst varied in thickness from two to five lines. Its internal surface had no lining membrane; and microscopical inspection confirmed the belief in the fibrinous nature of the cyst. The passing of this singular body was followed for several weeks by a sero-sanguinolent discharge, with considerable pain. On making an examination six weeks after this, I found that the womb had returned to its normal size; the mind was long in recovering tranquillity, for the engagement was broken off, and valued friendships had been lost, notwithstanding my emphatic declaration, that the blood cyst passed by the patient could not be the result of conception. When I last saw the lady she was forty-nine, and there had been no return of the menstrual flow.

I believe this kind of spurious pregnancy is most likely to occur in women who experience the matrimonial stimulus for the first time, at the beginning of the change of life. I have met with several cases of this description; one was a lady who married at forty-seven, after the first indications of the change of life. Another was a lady of forty-five, who, after being a widow for twelve years, married again when the menstrual flow had become very irregular. Soon after marriage all the usual symptoms of pregnancy showed themselves, the womb seemed four or five times its usual size, and after remaining so for five months, a mass of half-organized fibrine was passed, and the patient recovered, but the menstrual flow continued irregular. Dusourd mentions the case of a woman, at the change of life, who thought herself pregnant, when on stooping, she felt herself wetted by a serous fluid coming from the womb, after this the abdomen subsided, as well as the swelling of the breasts.

It stands to reason, that a uterine or ovarian tumour at the change of life, may be an additional reason for supposing pregnancy.

The signs of pregnancy are, of course, obscure during the first few months, but then, judgment should be deferred. If, at a later period, mistakes are made, it is because all the circumstances of the case are not taken into consideration, or because one is not permitted to ascertain their existence. Thus, in the case of Joanna Southcott, the medical men who believed her pregnant, were not allowed to make a vaginal examination; but even without that, Mr. Sims was convinced that she was not pregnant, from the state of her breasts, and the absence of umbilical prominence. In cases simulating pregnancy, the neck of the womb does not feel softened and puffy, the vagina is not livid. The patient may state that the abdominal swelling began at the navel, instead of rising from the pubis; the movements felt in the abdomen are accompanied by ill-defined depressions, instead of by well-marked elevations. Pressure, cold, and the succussion of the body, do not reproduce the movements, as they do, when a child is in the womb. The navel is depressed instead of being salient, and there are ill-circumscribed hardness instead of a regular ovoid central mass, no placental murmur or fœtal tic-tac; although there may be gurgling sounds in the intestines; and the follicular development of the breasts is imperfect. The diagnosis of cessation being thus established, I proceed with my inquiry.

Is fecundity possible during the change of life? After the forty-sixth year, the chance of fecundity suddenly diminishes, becoming less and less every year, but it is possible, so long as the menstrual flow appears, however irregularly, and I know of three instances in which conception occurred during the change of life. One was a single lady, forty-seven years of age, in whom the menstrual flow had been very irregular for the previous two years, with that general failure of health which so often indicates cessation. The belief that impregnation was impossible at this period,

led her to permit liberties, which were followed by pregnancy and the birth of a child. This case is the more remarkable as connexion only occurred once, seventeen days after a flooding which lasted for ten days, a fact difficult to reconcile with the ovulation theory.

Is fecundity possible after cessation? This question can be answered in the affirmative, because ovulation is not tantamount to menstruation. The ovaries may induce most of the symptoms of menstruation, and they may shed ovules without the womb discharging blood. Women sometimes conceive during lactation without the menstrual flow having returned; and as in some very rare cases, conception has taken place before first menstruation, so it is just possible after cessation. Mr. Pearson, of Staleybridge, has published the case of a woman, who at the age of forty-seven, was delivered of her tenth child, eighteen months after the cessation of the menstrual flow. This woman suckled her last child and has not menstruated since: forty-seven is no unusual date of childbirth; but the fact of conception taking place after menstruation had been absent nine months, is unusual. As as instance of the eccentricities which characterize the generative function, I may mention that I know a lady who was married at eighteen; both herself and her husband enjoyed habitual good health, but conception never took place, until the lady was forty-eight, when she bore a child. It would have been the opinion of every medical man that all chance of family had passed, as in another case reported by Schmidt, where a well-formed female, married at nineteen, did not bear a child until she had reached her fiftieth year.

Pre-Cessation Period, or Dodging Time.—The average date of last menstruation is a fixed point, whereby to calculate the amount of time before and after it, during which the health of women is more or less unsettled. The length of the dodging time varies, like the prodromata of first menstruation, from a few months to six or seven years. Out of my 500 tabulated cases, there was no dodging time in the

137 women in whom cessation was sudden; 275 thought the dodging time had lasted during the periods indicated in the following table:—

TABLE X.

LENGTH *of the Dodging Time.*

TIME.	CASES.	TIME.	CASES.
Months.		Years.	
1	2	2	52
2	3	3	25
3	9	4	9
4	4	5	4
5	5	6	6
6	32	6	5
7	4	8	3
8	11	9	1
9	3	12	1
10	9	14	1
11		18	1
12	60		
18	15		108
			157
	157	Total	265

Average Length of Dodging Time.

Years . . . . . 2·2

The average duration of the dodging time would be two years and three months; but, on cross-questioning patients, I have generally found that for a few months before the menstrual flow became irregular, other changes had taken place, either the quantity had gradually diminished, or was sometimes scanty, at others profuse. Frequently the quality of the discharge had altered, and had been for months observed to be more serous, of a paler colour, or like brown or green water. I therefore consider, that ovarian influence begins to fail in most women, some time before menstruation becomes irregular. This table is, moreover, invalidated, by the fact of its containing a certain number of cases in which cessation was delayed by ovario-uterine disease, so that

the length of *normal* pre-cessation period can only be roughly guessed at.

Morbid Pre-Cessation Period.—A morbid dodging time often lasts from three to five years, and I have known it last for ten or twelve years.

Post-Cessation Period of the Change of Life.—There is but one date certain at the change of life, that of cessation. We guess at the length of the dodging time, and we must do the same for the second half of uterine involution, which I call "*post-cessation period*," and for which there is no popular name. Even when the sexual organs are healthy, their loss of power is gradual; and when the ovaries can no longer determine the menstrual flow, their disturbing influence over the system may be seen in the monthly recurrence of sundry morbid phenomena, as in the following table:—

TABLE XI.

Monthly Occurrences after Cessation in 53 *out of* 500 *Women.*

Nature of the Occurrence.	No. of Cases.
Lumbo-abdominal pains	15
Leucorrhœa	12
Headache and pseudo-narcotism	7
Diarrhœa	5
Entorrhagia	2
Bleeding piles	1
Hysterical symptoms	2
Hysterical asthma	2
Great depression of strength	1
Sweats	2
Dyspepsia	1
Stomatitis	1
Swelled gums	1
Swelled legs for three days	1
Total	53

We guess at the completion of *normal sexual involution* by the recovery of health and its re-settlement on a new plan. We can only be certain, when on examining a woman, for some other reason, we ascertain the womb to be much smaller and harder than it previously was. When there is no disease in the sexual organs, I believe cessation divides involution into two periods of pretty equal length, and that normal post-cessation period lasts about as long as "the dodging time."

From the study of 383 cases, I conclude that when three or four years have elapsed since cessation, women are no longer liable to the floodings, the sweats, or to the distressing nervous symptoms, whether cerebral or ganglionic. I have, however, known manifest symptoms of the change of life endure for many years, for twelve years in one instance, and with little abatement.

Morbid Post-Cessation Period of Involution.—The nature of the disease that bars the progress of involution determines the length of time to which it may be protracted. An enlarged and caco-plastic body and cervix delay uterine involution for many years. When there are large fibroids in the womb, there is no prospect of uterine involution, although ovarian involution may have already occurred. It is characteristic of normal involution, that the process should proceed *pari passu* in the womb and ovaries, whereas morbid involution proceeds at different rates of progress in the different parts of the sexual system. The ovaries may be found reduced to amorphous lumps of fibrous tissue, while the womb is still large, and although the body and the cervix are united by continuity of tissue and by disease, they have a somewhat separate pathology, and the body of the womb may remain large after involution has taken place in the cervix. The pathogenic importance of these facts cannot be exaggerated, as will soon appear. When the cessation of menstruation is to bring into activity the seeds of complaints which have been long dormant in the system, it generally does so in the four years which follow cessation.

TABLE XII.

DURATION *of the Menstrual Function.*

Number of Years.	Number of Cases. B. de Boismont.	Number of Cases. Dr. Tilt.	Number of Years.	Number of Cases. B. de Boismont.	Number of Cases. Dr. Tilt.
5	1		30	13	36
6	1		31	13	33
8	1		32	9	38
11	1	1	33	9	35
13		1	34	7	49
15		3	35	4	33
16	4	1	36	10	26
17	4	2	37	6	16
18	1	4	38	5	15
19	3	1	39	2	15
20	3	3	40	7	6
21	4	6	41	1	4
22	3	11	42	3	7
23	12	11	43	1	5
24	8	10	44	1	3
25	8	22	45		1
26	11	11	46		1
27	7	25	47		3
28	6	29	48	1	
29	7	33			
	85	174		92	326
				85	174
			Total	177	500
Average Duration of Menstrual Function			Yrs.	28·93	31·33

These cases were collected under similar circumstances in Paris and in London; and I account for B. de Boismont having obtained so short an average duration of the menstrual function, from his having operated on a small number of cases. The average duration of the menstrual function is therefore from thirty to thirty-two years, which is also the *possible* duration of female fecundity, and that of each successive generation, three facts which are interdependent. I

say *possible*, for by operating on 1,586 cases, Mr. Whitehead found, that while the average date of last menstruation was 47·5, the average date of the last confinement was 41·7.

Operating in Germany on 400 cases, Cohnstein found the average duration of menstruation to be thirty-one years.

The papers in the Medical International Congress of Paris, and Dr. Hannover's opuscule on Menstruation, enable me to construct the following table; and I am at a loss to understand how there can be more than four years between the duration of the menstrual function in Denmark and in Norway.

TABLE XIII.

Comparative average DURATION *of* MENSTRUATION.

Countries.	France.	England.		Denmark.	Norway.	Russia.
		London.	Manchester.			
Number of Cases	178	500	69	312	391	100
Average Duration.	29·1	31·8	31·2	27·9	32	31
Observers.	Brierre de Boismont.	Tilt.	Whitehead.	Hannover.	Faye and Vogt.	Lieven.

The annexed table confirms the assertions of B. de Boismont in France, Drs. Guy in London, Frank at Milan, and Dusourd in the south of France, that the duration of menstruation is longest in those who have menstruated earliest, although cessation is often much delayed in those who menstruate very late in life, as was shown in Table VIII. at page 30.

TABLE XIV.

Influence of EARLY AND LATE *Menstruation on the* DURATION OF THE MENSTRUAL FUNCTION.

Years elapsing between 1st and last Menstruation.	Cases of 1st Menstruation at from 10 to 12 Years of Age.	Cases of 1st Menstruation at from 17 to 19 Years of Age.	Years elapsing between 1st and last Menstruation.	Cases of 1st Menstruation at from 10 to 12 Years of Age.	Cases of 1st Menstruation at from 17 to 19 Years of Age.
12		1	31	5	14
13		1	32	5	5
15		1	33	6	6
17		1	34	5	3
18	1		35	5	1
19		1	36	5	
20	2		37	3	
21	3		38	4	1
22	1	3	39	4	2
23	1	9	40	3	
24	1	2	41	1	
25		4	42	3	1
26		1	43	2	
27	1	9	44	1	
28	6	10	45	3	
29	3	4	47	1	
30	1	8			
	20	55		56	33
				20	55
			Total	76	88
Average Duration of Menstrual Function.			Yrs.	34·29	28·78

Thus while the general average duration of the menstrual function is thirty-two years, its average duration increased to thirty-four years and three months in the early menstruated; decreased to twenty years and seven months in the late menstruated; and there is the striking difference of five years and six months between the duration of possible fecundity in women who menstruate at an early or at a late period of youth. This law holds good in Denmark, as will be seen from the following table, extracted from Dr. Hannover's valuable work on menstruation:—

Table XV.

Duration of Menstruation *according to the age at which it begins.*

Dates of 1st Menstruation.	Fair.			Dark.			Totals.		
	No. of Cases.	Dates of Cessation.	Duration of Menstruation.	No. of Cases.	Dates of Cessation.	Duration of Menstruation.	No. of Cases.	Dates of Cessation.	Duration of Menstruation.
12	3	49·67	37·67	2	45·00	33·00	5	47·80	35·80
13	12	45·08	32·08	6	47·50	34·50	18	45·89	32·89
14	23	44·74	30·74	27	45·19	31·19	50	44·98	30·98
15	20	45·30	30·30	14	45·93	30·93	34	45·56	30·56
16	15	44·80	28·80	23	45·35	29·35	38	45·13	29·13
17	17	42·65	25·65	19	43·32	26·32	36	43·00	26·00
18	29	45·28	27·28	20	44·50	26·50	49	44·96	26·96
19	14	44·57	25·57	19	44·95	25·95	33	44·79	25·79
20	12	42·58	22·58	16	47·44	27·44	28	45·36	25·36
21	3	42·00	21·00	7	45·00	24·00	10	44·10	23·10
22	2	45·00	23·00	2	42·00	20·00	4	43·50	21·50
23	3	44·33	21·33	2	42·00	20·00	3	44·33	21·33
24	1	35·00	11·00	3	41·00	17·00	4	39·50	15·50
Total	154	44·51	27·81	158	45·12	28·1	312	44·82	27·97

Table XVI.

Termination of the Menstrual Flow in 637 Women.

Modes of Termination.	No. of Cases.
By the gradual diminution of the menstrual flow	171
By the sudden stoppage of the usual menstrual flow	94
By the sudden stoppage and a terminal flooding .	43
By a terminal flooding	82
By a succession of floodings	56
By alternate copious or scanty menstrual flow .	36
At irregular intervals, longer than 21 days . .	99
At irregular intervals, shorter than 21 days . .	33
At irregular intervals, alternately longer and shorter than 21 days	23
Total	637

There was noticed a gradual diminution of the menstrual flow, and of the duration of the flow, at each subsequent menstrual epoch in one hundred and seventy-one women. When the mode of termination was erratic, the duration of each menstrual period was also irregular. Flooding continued either for a longer or a shorter time, than that of the menstrual flow; but I have generally observed, that during the first part of the dodging time, the menstrual period was often prolonged to eight, ten, or fifteen days, which may, however, be caused by some disease of the womb. During the latter part of the dodging time, the menstrual flow became less and less, till it lasted only a day, or was a "mere show." With regard to its quality during this period, it was said to be sometimes blacker than usual, more clotty or sero-sanguinolent, or to be like cinder-dust and water, or dirty green water, like the latter part of the lochial discharge.

Those physiologists who still maintain not only, that menstruation is always the effect of ovarian action, but that each menstrual flow is caused by the ovary shedding an ovule, must explain in the same way all its varied terminations. While granting the frequent coincidence of ovulation and menstruation, I have always held, that the menstrual flow may occur without ovulation, just as ovulation may occur without menstruation, and the more I observe, the more I am struck by facts which cannot harmonize with the ovulation theory. I have patients, in whom any unusual nervous emotion or over-exertion will bring on the menstrual flow, with the usual symptoms, although they have only just recovered from menstruation. How can it be supposed that an ovule can be ripened, and the ovarian envelope suddenly perforated, by the fatigue of a dinner-party, by hearing disagreeable news, or by an altercation with a servant? The laws of ovulation are still imperfectly known, but I believe that it proceeds as regularly, inevitably, and uninterruptedly as nutrition; whereas the menstrual function shifts its periodicities, returning about the fourteenth or the twenty-first day after the last epoch, whether it came at a right or a

wrong time. This sudden shifting of periodic action is the special attribute of the nervous system, shows the menstrual flow to be governed by nervous influence, and explains how a strong emotion may repel the menstrual flow, or alter the time of its appearance. That sudden emotion should cause the uterine surface to perspire blood is only a repetition of the well-known effects of emotion on other parts.

How the System is Remodelled at the Change of Life.—As for thirty-two years, it had been habitual for woman to lose about four ounces of blood every month, so it would have been indeed singular, if there did not exist some well-contrived compensating discharges, acting as waste-gates, until health could be permanently re-established by striking new balances in the allotment of blood to the various parts. The compensating agencies may be thus classed, and it will be seen that they are for the most part critical discharges.

I. A larger consumption of carbon by the lungs.

II. An unusual amount of urinary deposits.

III. Increased perspiration.

IV. Abundant mucous flows.

V. Hæmorrhages from various organs.

VI. Obesity.

Some of these compensating actions proceed permanently, as from the surface of the lungs and skin; others occur irregularly; and in a certain number of cases the compensating action assumed the monthly type, the type of the function falling into disuse.

I. Relief Afforded by Respiration.—The balance between the respiratory and the menstrual function is forcibly shown by the fact, that at all periods of life, whenever menstruation is diminished or suppressed, more carbon is consumed per hour by the lungs, and less when the menstrual flow has been re-established. Andral and Gavarret found, that in both sexes, from eight years of age to puberty, there was an augmentation in the quantity of carbonic acid gas excreted by the lungs; that whenever menstruation takes place in women, they still continue to excrete the same quantity of carbonic

acid as before; while in man, at the same age, the quantity goes on increasing, until he has reached the middle period of life, after which he is said to secrete less and less. From experiments made on twenty-one women, it appears that during the whole of the time comprised between the first and last menstruation, the strongest and healthiest only excreted every hour a quantity of carbonic acid representing 6·4 grammes, or the same quantity as before puberty, while men excreted 7·8 grammes per hour before their fifteenth year, and 11·3 per hour from fifteen to forty years of age. After cessation of the flow, the lungs more largely excrete carbonic acid; for in five women, aged from thirty-eight to forty-nine, and who had ceased to menstruate, the quantity of carbon consumed per hour rose from grammes 6·4 to 8·4.

II. Relief Obtained by the Increased Deposits in the Urine.—The majority of women notice that, during the dodging time, the urine, instead of being transparent, is unusually loaded with sediments, and this persists for weeks, and often recurs during the change. These sediments consist of lithates and phosphates, and, as in febrile affections, they indicate an effort of Nature to relieve the system, and point to the utility of alkalies.

III. Relief Obtained by Increased Secretions from the Skin.—The importance of the relief afforded by the skin may be gathered from the subjoined table:—

TABLE XVII.

Cutaneous Exhalations in 300 *out of* 500 *Women.*

———	No. of Cases.
Perspirations attendant on flushes	201
Perspirations occurring monthly	2
Sweats	84
Cold perspirations	13
Total	300

With the exception of the few cases in which the perspirations were cold and clammy, this exhalation is associated with an increased production of heat, and with that irregular distribution of it which is called "flushes." These occurred to 244 women out of 500; fourteen others were troubled with "dry flushes." The flushes determine the perspirations, and as they constitute the most important and habitual safety-valve of the system at the change of life, it is worth while studying them.

It must have struck many, that at the change of life most women have the power of generating a more than usual amount of heat; they often want less clothing, and even in winter, leave their doors and windows wide open. Very often, however, instead of being regularly distributed, this caloric bursts forth as flushes, women feel as if something started from the epigastric region, spreading over the chest, and then over the face, which becomes suffused and hot. I have heard women compare their sensations to burning steam rising from the pit of the stomach. These flushes may be considered as cases of pathological blushing, depending on partial paralysis of the vaso-motor nerves. They may follow or precede a chill, or a momentary sensation of shivering, or sinking and faintness at the pit of the stomach, but they recur as a rule without these sensations. If the flushes do not terminate in a gentle moisture of the skin, women call them "dry heats." The flushes may last two or three minutes, but it will sometimes take a quarter of an hour to carry off the effects of a strong wave of heat thus wafted to the surface. The number of flushes occurring in the course of the day varies extremely, and their spontaneous repetition, five or six times an hour, either by day or night, is not uncommon to women at the dodging time. Some months after cessation they frequently occur only seven or eight times in the day. This may be the case for years after cessation, and even in extreme old age, under the influence of worry or ill-health, without however being so distressing as at the change of life. The recurrence of flushes so late in life is not to be

wondered at, for women can still blush at sixty or seventy years of age.

The face and chest generally suffer most from flushes, but the whole of the skin may be affected, and the hands and nails may feel like fire, the pulse being often weak and slow. Robust women, of a sanguine temperament, are more troubled with flushes, confirming Sir J. Ross's assertion, that the sanguine temperament has a greater power of generating heat than the pale and sallow. All molecular action generates heat, and while this action incessantly proceeds in living bodies, they generate heat as permanent and continuous as their nutrition; the quantity and quality of this heat varies with the quantity and quality of the blood, which is the fuel of the animal combustion, so that if the blood is in a healthy condition, the heat is physiological, if on the contrary, it is the heat of fever; but how is heat collected? and what are the laws of its distribution? At times it bursts forth in irregular paroxysms; while, in intermittent fevers, these ebullitions of heat follow a rhythmical march, depending on diseased action of the vaso-motor nerves, which hold the blood-vessels in their web-like grasp. One feels chilly before dinner; a few mouthfuls of solid food are taken and sensations of warmth are produced: that is *nervous* heat. When the food turns into chyle, passes into the blood and becomes the pabulum of the chemical actions of nutrition, there is *chemical* heat. Blushing exemplifies nervous heat. The mental portion of our being first receives an impression, and instantaneously communicates it to the emotional; then follows the sudden reaction on the epigastric ganglia; a momentary loss of power takes place there, during which the skin is somewhat paler and colder than usual, there may be an imperceptible sigh, a glow is felt at the precordial region, a sudden something seems to rush forth from the epigastrium, swift as lightning, and then wave after wave of blood is poured in burning streams to the whole surface, or only to the neck and face, which appear to blaze with living blood. The heat passes off, and the blood retreats from the capillaries, resuming

its slower course, unless the emotional feelings become once more aroused. Thus, in the physiological phenomena of blushing, heat is evolved by the reaction of emotion on the voluminous ganglia and ganglionic nerves situated at the pit of the stomach. What this nervous centre does under the influence of emotion, it also does on the subsidence of ovarian stimulus, causing the heats or flushes to which women are subject at the menstrual periods, during pregnancy, and lactation, in fact, whenever the functions of the ganglionic nervous system are disturbed, but chiefly at the change of life.

It was well known, that any great depression of nervous power paralysed the vaso-motor nerves of the skin, causing it to sweat, but we owe to Claude Bernard the knowledge, that while the section of the sensory and motor nerves is not followed by any increase of heat, on the contrary, the division of the nerve by which the superior and inferior cervical ganglia communicate, developed great heat in the capillaries above the point of section of the ganglionic nerve. Dr. H. Jones found that the division of a sympathetic nerve causes the blood-vessels within its range of distribution to dilate, the pulsation of the arteries to become more energetic, and the temperature to rise as much as 10° and 15°. When the sympathetic nerve is divided on one side of a horse's neck, that side of the face and neck becomes bathed in sweat. Something similar occurs at the change of life; the demise of ovarian activity half paralyses the ganglionic system, and thereby the blood-vessels, thus leading to a greater development of heat, and to its irregular emission from the surface. Flushing, like a fit of ague, has a period of concentration, a hot stage, and one of perspiration; but as in ague there is often no first stage, so flushing frequently comes first, and often, without any previous congestion of the capillaries, perspiration is seen continually oozing out of the skin, where it stays until it is wiped away or rolls off. Why continued perspirations are so frequently met with at the change of life, and how they preserve women from worse evils, cannot be

answered without some inquiry into the physiology of the skin.

Lavoisier estimated, that in twenty-four hours, twenty ounces of perspiration were lost by the skin. Dr. Southwood Smith has shown that a robust man, working hard in an intense heat, may lose five pounds of his weight in an hour, so that the emaciation of those who perspire much is to be understood, as well as the *embonpoint* of those who perspire little. Long ago Sanctorius established that "Insensible perspiration alone discharges much more than all the other evacuations put together." Valentin found that his average hourly quantity of perspiration amounted to 463·3 grains, and that by walking up and down hill, to sweat copiously, more than four times this quantity was excreted, or 2048·8 grains. The average proportion of water in the human blood is 78 per cent., so that sweating gets rid of its redundant portion; and of sundry other components of perspiration. Dr. Favre, of Paris, obtained from a healthy man, 14 litres or 28 lbs. of perspiration, which he found to be thus composed:—

TABLE XVIII.

		Pour 14 Litres.	Pour 10,000 Grammes.
		Grammes.	Grammes.
Solubles dans l'eau.	Chlorure de sodium . .	31,327	22,305
	Chlorure de potassium .	3,412	2,437
	Sulfates alcalins . . .	0,161	0,115
	Phosphates alcalins . .	Trace	Trace
	Albuminates alcalins . .	0,070	0,050
Solubles dans l'eau acidulée.	Phosphates alcalino-terreneS	Trace	Trace
	Débris d'epiderme . . .	Trace	Trace
	Lactates alcalins . . .	4,440	3,171
	Sudorates alcalins . . .	21,873	15,623
	Urée	0,599	0,428
	Matières grasses . . .	0,191	0,177
	Eau	13,938,027	9,955,737

Dr. Favre draws the following conclusions from his researches :—

1. That the materials of perspiration are almost entirely soluble in water.

2. That chloride of sodium constitutes the chief solid constituent of perspiration, the alkaline sulphates and phosphates being in very small proportion. In this respect, perspiration differs much from urine, as will be seen from the following analysis of equal quantities of each :—

		Perspiration 14 litres.		Urine 14 litres.
Chlorides .	grammes	34,639	grammes	57,018
Sulphates .	„	0,160	„	21,709
Phosphates .	„	Trace	„	5,381

3. Lactic acid, combined with alkalies, exists in the perspiration. It would be worth while ascertaining whether its quantity be augmented or not, in the acid perspirations of lying-in women, in the sweats of over-lactation, or in those of the change of life.

4. Sudoric acid combined with alkalies, a hitherto unnoticed component of perspiration, is one of its principal elements. The composition of this acid is somewhat similar to that of urea, which is not normally found in perspiration; but when perspiration is stopped, as in the experiments of Seguin and Anselmino, the kidneys may transform sudoric acid into uric, and excrete it as urate of ammonia.

5. The existence of urea in perspiration completes the analogy of this fluid with urine.

6. Perspiration taken at different times, from the same person, did not vary in composition, but when the fluid taken during the first half-hour of the experiment is compared with that taken during the second or third half-hour, a larger quantity of mineral salts is found to be expelled during the latter periods. The proportion of water to the other components of perspiration does not seem to vary, and it is not known whether its various components be altered in amount.

Dr. Bouveret* admits that special nerves rule over the secretion of sweat, their excitement causing excessive secretion, and their section a slowing or a suppression of secretion.

As the skin is the most easily moved of all the safety-valves of the system, it is most frequently influenced by the change of life; while the small proportion of solid removed from the blood by sweat, explains why it is an ineffectual crisis, the necessity for which is ever recurring, unless other changes have been likewise effected. The critical nature of the perspirations occurring at the change of life, is shown by their appearance after sudden suppression of the menstrual flow, after diarrhœa or leucorrhœa. Thus in Eliza C., aged sixty, the menstrual flow suddenly ceased at forty-three, after getting her feet wet; and the perspirations were often so intense that the bedclothes could be wrung. Mary M., aged fifty-five; the menstrual flow came at nineteen, and left at thirty by a flooding; she has ever since been subject to flushes and perspirations, by which her health has been preserved. After cessation, the perspirations generally diminish, though I have noticed drenching ones to return five years after the ménopause, in consequence of great anxiety, and twenty-nine years after, in a strong healthy old woman of sixty-seven. The perspirations do not always cover the whole body, but may be limited to certain portions. Two patients always wear flannel at the pit of the stomach, because they perspire so much there, and there only, that their clothes become saturated. I have already stated that the section of the sympathetic on one side of a horse's head causes sweating of that side only, and it will be seen, that local sweats may be produced by the hypodermic injection of pilocarpin. Like Tissot, I have seen gentle perspirations converted into sweats for a few days every month.

IV.—Relief Afforded by Mucous Flows.—The following table shows the frequency of mucous flows at the change of life:—

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* "Morbid Perspirations." London: Baillière, 1880.

Table XIX.

Frequency of Mucous Discharges amongst 500 *Women at the Change of Life.*

Nature of Mucous Flow.	No. of Cases.
Leucorrhœa at irregular intervals . . .	146
Monthly leucorrhœa	12
Repeated vomiting of mucus	31
Water-brash	5
Frequent diarrhœa	45
Monthly diarrhœa	5
Total	244

These mucous discharges must be considered as taking the place of the menstrual flow, for they were usually preceded by the same symptoms, particularly when they came periodically, a fact already noticed by B. de Boismont. The critical nature of these discharges shews, that they should not be stopped, although they may require to be restrained. Of 260 women, in whom the menstrual function had ceased, 143 had never been subject to leucorrhœa; of the remaining 117—

The vaginal secretion was increased at cessation in . 77 cases.
It was diminished in . . . . . 24 „
It remained stationary in . . . . . 16 „

With regard to periodical leucorrhœa. In one case this occurred regularly every month, for a year, for eighteen months, in another, in several for two years, and in one for seven years, and most of these cases occurred to women in whom the menstrual flow had suddenly ceased.

V. Relief Afforded by Hæmorrhages.—The extent to which women are relieved by hæmorrhages is shown by the following table :—

Table XX.

Comparative Frequency of Hæmorrhages at the Change of Life amongst 500 *Women.*

Varieties of Hæmorrhage.	No. of Cases.
Terminal menorrhagia	82
Successive attacks of menorrhagia	56
Entorrhagia	24
Bleeding piles	20
Epistaxis	12
Hæmoptysis	8
Cerebral hæmorrhage	6
Hæmatemesis	4
Hæmaturia	1
Bursting of varicose veins	3
Bleeding from external auditory canal	4
Cutaneous ecchymosis	3
Bleeding from a temporal vein	1
Total	208

Vicarious menstruation is rare at the change of life, but I have known a bloody discharge from the nipples to occur every month, for five years after the menstrual flow had ceased; and in another case, a sero-sanguinolent discharge came from the nipples at irregular periods, during the two years that followed the ménopause. Dr. Semple has recorded the case of a woman, aged eighty, who, every other month, bled from the nose, or menstruated as in youth. These various hæmorrhages are more or less effectually critical; the floodings at the change of life preventing more serious illness, and affording time for the gradual re-adjustment of the system. Successive floodings occur as often as the frame is overloaded by blood, returning at longer intervals and to a less amount.

VI. Obesity.—The evident effect of the change of life is to remodel the female frame, so that health may be made consistent with the absence of an habitual drain. An unusual intensity of that force which presides over nutrition is shown by its being able in many women to use up the retained blood, so as to strengthen the tissues of the body, while it often very much improves their outward appearance. In others, the nutritive force stores up fat for future emergencies, the accumulation of fat after cessation, being similar to that which occurs in animals from whom the ovaries have been removed in early life. I have seen sudden growth of fat, coincide with great improvement in health, but Dr. G. Bedford goes too far, when he states "that those who became fat-bellied were not troubled with nervous symptoms." If the vital force is not able to turn to good account the superabundant blood, and cannot maintain an efficient control over the vaso-motor nerves, a host of nervous symptoms arise and the balance of circulation is disturbed, so as to lead to erratic fluctuations, or misdirections of blood, and to congestions or discharges from various organs. This occurs generally during the first part of the change of life, when women rather decrease in size than otherwise, even if they are to grow fat in the latter part. Thus out of 383 women in whom there had been no menstrual flow for five years, 121 had grown stouter than before, 71 had retained the same size, and 90 had become thinner; in other words, only one-fourth of the 383 had become thinner than usual five years after cessation, and this reminds me, how Quetelet found, that woman attains her average maximum of weight at fifty, when she has ceased to have children; whereas this average maximum of weight is reached by man at forty. Wishing to know whether continued illness during the change of life had any effect on the greater or less tendency to become stout, I divided the 383 women into three classes, according as they had suffered much, little, or not at all, and I found that the proportions of the stout and thin were about the same, and that if those who suffered considerably during the dodging

time had then become thinner, nutrition became unusually active in the latter part of the change of life. Three out of the 383 became suddenly fat at cessation, but this *embonpoint* was no indication of strength. Although the mammary glands become atrophied at the change of life, they often become pendulous from the deposit of fat. Fothergill has observed that women are more likely to grow stout, when menstruation has suddenly ceased before the usual time, unless this be caused by some internal complaint. I have known this to occur several times, as in the following instance, which may help the diagnosis of early cessation:—

Case 10.—Sudden Embonpoint a Sign of Cessation.—Eliza L., aged thirty-two. The menstrual flow appeared at nine, and came regularly with a moderate amount of headache and pseudo-narcotism. She married at twenty-seven, but never conceived, and was regular until the menstrual flow suddenly ceased at thirty, after a fit in which she was unconscious for many hours. When a child at school, she used to faint away, and was with difficulty brought to her senses. She frequently fainted before marriage, but since then no fainting fits had occurred until two years ago, when after unusual exertion, she remained unconscious for five hours. A year ago she had another fainting fit, and for the last two years she has been much troubled with giddiness, headache, and pseudo-narcotism. She is habitually troubled with epigastric pain, or uneasy sensations at the pit of the stomach, and she has grown immensely stout. When forty-two, there had been no return of menstruation.

Having thus concluded my imperfect study of the change of life, in a physiological point of view, I shall be able to point out briefly in the following chapter the special bearings of the change of life on general pathology.

PART II.

GENERAL PATHOLOGY

OF

THE CHANGE OF LIFE.

CHAPTER III.

GENERAL PRINCIPLES OF PATHOLOGY AT THE CHANGE OF LIFE.

A REFERENCE to the works written by Gardanne and Menville would show the reader, that they consider as diseases of the critical time, whatever may afflict a woman after her forty-sixth year, whereas some diseases depend on change of tissue common to both sexes. As they grow older, both sexes feel that wear and tear of life which impairs the structure of the heart and arteries, and indeed of most organs. I call "diseases of the change of life," such as occur for the first time, or recur with great aggravation during that period, variable as it is in each individual, but generally comprising the three years previous to, and subsequent to, cessation. In the absence of trustworthy information, I have endeavoured to obtain a correct bead-roll of the infirmities entailed by the change of life, and have set down very minutely whatever morbid could be detected in 500 women who sought advice for disease at this time of life. The following table, therefore, gives the comparative degree of frequency of both slight and serious diseases at the change of life, and it will show the reader, at a glance, what are the *real* morbid liabilities of this epoch.

TABLE XXI.

Relative frequency of Morbid Liabilities at the Change of Life in 500 *Women.*

Nervous irritability	459	Gangliopathic faintness	220
Flushes	287	Headache	208
Pseudo-narcotism	277	Abdominal pain	205
Dorsal pain	226	Perspiration	201

Leucorrhœa	146
Hysterical state	146
Flooding once or repeatedly	138
Sick headache	92
Sweats	84
Piles, not bleeding	62
Biliousness, obstinate	55
Gangliopathy, or strange epigastric sensations	49
Phosphatic and lithic urine	49
Diarrhœa, irregular	45
Debility, intense and long-continued	41
Chloro-anæmia	40
Dyspepsia	37
Remittent menstruation	33
Vomiting, repeated	31
Abdomen, fatty enlargement of	26
Fainting, liability to	25
Piles, bleeding	24
Constipation, obstinate	23
Entorrhagia	20
Œdematous legs	19
Undetermined cutaneous eruptions	18
Globus hystericus, only since cessation	17
Regular monthly pains without menstrual flow	16
Insanity	16
Dry flushes	14
Mammary irritation and swelling	14
Perspirations, cold	13
Leucorrhœa, monthly	12
Epistaxis	12
Inflammation and ulceration of the neck of the womb	11
Deafness	11
Follicular inflammation of the vulva	10
Difficulty and pain in passing urine	9
Hysterical asthma	8
Flatulence, intense	8
æmoptysis	8
Headaches, monthly	7
Rheumatism of joints	
Ulcerated leg	7
Diarrhœa, from three to six times daily for years	7
Intercostal neuralgia	6
Paraplegia	6
Jaundice	6
Apoplexy and hemiplegia	6
Spurious pregnancy	6
Colics, habitual for years	6
Nettlerash	5
Ovarian pain, constant	5
Waterbrash	5
Epilepsy, increased	5
Prolapsus of womb	5
Cancer of womb	4
Inflammation of vagina	4
Bronchitis	
Inability to retain urine	
Laughing and crying fits, only since cessation	4
Labia, repeated inflammation of	4
Numbness, pricking and loss of sensation in arms and hands	
Uterine fibrous tumours	4
Hæmorrhage from ears, increased	4
Prolonged fits of unconsciousness	4
Vomiting of blood	4
Polypus of womb	4
Erysipelas	4
Sciatica	4
Epilepsy, first occurrence of	3
Delirium	3
Pus in motions	3
Ecchymosis, cutaneous	3
Prurigo	3
Puffed face	3
Inflammation of legs, with great distension of veins	3
Eczema	3
Ovarian tumours	3
Aching under nails	3
Inflamed rectum	3
Hysterical fits, only since cessation	3

Hemicrania	3	Hæmaturia	1
Consumption aggravated	3	Debility, intense every month	1
Bleeding from varicose veins of leg	3	Hysteria, monthly	1
Eczema increased	2	Hysterical paralysis of arms	1
Monthly blood in motions	2	Falling-off of all the nails	1
Boils in seat	2	Peritonitis	1
Aortic pulsation	2	Chronic otorrhœa	1
Legs burning and painful	2	Inflamed eyes	1
Hands intensely hot	2	Toothache	1
Abscess in arm-pits	2	Heart disease	1
,, fingers	2	Shingles	1
,, neck	2	Herpes circinatus	1
Gout	2	Mammary cancer	1
Peeling of nails	2	Varicose veins brought on	1
Erectile tumour of the meatus urinarius	2	,, aggravated	1
Brow ague increased	2	Bleeding from frontal vein	1
,, brought on	1	Limpid secretion from breast, for four years	1

From the previous table, I make out the incidence of disease on the various organs, to be as follows:—

TABLE XXII.

Organs affected in 500 *Women, at the Change of Life.*

Organs Affected.	No. of Cases.
Diseases of ganglionic system	406
,, the cerebro-spinal system	1272
,, nerves	487
Diseases of the reproductive organs	463
Gastro-intestinal affections	354
Cutaneous affections	705
Various affections	43
Total	3730

If the aggregate of suffering puts on a formidable appearance in this table, the reader must bear in mind, that in it flushing, perspiration, and many slight ailments count as well as cancer, and that many women were suffering at the same time in various ways.

The foregoing tables show the *real* diseases of the change of life to be the first twenty-five on the above list: they were the *common* complaints of this critical period, whose occurrence is so frequent, that they may be predicted; prevision being the only criterion of science. After the first twenty-five diseases, the frequency of the remainder falls below five per cent., showing plainly that they either form special varieties of the more common complaints already enumerated, or that, like cancer and gout, they may occur at other times besides the change of life. Sometimes also, by the singularity of their nature and by the rarity of their occurrence, they are evidently shown to be personal contingencies, indicating how the impetus of morbid action was most felt by the weakest organ. The table likewise proves, that the diseases most likely to occur at the change of life, are not so much cancer and other organic diseases of the ovaries and womb, with which women continually frighten themselves, as the neuralgic affections of the cerebro-spinal and ganglionic systems, and that they are more liable to gastro-intestinal affections than to floodings.

The foregoing tables do not sufficiently show the frequency of debility: it was marked as the only disease, in forty-one cases, but in a less degree it accompanied the forty cases of chlorosis, and also the two hundred and twenty cases of epigastric faintness. Indeed it was present in most cases; so I conclude debility to be characteristic of disease at the change of life. This loss of strength gives it a chronic character, for contrary to what occurs in childhood, pathological movements slacken pace at the change of life. Malignant disease, that at the age of thirty would have killed the patient in three years, may last longer. There is a chance of ovarian tumours remaining in abeyance, which at twenty-five would have quickly galloped through their course. The eschar made by nitrate of silver may take twelve days, instead of four, before it comes away from the womb, that made by the acid nitrate of mercury, three weeks instead of one; hence the *prognosis* of diseases of cessation should be guarded, as in chronic disease.

It is well known, that at some time or other of life, each

organic apparatus becomes a normal or abnormal focus of action, and it is so with the genital organs, both at puberty and cessation. Before seeking to explain diseases of the change of life, it will be useful to compare its morbid occurrences with those of puberty. Instead of recognizing puberty by increased health, how often do we infer its morbid enactment, from an undeveloped form, a sickly look, and a chlorotic cast of countenance. Instead of slight pains in the back, limbs, and hypogastric regions, the pains may be severe and long continued, amounting to, what was called, spinal irritation. Headache may incapacitate the patient for all exertion; her mental faculties may seem lost in a state of drowsy forgetfulness; nervous irritability may grow to hysteria under its worst forms; and instead of fitfulness of temper and waywardness of disposition, she may become morose and mischievous. In fact, the conduct of a girl at puberty sometimes betrays such a dereliction of all principle, that moral insanity is not too strong a term to characterize it. When the long-expected menstrual flow at last appears, it does not always bring health. Its return may be too long delayed; or should it come regularly, instead of being a bearable infirmity, it may be attended by so much abdominal pain and nervous symptoms as to constitute a disease; or there may be something amiss in the reaction of the reproductive organs on the nervous system, so that the menstrual flow may return every fifteen or twenty-one days instead of twenty-eight. It is the same with the change of life, for instead of being a period marked by slight infirmities, it may be characterized by very complicated morbid phenomena. There may be great debility and chlorosis as at puberty, or confirmed biliousness; abdominal neuralgia may be very distressing; headaches frequent and agonizing; instead of a slight haziness of the mental faculties there may be continued drowsiness and stupor; if hysterical convulsions be less frequent than at puberty, the globus hystericus, and the minor manifestations of hysteria are very frequent, and insanity occurs oftener. If unrelieved by repeated critical discharges, such as flooding, leucorrhœa,

diarrhœa, or perspiration, these complicated nervous symptoms may continue for years, and still be amenable to proper treatment, by which their occurrence might have been effectually prevented.

The following table shows at a glance the morbid liabilities of puberty compared with those of the change of life; explaining, to a certain extent, the occurrence of some complaints at those periods only, and how the perils of cessation may be occasionally inferred and measured by those which have attended puberty:—

TABLE XXIII.

Comparative Morbid Liabilities of Puberty and of Cessation.

DISEASES.	PUBERTY.	CESSATION.
Headache	Frequent	Frequent.
Sick headache	Frequent	Frequent.
Pseudo-narcotism	Frequent	Frequent.
Minor forms of hysteria	Frequent	Frequent.
Hysterical attacks	Not uncommon	Rare.
Delirium	Very rare	Rare.
Temper and mild forms of moral insanity	Frequent	Frequent.
Epilepsy	Frequent	Rare.
Gangliopathy	Mild forms frequent	Severe and mild forms frequent.
Fainting	Common	Rare.
Chlorosis	Very frequent	Not uncommon.
Lumbo-abdominal neuralgia	Very frequent	Very frequent.
Neuralgia of lower limbs	Uncommon	Frequent.
Mammary neuralgia	Rare	Rare.
Flooding	Rare	Common.
Epistaxis	Frequent	Rare.
Piles	None	Frequent.
Leucorrhœa	Uncommon	Frequent.
Cutaneous eruptions	Frequent	Not uncommon.
Gout, its irregular forms	Sometimes observed	Not unfrequent.
Rickets	Not uncommon	Noticed by B. de Boismont and Gendrin.
Spinal deviations	Very frequent.	Very rare.

Before attempting a theory of diseases of the change of life, it will be useful to review their predisposing causes, under the following headings :—

I. Abnormal puberty and menstruation. II. Sudden cessation. III. Injudicious use of the sexual organs. IV. Previous liability to diseases of the sexual organs. V. Temperament. VI. Constitutional proclivities. VII. Social position.

I. Abnormal Puberty and Menstruation.—Menstruation is likely to end as it begins, and storms at puberty foretell a stormy change of life. Diseases which precede first menstruation may be expected to precede its cessation; thus Alibert observed some cutaneous eruptions twice only in life, once before the first appearance of the monthly flow, and again at its cessation. B. de Boismont, and others, likewise notice the appearance of hysteria and epilepsy before these two important epochs, the patient having been free from these diseases during the intervening period. Sir H. Marsh noticed that women, in whom the establishment of puberty had been preceded by repeated epistaxis, suffered much in the same way at cessation. I have several times seen puberty and cessation preceded and attended by an abundant eruption of boils, by long-continued otorrhœa, frequently by continued diarrhœa, and still oftener by a great amount of pseudo-narcotism and hysteria, in cases where there was little or none, while menstruation was regular, during child-bearing, or lactation. Spinal deformity slightly developed at puberty may become very marked at cessation, as in a case given by B. de Boismont; and I have published a similar case, in which the pain attending internal metritis was so great, that I could never get my patient to lie down flat, and she always slept in a crouching posture. The fact of the menstrual periods having often been unusually painful and erratic, is a reason to fear, that the change of life will be fraught with unusual suffering, and the same applies to those in whom the menstrual flow has been liable to deviations. Thus B. de Boismont relates of two women, in whom the

critical discharge took place from the mouth, even after they had borne children; that at the change of life, one became rickety, while the other had ascites.

II. Sudden Cessation.—It was logical to suppose that a drain, lasting for thirty-two years, could not suddenly cease without causing serious illness; and Meissner, like many others, attributes to this event the most disastrous effects; but I have not noted sudden cessation as frequent in those who suffered most at the change of life. Thus, in 383 women in whom the menstrual flow had ceased, 223 had suffered much, 121 little, and thirty-nine not at all. Sudden cessation occurred in fifty-five cases out of the 223 who suffered most, in thirty-one out of the 121 who suffered little, and in twenty-three out of the thirty-nine cases who did not suffer; so that while sudden cessation only occurred in about one-fourth of the severest sufferers, it occurred in about two-thirds of those who did not suffer at all. On studying the thirty-nine cases, I was struck by their presenting a singular absence of all menstrual disorders; in many the menstrual flow began suddenly, continued regularly through life without disturbance, and ended suddenly. The current belief in the dangers of sudden cessation is grounded on isolated cases in which it proved dangerous, owing to the action of other causes: thus, in two plethoric subjects, hemiplegia was induced. Alone, sudden cessation did not cause diseases of cessation, because the system was likewise suddenly relieved by some critical discharge, most frequently by well-sustained perspirations.

III. Injudicious Use of the Reproductive Organs.—Some writers countenance the popular prejudice, that the unmarried are most liable to flooding, to cancer, to ovarian and uterine tumours at the change of life, but there is no truth in the assertion. The single pass through this period, without more trouble than the married, and, so far as I can ascertain, suffer less than other women. Gardanne likewise asserts that prostitutes suffer much at this epoch, an assertion seemingly groundless, for Mr. Acton tells us they do not

carry on their trade, for more than three years, on an average; and that they marry long before the change of life. I have occasionally traced an aggravation of diseases of cessation, to women marrying while the change was progressing; I have often known marriage to be then followed by flooding, by ovario-uterine irritation or inflammation, when there was no previous sexual disease. In one case a sensible lady, whose family was not tainted by insanity, had a flooding on the wedding night, considerable uterine disturbance for weeks, and was out of her mind for a year.

IV. Previous Liability to Sexual Diseases.—A tendency to uterine inflammation, all through life, predisposes to diseases of the change of life, and normal ovarian involution is interfered with by whatever organic disease may be present in the sexual organs at the ménopause. For some months, at least, cessation is followed by a monthly congestion of the sexual organs eminently calculated to aggravate congestion and ulceration of the womb, and to ripen whatever germs of disease might have been hitherto lying dormant in the womb or in the system, of which cancer and gout are appropriate instances.

V. Temperament.—Women of decidedly lymphatic temperament often derive marked benefit from the change of life, their colder nature is less liable to bilious and to nervous disorders, while the blood, that could ill be spared every month, is turned to the strengthening of the frame. Women of a sanguine temperament are naturally most liable to plethora, and therefore to floodings and other hæmorrhages, but if they are most subject to dangerous diseases, they are most amenable to treatment, and more speedily improve by active measures, when judiciously applied. The preceding table shows a decided tendency of women to bilious and gastro-intestinal affections at the change of life; these affections being severe in women of a bilious temperament, as Gardanne remarked. Calomel and blue pill may long be given for an habitually torpid liver with little benefit, unless combined with the free use of alkalies and careful diet.

Women at the change of life are more liable to insanity, if the nervous temperament be associated with the bilious, as in some of my worst cases. Women of a nervous temperament suffer much more than others, particularly during the dodging time; they are as liable to flooding as the plethoric, without being so amenable to treatment. The floodings of the nervous are the result of nervous erethism; in them simple things bring on inordinate reactions, and the common functions of life are performed with eccentricities without number. Such women seldom recover health unless they gain flesh, and not always then.

VI. Constitutional Proclivities.—The best way to avoid the dangers of this critical time is to meet its approach with a healthy constitution. A marked want of strength prevents the regular succession of the vital phenomena, by which all critical periods are to be carried on; and as the change of life is marked by debility, when this is grafted on constitutional weakness, loss of power will be of long duration, sometimes with a tendency to faint, to chlorosis, to erratic nervous disorders, and all complaints remain chronic because there is not stamina enough to carry them through their stages. I have already said that some constitutional affections will be increased by the change of life, and that an impulse will be given to cancer, gout, or consumption, and these complaints aggravate the ordinary symptoms of the ménopause.

VII. Social Position.—I believe with Dusourd, whose practice lay in an agricultural district in the south of France, that peasant women suffer little at this period. They belong to the *genus inirritabile*, and are therefore little liable to nervous disorders. Their health is generally good when the change of life comes on; flooding is frequent, but effectually critical, and they take little heed of the flushes and perspirations which annoy the spoiled daughters of civilization. The poor of large towns suffer much at this epoch. The necessity for working hard, the anxieties of poverty, the impossibility of escaping the annoyances of children, even for a few hours

in the day, increase the sufferings of the poor at the change of life. Certain occupations have a similar effect; thus, Auber says that washerwomen suffer more than others, on account of the vicissitudes of temperature to which they are exposed. The close, damp, and heated rooms in which book-folders, catgut-makers, and others are obliged to work, increase the sufferings of many. By a fortunate compensation, the necessity for working hard, prevents or cures the nervous affections which so frequently assail the rich at this period; for luxury is the hot-bed of nervous affections, they grow there in profusion, and run into such strange eccentricities, that pathologists have given up the hope of completing their catalogue. Of what use is leisure to practise all the appliances of hygiene, without the resolution to use them? Many of the poor are not forced to work in atmospheres so injurious as those of the heated ball-rooms frequented by the wealthy.

Prognosis.—The prognosis of diseases of the change of life is very satisfactory, unless they be aggravated by serious diseases of the sexual system, or constitutional affections. Sometimes, however, the crisis so paralyses the ganglionic centres, that the patients cannot recover strength, and continue for years to lead a life of which every act is stamped with debility, not to be accounted for by organic disease. Life is seldom compromised, but the whole tenor of existence is ruined.

In going over my numerous cases, to discover why some women suffer so much, and others so little, at this period, I come to the conclusion, that it does not so much depend upon the strength enjoyed by the system, which is *constitution;* nor on the visible predominance of any one set of organs over the other, which is *temperament.* Neither does it depend on the menstrual flow ceasing early or late, nor on women being single or married, rich or poor, but on a peculiar susceptibility of the nervous system, a condition hidden from the microscope, but evident from the manner in which it responds to the reproductive and to all other stimuli.

Women who suffered much at the change of life had often suffered much at puberty and at menstrual periods; while these had seldom been attended with distressing symptoms in women who suffered moderately at cessation; for amongst the thirty-nine cases where there was no suffering, there was the same immunity at puberty, and at the menstrual epochs. I therefore conclude, that the diseases of the change of life, like those of puberty, are to be ascribed to the nervous system being unable to tolerate the stimulus imparted to it by the coming into power of the reproductive organs, nor the loss of this stimulus on their falling into decay; for when the nervous system is well-tempered, this stimulus improves health instead of disturbing it. Vital acts, however, are never found cut and squared with mathematical precision; and I have had some patients who suffered much at cessation, although their previous health had been uninterruptedly good.

Theory of Diseases of the Change of Life.—What precedes ought to enable us to find a correct theory to explain the coming of disease at the change of life; for of what use is a long enumeration of medical facts, unless it lead to a sound theory, explaining their production and preventing their occurrence? Stones only cumber the ground, till the architect puts them in place.

Diseases of the change of life should be thought of as having their "*fons et origo*" in the ovaries, whether their power be their own, or borrowed from the spinal cord. While involution is taking place, the ovaries disturb the viscera with which they have worked harmoniously for thirty years, they disturb the epigastric centre of nerve power and the cerebro-spinal system. I do not pretend to know the nature of this disturbing influence, but I suppose it is similar to that made manifest by the coming into power of the ovaries at puberty, because the symptoms at both periods of life are very similar. This disturbing influence often shows itself before there is any diminution in the menstrual flow: thus a tall, portly lady, aged fifty, is still regular, but for the last few months she has

suffered from burning flushes, and her hands often become scarlet to the tips of her fingers. Others suffer from pseudo-narcotism and the minor forms of hysteria, before there has been any diminution of that blood loss which will soon occur. In searching how it is, that ovarian disturbance induces morbid action, its effects on the female economy should be studied, not only in the menstrual phenomena, but also in the continuous action of the ovaries on the system. The results of this influence, when morbidly exerted, are often evident long before the menstrual flow, and long after cessation. When a girl of ten years of age is, more or less, in a constant state of pseudo-narcotism, without any sign of the well-recognised forms of cerebral or gastric disease, the premature morbid influence of the ovaries on the cerebral system is manifest, and Landouzy has rightly submitted that the ovaries may also produce hysteria, long before the appearance of the first menstrual flow or the comprehension of sexual ideas. I have seen girls affected with pseudo-narcotism eight years previous to first menstruation, and women to suffer severely from it ten years after cessation. To this ovarian disturbance must be traced severe diseases, as well as slight ailments; for as I have often said, the most frequent diseases of the change of life are the exaggeration of phenomena natural to cessation. Thus, as flooding is a natural phenomenon at cessation, it may then develop into a disease. As increased perspiration is a natural phenomenon of cessation, it may occur under the form of continued sweating. The mild forms of gangliapathy are frequent accompaniments of cessation; therefore, the severer attacks of the complaint may be anticipated. Cessation is almost always attended by slight and varied cerebral disturbance; therefore, severe and frequent nervous affections may be expected. Gradually or suddenly this ovarian disturbance checks uterine blood flow, and the blood thus economized should be used to strengthen the framework or to produce fat. Superabundant blood will account for congestion of organs, for hæmorrhages, and for mucous flows. For thirty-

two years the womb was a powerful centre of attraction, causing it to be a monthly focus of blood-currents from the abdominal viscera. It sometimes happened, that a strong mental or pathological perturbation divided the blood-current, so that while a portion was directed to the womb, the rest was sent to some weak organ, which was unable to throw the blood off from its surface and became congested. The same occurs during the change of life, for part of the blood is still directed every month towards the womb, which is thereby congested, while disease may be induced by the monthly current setting in, towards a weak organ. Ovarian influence, having generally relaxed the bowels at menstrual periods, may now be expected to derange digestion, to congest the liver, and to cause diarrhœa, or constipation and piles. One effect of menstruation was to relieve plethora of the portal system, so obstinate congestion of the liver might have been expected to follow cessation.

In what precedes, I have had in mind women entering the change of life with well-constituted nervous systems and sound sexual organs. If the sexual organs be diseased, the symptoms of ovarian disturbance will be more severe, and may be prolonged far beyond their natural termination. Supposing there be something eccentric in the nervous system of a woman, the reaction of the subsiding ovaries on the pelvic ganglia, and on the ganglionic nerve centre, may be akin in nature to shock and produce paralysis.

Then occur epilepsy, and irregular manifestations of nervous energy, which Sydenham dilates on, when treating of hysteria. Then occur various forms of neuralgia, as well as the anomalous symptoms referred to the pit of the stomach, and varied cerebral disorders. After cessation, it may take several years to extinguish ovarian activity, which shows itself by monthly recurrence or aggravation of symptoms. In some, the advent of disease frequently coincides with an imperfect menstrual nisus, indicated by abdominal pains and a menstrual flow, which, although very slight in quantity, and recurring several years after cessation, clearly indicates the continuance

of ovarian activity. Some have merely flushes and slight perspirations, for about three to five years after cessation, at the end of which time severe symptoms occur, and I attribute them to the change of life, because they are exactly similar to symptoms frequently supervening as the immediate result of the ménopause. Sometimes diseases of the change of life occur from the sudden interruption of the heats and flushes which had hitherto proceeded uninterruptedly ; at other times the skin continues to act well as the safety-valve of the system, until the health breaks down under the aggression of some mental or physical shock.

CHAPTER IV.

PRINCIPLES OF TREATMENT AT THE CHANGE OF LIFE.

The natural history of the reproductive function has enabled me to state in the preceding chapters, what complaints are to be expected at the change of life, and will also point out the principles that should govern their treatment.

If Nature bled, in different ways, 208 women out of 500, it evidently shows that this spontaneous effort to relieve the system may deserve imitation. If 326 out of 500, suffered from sinking at the pit of the stomach, from fainting, debility, and chlorosis, it shows that stimulants and tonics must be useful. If 134 out of 500 suffered frequently from biliousness, jaundice, waterbrash, vomiting, and dyspepsia, it is clear that mercury and alkalies will be often wanted. If 75 out of 500, had frequent diarrhœa or constipation at this period, it shows that purgatives may often be of service. If 285 out of 500, had unusual perspirations or sweating, it proves the utility of sudorifics at this epoch. If in 277 out of 500, the nervous system was actually steeped in a more or less intense state of stupor, it suggests the utility of sedatives. If in many, the organ most prone to disease through life suffered most at this period, does it not show the necessity of discovering this weak organ from the patient's previous history, so as to give it protection? If disease of the reproductive organs prevents the change of life taking place after the healthy pattern that I have described, does this not explain that the cure of any such disease is an indispensable step to the recovery of health, at the ménopause.

In exhibiting remedies at this period, it is necessary to

guard against a prejudice firmly rooted in the minds of many, that the change of life is synonymous with old age, for the principles of treatment applicable to diseases of old age are not always suitable to those of the change of life. Then, as at puberty, vital energy may be latent but oppressed, so that bleeding and lowering measures sometimes develop unexpected strength. I thoroughly believe in the efficacy of the modes of treatment thus suggested by the study of natural phenomena, and many cases recorded in this work will show, how, by following the suggestions of Nature, I have been able, in a few days, to relieve patients who had been suffering for years. With the exception of those afflicted with cancer or structural diseases, there are few incurable cases, though many, satisfied with being *relieved*, will not allow a perfect recovery to be made, by following out a systematic plan of treatment. From what has been said, it will be clear, that we have firstly, to moderate central nervous irritability by sedative medicines or by Nature's own sedative, bleeding; secondly, to eliminate as far as possible mental and emotional stimuli by good hygiene; thirdly, to cure whatever disease may aggravate the case.

Sedatives.—The 227 women out of 500, who suffered from pseudo-narcotism, the 226 who were troubled with dorsal pain, the 205 by hypogastric pain, the 208 subject to headaches, the 146 presenting the minor forms of hysteria, the forty-nine distressed by epigastric pains, the sixteen in whom insanity occurred, and many others who suffered from nervous affections, are all witnesses to the efficacy of sedative medicines, so it is well to treat of them first, as they comprise our chief means of moderating nervous irritability. Those most benefited by sedatives, are the nervous and chlorotic, in whom there is action without power, action requiring to be restrained until the system has gathered strength; and as the tolerance for a remedy is generally in direct proportion to the possibility of its being required, it will be found that the thin, weak, and nervous are most sensitive to the action of sedatives, and can be brought to tolerate the largest doses.

When in 1870, I published the third edition of this work, I stated, that bromide of potassium was likely to be useful, for up to that time, I relied on henbane, Dover's powder, camphor, and castoreum to relieve cerebral irritation. I believe they were not less efficacious than the bromides, which suit admirably nervous diseases at the change of life, particularly when combined with the outward use of opium and other sedatives. I begin by trying the bromide of potassium, because I think it more narcotic than the other bromides, whether it be anaphrodisiac, as Brown-Séquard and Dr. Garrod think, I do not know. I give three drachms of the bromide, with the same quantity of tincture of orange-peel in a six-ounce mixture, and I order one tablespoonful to be taken with a little water at four o'clock, and two at night, so that the forty-five grains of bromide may take effect at night. I continue this for a fortnight, and then advise only the night dose to be taken for another fortnight, and then a dose on alternate nights for two or three weeks. Women at the change bear the bromides remarkably well, and I have seldom seen them bring out the characteristic "rash." Idiosyncrasy will of course govern the dose, for I have seen a very nervous woman drop off into sound sleep, five minutes after taking three grains of bromide. If sleep cannot thus be obtained, I add chloral to the bromide mixture, so that the patient may take five grains in the night dose of bromide. When bromide of potassium does not produce the desired effect, I change it for that of sodium or ammonium, and if the long-continued use of a bromide be required, I often combine the two first in equal proportions, also when cases are troublesome, as was suggested to me by Dr. Ball, of Paris. Under similar circumstances Dr. Charcot has given bromide of zinc, from five to twenty grains in pills. Bromide of camphor has been praised by my friend Dr. Sirédey, each of Dr. Clin's capsules contain four grains of the drug, and from one to eight capsules have been given in the course of the day. I have no experience of the two last-named preparations, nor of croton chloral, but they strongly commend

themselves for trial in obstinate cases. Although I seldom give opiates internally, I have not hesitated to sanction the daily taking of two and three grains of acetate of morphia, for several years, when I found that nothing else could quell sickness, diminish ovario-uterine pain, cure hysteria, and render bearable an existence otherwise intolerable.

Chloral is another invaluable medicine discovered since the publication of my last edition, and it has taken the place of opium, when sleep is the chief object. I prefer to give it with bromide of potassium, and I generally find five grains of chloral and twenty of bromide, taken at night, to be sufficient. Chloral and camphor, rubbed up with syrup or given in a mixture, is a convenient medicine. The bromides have too much thrown into the shade the extract of henbane, which is effectual in from six to twelve grains, in the course of the day, made up in two-grain pills. Sleeplessness, attendant on sciatica and other forms of neuralgia, will sometimes yield to Indian hemp when opium and the bromides fail to give sleep. Camphor is a very valuable remedy; its subtle fumes seem to spread like an aura over the nervous system, stimulating it to increased action, causing the capillaries to eliminate with the perspiration, what may oppress the nerves. The effect of this is a subsidence of pain, an increase of strength, and sometimes a sensation of lightness. Camphor seems to correct the toxic influence which the reproductive system has on the brain of some women, and its anaphrodisiac properties have been often shown in priapism and nymphomania. It abates the sexual sting by acting on the cerebro-spinal nerves of the external organs of generation, not on the testicle or ovary. The testimony of Raspail on this point is of great value, and he says, that habitual large doses did not prevent conception nor induce impotence. Camphor may therefore be useful in appeasing the excitement of the organs of generation at the change of life, if it be given in sufficiently large doses. Castor, ambergris, musk, and sumbul are nervine stimulants that are often useful, castor being the one I most frequently give, and I find it is the principal ingredient of

Crollius's Uterine Elixir. In some cases of perverted cerebral innervation, the inhalation of chloroform, or of a mixture of chloroform and ether, may be usefully carried to the verge of unconsciousness, provided this be done by the medical adviser, and the drug be not trusted to the patient. Cerebral irritability may be moderated by topical applications to the head; and in all severe cases of headache, pseudo-narcotism, and neuralgia, I recommend the patient to sponge the head all over, once or twice a day, with cold vinegar and water, or eau de Cologne and water, and after half drying the hair, to rub in, for five minutes, sweet oil, or any pomatum. If these refrigerant measures do not relieve, hot flannels to the temporal regions can be tried. The head should be sponged with water, holding in solution 2 to 4 oz. of camphorated spirits of wine to the pint, with the addition of a little eau de Cologne or lavender water. Camphorated vinegar and water, or water in which camphor has stood, or the comp. camphorated liniment well diluted, are excellent remedies; but a still better preparation is Raspail's sedative lotion, which is made by adding 2 oz. of liquid ammonia and of common salt, and 3 drs. of camphorated spirits of wine to 32 oz. of water. This lotion may be used with a small sponge, or a pad of soft linen may be soaked in it, applied to the painful part of the head, and renewed as often as may be required. It reddens the scalp, causing burning sensations, but its action can be lessened by diluting it with water, and in severe cerebral affections, a handkerchief should be tied round the forehead, to prevent the liquid running into the eyes, while copious spongings are made to the head of the reclining patient. Cold cream should afterwards be rubbed into the scalp, or cold cream with 1 drachm to the oz. of camphor. In pseudo-narcotism amounting to stupor, I have rubbed into the scalp, eau de Cologne with as much camphor as it would dissolve, and in a few minutes the patient has come to herself. In a case in which these attacks of stupor frequently followed the epigastric pain, this was my only treatment during the attack. On recovering her

senses, the patient felt as if her brain were "benumbed," and then succeeded a sensation of internal pricking, like "pins and needles." When this was complained of, I wrapped the head in flannel, and left the patient alone, and the effect of these measures was sometimes surprising. In very exceptional cases the head should be shaven, and sedatives rubbed into the scalp. The ext. of belladonna, hyoscyamus, and opium, may be used, 1 drachm of each to 1 oz. of cold cream; and it may be sometimes useful to combine them with mercurial ointment. Cerebral irritability is often kept up by ganglionic irritation, and sedatives to the epigastric region are required to quell both. I have left off prescribing belladonna plasters, and order a bit of piline, four or five inches in diameter, to be sprinkled every morning with thirty drops of a liquid containing 3 grains of sulphate of atropia, 6 grains of acetate of morphia, 1 ounce of proof spirit of wine. This is to be worn all day, will be kept in place by the clothes, and need seldom be worn at night. I have only once heard of this affecting the eyes, and the drops had been freely used to the back, as well as to the pit of the stomach.

Cerebral irritability at the change of life being generally caused or aggravated by ovarian disturbance, I generally seek to quell both, by vaginal or rectal suppositories, containing opium, belladonna, or acetate of morphia. The precept to apply the sedative, as near as possible to the suffering nerves explains the speedy and beneficial results that often follow the exhibition of suppositories or medicated injections, by the vagina or the rectum, when the reproductive organs are at fault. Even in cases where there are no abdominal or lumbar pains, I sometimes order sedatives in this way with the greatest benefit. In some cases of nervous irritability, where there is a great tendency to headache, delirium, pseudo-narcotism, or any state approximating to insanity, they are most useful; for at the change of life, all those distressing conditions of the mind do not depend upon idiopathic cerebral disease, but on the perverse reaction, of some anomalous ovarian influence, transmitted through

the ganglionic nerves to the brain. By assuaging the disturbing influence of the reproductive organs, sedatives, thus given, allay the diseased action of the ganglionic nerves, and thereby cure cerebral affections. When incipient insanity is accompanied by signs of ovario-uterine disease, a very important part of the treatment is the exhibition of sedatives by the rectum, as in the case of a patient sent to me by Mr. F. Brown, of Chatham. She was about fifty and at the change, lived in complete seclusion, and was a prey to all sorts of strange delusions. As there was leucorrhœa, frequent uterine pains, and great suffering on digital examination, there was a chance that strong opiate enemata might afford her relief; so I ordered them, with other measures, without giving much hope to her husband, but I heard afterwards that this treatment soon cured the patient.

Bleeding.—The *natural history* of the change of life teaches that at cessation, Nature has sought relief by hæmorrhages from different parts of the body in 208 women out of 500. As they are often benefited by the loss of blood, the natural process is evidently worthy of imitation, and it has been extensively copied by Tissot, Hufeland, and Meissner; nevertheless so little does present practice imitate Nature, that only five of my 500 patients had been bled, and ten cupped. Fothergill and Heberden thought that sudden deaths had greatly increased in England since bleeding, at the spring and fall, had gone out of fashion, and I am convinced that the sufferings of many women are aggravated from bleeding being never resorted to. Some twenty years ago, I was the first to inveigh against the folly of giving up the proper use of bleeding, because it had been outrageously abused; and since then bleeding has been ably advocated by Drs. Handfield Jones, Markham, Richardson, and Fordyce Barker. Referring to another work* for further details on this subject, I shall merely observe to those who still retain a horror of bleeding, that, supposing the constitution of *man*

* "Handbook of Uterine Therapeutics." 4th edition.

has so changed from what it was, that it can be now damaged, by taking from him, when a prey to acute disease, ten or twelve ounces of blood, I can answer for *woman* often bearing with benefit very large losses of blood; and as a redundancy of blood, of which Nature has not yet found means of disposing, is one cause of disease at cessation, it follows that bleeding, so often effected by Nature, at this period of life, should not be neglected by those who pride themselves on understanding and on imitating her proceedings.

Plethora sometimes exists with apparent weakness, which may be relieved by bleeding; so that in seeking to determine the utility of this measure, it is well to be guided by the state of pulse at the temples, and at the heart, as well as at the radial artery, bearing in mind, that should there be much emaciation, the temporal and radial arteries will be brought nearer to the surface, and give a first impression of vigour where none exists. While the effects of bleeding are admirable in plethoric patients, they would be very detrimental to those who are chlorotic and nervous.

Characteristic nervous symptoms of the change of life are headache, giddiness, heaviness, and drowsiness. I have drawn attention to these symptoms as of frequent occurrence at puberty, during pregnancy and lactation; but whatever may be the period of their supervention, they should not be necessarily considered as indicative of a determination of blood to the head calling for venesection. The following cases will exemplify the discrimination required to treat patients suffering under similar symptoms:—

Case 11.—In 1844, the rage for bleeding, again developed in France by the passionate advocacy of Broussais, had subsided in Paris; but it was still possible to test the ill effects of this pernicious system. About that time I was consulted by a lady, aged fifty-one, tall, thin, with a pallid complexion, dark hair and eyes. She had first menstruated at fifteen, the function had never been interrupted except by three pregnancies; it subsided gradually, and cessation occurred at the age of forty-eight. For some months she felt no

inconvenience, but afterwards she was much troubled by headache, giddiness, flushes, and perspirations. An eminent French physician, ordered her to be bled to ten ounces; a slight improvement followed, but the same symptoms soon returned, which were again interpreted as signs of plethora, and other ten ounces were taken from the arm. This second bleeding made the patient much worse; and when I saw her, the marked ill effects of the treatment were very evident, so I gave anodynes, mild purgatives, wine, and a very strengthening diet. The patient rapidly improved, and in subsequent relapses derived benefit from the same kind of treatment.

Case 12.—In 1850, I was consulted by a lady, aged fifty-three, of middle stature, sanguine complexion, brown hair, and hazel eyes. She menstruated abundantly for the first time in her thirteenth year, and she had since been regular, the discharge being usually abundant. While the function was ceasing, she was twice seized with flooding, and was much better for it. Menstruation ceased at fifty-one, and was soon followed by diarrhœa, which came on at irregular intervals, but did not interfere with appetite and strength. When diarrhœa subsided, intense headache, with giddiness, came on, together with flushes of heat and drenching perspirations. She had consulted several medical men, and had taken quinine, acetate of lead, and gallic acid, but without benefit. I ordered her to be bled to twelve ounces, and the headache, vertigo, flushes, and perspirations abated considerably. The bowels were kept open by Seidlitz powders; several glasses of effervescing lemonade were taken in the course of the day, and a tepid bath, for an hour, twice a week. Meat once a day, no beer nor porter, one glass of sherry at dinner, and increased exercise in the open air. In a month all the painful symptoms had disappeared, and the patient remained well for several subsequent months, when, without any apparent cause, the same symptoms broke out again. I ordered six ounces of blood to be withdrawn, and prescribed the former treatment, with similar good effect.

The symptoms experienced by both these patients were similar, but their constitutions were very different. The first shows that, when nervous people are bled, there arises a state which often closely resembles those threatenings of disease in the vital organs, which are relieved by bleeding in other temperaments. In the last case the patient was of a strong constitution, accustomed to lose considerable quantities of blood, and relieved by the occurrence. The vigour of the circulation was shown by the strong impulse of heart and pulse, instead of the flaccid condition of both in the first patient. The one was relieved by sedatives and a strengthening diet, the other principally by bleeding; and I have seen bleeding remove these symptoms when it was indicated not by a strong constitution, but by the previously-contracted habit of losing a considerable quantity of blood, which can be met with in women of a slender make and slight delicate appearance, whose nervous susceptibility is great, as in whom, there is a tendency to hæmorrhage.

Case 13.—An American lady first consulted me in 1874. She was forty-eight, and a tall commanding woman, with a flushed face, a very anxious expression, and an excitable manner. She was the mother of two children, and with the exception of some slight uterine disturbance, she had all her life enjoyed perfect health until she was forty-seven, when the menstrual flow ceased for three months. She then became depressed, irritable, and most excitable, symptoms which vanished so soon as the flow returned. There had been no flow for six months, her pulse was quite regular, soft, and sixty. She complained of cerebral oppression, of confusion of ideas, and of having fits of ungovernable exasperation. Perspiration was habitual and often excessive, and she slept too well, often dropping asleep at a party. She said these symptoms were caused or aggravated by intense epigastric distress and sense of sinking and exhaustion which strongly prompted her to take food and stimulus. She had taken both freely, though not to excess, without benefit. As the liver was congested, I gave her calomel and colocynth,

twenty grains of bromide of potassium, twice a day, and I told her to wear at the pit of the stomach, a bit of piline, sprinkled with a solution of sulphate of atropia. A warm bath twice a week, and a quiet life were recommended. As however, the lady's object was to introduce her daughter, she was generally up till three o'clock in the morning, and the treatment was not followed out. Occasionally she came to say, that she was almost crazy, and I ordered leeches to the anus or behind the ears. Once I thought she might really go mad, and I had twelve ounces of blood taken from her arm, which immediately brought her back to a calm state of mind. I may here state, that not knowing how to get her bled, I wrote to a young hospital surgeon, to ask him how much he would charge, but as he said three guineas, I offered two to another assistant surgeon. He so little knew how to bleed, that he made too small an opening, the blood only came out like a thread, and it filtered into the cellular tissue, so as to leave a large dark stain on the arm, for the following three weeks. The great improvement lasted six weeks, when she returned to America to look after property, to fight her foes, pleading her own cause on one occasion. Of course she was very bad at times, and then had leeches applied to the mastoid processes; and once two leeches applied to the cervix, caused a terrific flooding, and immense cerebral relief. Every season brought her to London, and she suffered in the same way, but less; and in 1880, in spite of lawsuits, she had a calm collected expression of face, and her health had improved, her pulse being sixty, soft and regular. When I saw her in 1881, there had been no menstruation for five years, and still at times she suffered much from flushes and sweats, and from the cerebral and ganglionic symptoms above described. I ordered leeches behind the ears, which always do good, bromide of potassium, eau de Vichy, and arsenic, which I think has been of great use.

This is a most instructive case. It shows that owing to some peculiar texture of nerve-tissue, a singularly healthy woman may be seriously ill for five years because the men-

strual flow ceased. Her nervous system worked well, so long as she abundantly menstruated, and it has never been able to endure the relative amount of plethora caused by cessation. This plethora had no outward manifestation, for the pulse was invariably sixty, soft and regular. An eminent London physician would not hear of her being bled, and nevertheless, bleeding acted like a charm, and it ought to have been repeated at spring and fall, as in olden time. Sufficient blood should be taken away, to make a decided impression on the system, for Nature adopts this plan, and flooded 138 women out of 500, at the change of life; but when the indication to bleed recurs, it is better to bleed in progressively smaller quantities, and at progressively longer intervals. This is another imitation of a natural process; for in 171 women out of 500, the menstrual flow ceased naturally, that is, by a gradually smaller amount of discharge, occurring irregularly every two, three, four, five, or six months. Tissot mentions a case, in which he bled occasionally for three years, after which the patient recovered her health. Hufeland used to bleed three times in the first year after cessation, twice in the second year, and once in the third. In 53 cases out of my 500, there was a marked return of monthly phenomena after cessation: it might be judicious to bleed before the monthly occurrence when it is of a troublesome nature.

The effects of the bleeding should of course be aided by judicious regimen; for doubtless, the necessity for bleeding, even plethoric women, would be considerably diminished, if breaking through accustomed habits, they diminished the quantity of their food, and refrained from what may be otherwise prejudicial in their mode of life.

Local Depletion.—When prejudice interferes with bleeding, a few leeches behind each ear, often do good. If piles have formerly had a tendency to bleed, leeches may be applied to the anus; which will also be sometimes useful if there be considerable congestion of the womb. Dr. Ashwell advised bleeding the womb by leeches, as the best mode of

depletion at the change of life, but leeches applied to the womb, determine blood to that organ, as occurred in the last case, and to apply them at the change of life, except under peculiar circumstances, would be likely to prolong what Nature wants to curtail. To check the determination of blood to the womb is clearly indicated at the change of life; and even in cases of uterine inflammation, I seldom apply leeches to the womb.

Gastro-intestinal Indications.—They are often frequent and imperious at the change of life. Dyspepsia, confirmed biliousness and constipation only yield to most careful hygiene as well as to the use of alkalies, mineral acids, and mercurials. I seldom omit to give saline draughts, for the free action of the kidneys is most important when critical changes are in progress. Sometimes I prescribe an effervescing draught with carbonate of potash, as well as carbonate of soda, to be taken twice a day for a fortnight. This draught is more frequently made the vehicle of whatever other medicine may be wanted, sesquicarbonate of ammonia or hydrocyanic acid, nitrate or acetate of potash, tincture of digitalis, or of nux vomica and citrate of iron and quinine. These combinations so valuable at all times, are singularly so at the ménopause.

Alkalies and Diuretics.—In healthy women, the monthly ovarian crisis generally produces *critical* deposits in the urine, for most women remark their water to be "muddy" a day or two before or during the menstrual flow. During the dodging time and after cessation, this turbid state was noticed in forty-nine out of my 500 cases, to last for weeks, to disappear and to return again. This is sufficient to indicate the utility of alkaline preparations; their utility will be likewise apparent in the thirty-seven cases of dyspepsia, the thirty-one of vomiting, the five of waterbrash, the fifty-five of biliousness, and the six of jaundice. Alkalies should be taken after meals, to combine with the hydrochloric or lactic acid, they then pass into the circulation without increasing the water, the solids, or the sulphuric acid of the urine, im-

prove digestion and the state of the blood. Some women who became very stout after cessation, and who derived little benefit from measures advised to relieve the sweats and nervous symptoms of this period, rapidly improved, when by large doses of liquor potassæ before meals, they had been disencumbered of a superabundant amount of fat. The frequent occurrence, at the change of life, of dyspepsia, biliary derangement, and debility, makes it often desirable to give mineral acids, and I prescribe thirty drops of the diluted phosphoric or nitro-muriatic acid in distilled water or other suitable vehicle; and sulphuric acid is most useful whenever the functions of the skin are disturbed and sweats require checking.

With regard to purgatives, the 52 women out of 500 who were much relieved by diarrhœa, here bear witness to the utility of purgatives, as well as the thirty-seven who were subject to dyspepsia, the twenty-three who were troubled with obstinate constipation, the fifty-five in whom biliousness was a prominent ailment, and the six who had jaundice once, or more frequently. The utility of purgatives at cessation is further shown by the very intimate sympathy which I have proved* to exist between the generative and intestinal canals, a sympathy indicated by the relaxation of bowels which generally attends the menstrual flow. Purgatives fully deserve the confidence which the profession has long accorded to their use; indeed the utility of purgatives has become so much a matter of popular, as well as of medical belief, that both patient and medical attendant too often confide in them alone, to the neglect of more important means. In proof of the utility of diarrhœa, I will give the following case:—

Case 14.—Catherine M., aged fifty-three, tall, thin, and pale, menstruated very abundantly at fifteen years of age, was regular from the first, and continued so for three or

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* "On Uterine and Ovarian Inflammation, and on Diseases of Menstruation," 3rd edition.

four days, every three or four weeks, with so little suffering that "she never felt them come nor go." She married at thirty-three, miscarried three times, and bore five children, the last at forty-seven; and menstruation, which had been irregular a year previous to conception, never returned after that event. The patient was generally relaxed during the menstrual epochs and during her last pregnancy, and after her confinement, she frequently had three or four stools a day, without pain or loss of appetite, after which diarrhœa came on every three or four weeks, with flushes and drenching perspirations. For the last twelve months she was relieved six or seven times a day, until lately, when the bowels only acted once in two days, and on this account she had suffered much from heat, flatus, nausea, oppression at the pit of the stomach, and want of appetite; although her tongue was always clean and healthy. When the action of the bowels became freer, the patient got well.

When diarrhœa occurs at the change of life, it is generally at irregular intervals; it may, however, appear every month as in the instance of a lady forty-five years of age, in whom diarrhœa came on, when the menstrual flow was due. The diarrhœa lasted three days, and gave relief. The menstrual flow never returned, but was then replaced by diarrhœa every month, for a year, to the great benefit of the patient. I have known cessation to have been followed for five years, by an habitual looseness of bowels, occurring two or three times a day, generally without colics. The patient enjoyed good health during that time, and is now a stout and tolerably healthy woman. Dr. Day notices the salutary effects of diarrhœa, consisting of watery evacuations, taking place without apparent cause, every three or four months after cessation; and he mentions the case of a lady, eighty-seven years of age, in whom this had happened with benefit for the last thirty years of her life. Saline purgatives are the best, Püllna, Friedrichshall, Carlsbad, and Hunyados waters, or Seidlitz powders, taken on getting out of bed. The fine old plan of giving calomel or blue pill at night, and a black

draught in the early morning, is often as advisable now, as in the days of Abernethy. Barbadoes aloes makes the best dinner pill, the glacial extract is a good preparation and one grain is sufficient. Sulphur is generally classed amongst purgative remedies; but it owes its chief value, in diseases of cessation, to another action, much more difficult to understand, and which has long rendered it so valuable both in hæmorrhoidal affections, where there is an undue activity of the intestinal capillaries. Sometimes I administer the flower of sulphur alone, or else to each ounce of it, I add four drachms of calcined magnesia; or I prescribe equal parts of borax and sulphur, one to two scruples of these powders to be taken at night in a little milk, such combinations act mildly and are valuable when continued long enough. Thus taken, and now and then left off, I have not heard sulphur objected to by patients on account of its determining any peculiar smell of the skin.

Tonics.—Strychnia, arsenic, quinine, and iron are often wanted to give tone to the system; and I have tried to class them in the order of their importance. It is after cessation, when there is want of tone, that tincture of nux vomica, liquor strychniæ, and Fowler's solution are often useful; and I have never seen them do harm, even when they seemed to do no good.

Sudorifics.—In some countries, the polite question on meeting a friend is not "How do you do?" but "How do you perspire?" This might apply to women at the change of life, for the 201 out of 500 who had continual perspirations, and the eighty-four who were for a long time repeatedly sweated, show the utility of sudorifics. Indeed, for one woman who is relieved for a time by a critical exhalation of blood from the womb, twenty, or more, derive permanent benefit from long-continued critical cutaneous exhalation, so I wonder that the utility of perspiration, and the advantages to be derived from sudorifics, have not been more insisted on, as their action is exerted on an immense surface, and followed by the exhalation of a large quantity of water,

salts, and used up animal matter. That the perspirations of this period have not passed unnoticed, is evident from Siebold mentioning a case of sudden cessation, followed by abundant perspiration. Tissot also alludes to the fact, that when intermittents were frequent, he sometimes saw menstruation finish by an intermittent fever, which, by greatly augmenting the perspirations, relieved the patient of the other infirmities which so often attend this critical change. Siebold's case reminds me of one in which the menstrual flow left suddenly at forty; since then she never suffered, but had constant and gentle perspirations up to the fifty-fifth year of her age. Eliza S., aged fifty-two, lost the menstrual flow suddenly at forty-two, after venesection, during a menstrual period; since then, she has had constant gentle perspiration, but no suffering. For proof of the utility of perspirations in various affections at the change of life, I refer to many cases in this work, and on the other hand, whenever women suffer more than usual from distressing sensations referred to the pit of the stomach, and from a considerable amount of cerebral disturbance, it will frequently be ascertained that the skin is habitually dry. There are "dry flushes," unrelieved by perspiration, whereas speedy relief follows profuse perspiration, whether it be an effort of Nature, or the effect of medicine. Acetate of ammonia and antimonial wine have served this purpose; pilocarpin should be tried.

Baths.—The 287 women who suffered much from flushes, the eighty-four who were habitually sweated, and the forty-two who presented various cutaneous affections, bear witness to the utility of baths. A warm bath is a very simple thing, but it acts in many ways. 1. It removes from the skin the saline deposits and other secretions left there by continued perspiration. 2. The veins of the skin absorb a certain amount of water, which allays cutaneous irritation and dilutes the blood. 3. The warm bath is a gigantic poultice, applying its warmth to all the peripheric expansions of the nervous system, and in these several ways, the warm bath is a splendid sedative of nervous irritability. When it is

considered that this gigantic poultice is perfectly manageable, that the temperature may be increased or lowered; that while the patient is in warm or tepid water, cold applications may be made to the head, and a stream of cold water directed to the abdomen, or to the womb through a vulcanized india-rubber tube, to abate local congestion, it is not surprising that the best practitioners, have at various times, vaunted the utility to be derived from baths in nervous affections, and that lately, they have been revived in France for the treatment of mental diseases. As a general rule, I tell my patients to take a warm bath at about 93°, two or three times a week, and to stop in the water for an hour. The prejudice against baths except as a means of cleanliness, is so great in England, that I am afraid of asking patients to do more; but to obtain the full sedative effects of baths, highly nervous patients should remain in them, two, or three hours, having warm water added at times so as to maintain a grateful temperature. So long a stay in a bath suggests a novel and some slight refection. A greater sedative effect will be obtained by letting the water gradually cool down to 90°, or even lower, and the amount of water absorbed will be to a certain extent proportionate to the low temperature of the bath.

Mineral Waters.—The sudden shock of cold sea-bathing is sometimes useful, when there is power of reaction, as well as intense nervousness. I have often advised warm sea-baths with advantage to patients after cessation, to give a stimulus to the system and enable it to derive further benefit from food and tonics. It stands to reason, that if there be any value in sulphur, alkalies, purgatives, and steel, for the treatment of diseases at the change of life, these remedies must be likewise useful when, as in mineral waters, they are in a state of combination with other substances, so as to be inimitable by our chemistry. Besides this important consideration, the total freedom from domestic cares, the complete change of air, food, habits, and scenery greatly enhance the value of mineral waters. Sulphurous waters are good not only in cutaneous affections, but when an habitual dry skin attends congestion

of internal organs, and in anomalous ganglionic neuralgia. Alkaline waters like Vichy or Ems, cannot be overrated in cases of obstinate biliousness, dyspepsia, vomiting, and gout. The saline waters of Homburg and Kissingen serve in cases of dyspepsia and obstinate constipation. Chalybeate waters, like Schwalbach and Tunbridge Wells, are useful in chronic debility, chlorosis, and in the after-part of the treatment of some gastro-intestinal affections. Hot sulphurous baths, like those of Aix in Savoy, Aix-la-Chapelle or Harrogate, may be made serviceable for the cure of rheumatic affections, lumbo-abdominal neuralgia, local paralysis, paraplegia, and in most neuralgic affections. To whichever of these watering-places the patient may be told to proceed, she should never begin a course, without consulting one of the resident medical men, who alone can well advise her respecting the kind of mineral water to be taken, as well as the best mode of its administration in her case.

Issues.—I should not mention them, if Dr. F. Churchill had not expressed his agreement with Fothergill, as regards the utility of applying issues and blisters to those who, in early life, have been relieved from cutaneous or other disorders by the establishment of the menstrual flow. He says, "I have repeatedly tried caustic issues, or perpetual blisters, and with the greatest advantage. They certainly aid the action of the remedies already mentioned, and, I think, prevent the recurrence of those irregular congestions which Dr. Fothergill has described." Gardanne and B. de Boismont likewise speak confidently on the utility of issues in preventing disease at the change of life, but I agree with Dr. Ashwell that they are seldom necessary, except perhaps when cutaneous eruptions are troublesome.

Surgical Treatment.—It would be an impertinence to remind the profession that whatever uncommon occurs between forty-five and fifty-five, is not to be set down to the change of life; if this volume did not contain abundant instances of unsuspected uterine disease being allowed to progress for years, because the symptoms were ascribed to

the change of life. There is no doubt much less acute disease of the sexual organs, from forty-five to fifty-five, but women are still very liable to chronic disease. When flooding or any blood discharge is protracted, only subsiding for a few days, to begin again, and when the vaginal discharge is said to be sometimes red, at others serous, mucous or muco-purulent, it is high time to ascertain the nature of the case. An account of what may be found and how the disease is to be treated, will be related in the chapter on diseases of the reproductive organs.

The reader will bear in mind, that it is only the *minority* of women who suffer in the many ways I have described, in passing through the change of life; the *majority* of women pass through the change with little or no suffering. Well regulated hygienic habits are all *they* require to assist the silent operation of natural laws, and I shall therefore treat of hygiene in the next chapter.

CHAPTER V.

PRINCIPLES OF HYGIENE OF THE CHANGE OF LIFE.

As at puberty, from the ignorance in which it is still thought right to leave young women, so at the change of life, woman often suffer, from ignorance of what may occur, or from exaggerated notions of the perils that await them. It would be well if they were made to understand, that if in tolerable health, provided they will conform to judicious rules, they have only blessings to expect from the change of life. This critical period may be dangerous for those who are always ailing, for habitual sufferers at the menstrual periods, and for those affected with uterine diseases; and if the sufferings of women were protracted, previous to the healthy establishment of the periodical flow, they may likewise expect cessation to be attended by a corresponding period of suffering. Women should know, that unless they be pregnant or nursing, great irregularities in the monthly appearance, or its prolonged absence, coinciding with sensations of sinking at the pit of the stomach, with flushes and perspirations, even though their age may only be between thirty and forty, may be considered as warnings of cessation, particularly if they are accompanied by a corresponding amount of pseudo-narcotism. This knowledge would prevent cessation being considered in the light of temporary suppression, and forcing medicines being taken, without medical advice. If, on the first indication of the change of life, women who are in fair health, carefully followed a regimen, and pursued a line of life in harmony with the physiological processes on which this change depends, disease would be prevented; but

as the change concerns a natural function, it is left to Nature; no additional precautions are taken, and advice is only sought for, when the mischief is done. It is, then, well worth while considering what are the rules of hygiene best calculated to prevent and cure the diseases of the change of life, referring these rules to the great functions of the human economy.

Hygiene of the Reproductive Organs.—I have shown that there is something more or less anomalous and morbid in the reproductive organs, and in their action on the system during the first half of the change of life, and that in the latter part of this period, these organs have a tendency to become atrophied. Can there be a clearer indication that their hitherto appropriate stimulus is likely to interfere with a natural process, while the change is going on, and that it is not wise to marry during this unsettled period. I have repeatedly remarked, that even in those who have been long married, connection at the change of life may be a cause of uterine disorders, which are of frequent occurrence in women marrying during this epoch. Some physiologists say that, as a flickering flame gives a final blaze, so in some women, sexual desire is strongest when the reproductive power is about to be extinguished: this occurs very seldom, and I have been repeatedly made aware, that a distaste for connection was the sign of an approaching change. My experience teaches me, that a marked increase of sexual impulse at the change of life is a morbid impulse, depending upon either neuralgic or inflammatory affections of the genital organs, and I corroborate B. de Boismont's assertion, that "whenever sexual impulse is *first* felt at the change of life, some morbid ovario-uterine condition will be found to explain it, in nineteen cases out of twenty." It therefore is most imprudent for women to marry at this epoch, without having obtained the sanction of a medical man. If this had been done in some cases that have come under my observation, flooding would not have been the result of marriage, slight uterine disease would not have been considerably aggravated, the march of undetected cancer would not have been hastened,

and other women would not have become insane, as in the following case :—

Case 15.—Mrs. B. was fifty-one when she consulted me; she had been all her life an intelligent, active, and determined woman, eccentric but not nervous; and she married when about fifty, during the dodging time. In the wedding night she had severe uterine pain, and flooded to a great extent during the following days, and then her mind became bent on suicide, with habitual fits of melancholy. Doubt was the characteristic of her mental state, she could not make up her mind to anything, and was always doubting about right and wrong. When I first saw her, she had not slept for a fortnight, and had sensations of burning in the breasts, and the lower part of the abdomen, menstruation being irregular, scanty, and dark-coloured. I gave morphia internally, ordered a succession of belladonna plasters to the pit of the stomach, effervescing draughts and warm baths. She got very much better in a fortnight, and was well in about six months, when menstruation ceased. Since this occurred in 1847, there has been no return of mental disturbance, notwithstanding the long illnesses and the deaths of her husband and mother.

The following case also shows how women sometimes seek to stay the inexorable hand of time, by protracting the regular appearance of the sign of womanhood, and another patient who married at fifty, occasionally applied a leech to the pudenda, to make believe that menstruation had not ceased.

Case 16.—Some years ago, I was consulted by a lady, aged forty-eight, who, when about twenty-five, formed a strong attachment, but family circumstances prevented a union taking place, till the lady was forty-five. The discharge had proceeded regularly up to the period of marriage, but then ceased. As this sudden cessation coincided with gastric symptoms, with a distension of the abdomen, and, above all, with a great anxiety for children, the patient was considered

pregnant, and carefully watched for many months. When the illusion was destroyed, the lady brooded over the possibility of her husband supposing that the courses had stopped previous to her marriage. After a minute investigation, I expressed my conviction, that the monthly flow had ceased. About a year afterwards, I was asked to see her again, and learned that, having consulted some one else, she had taken steel, purgatives, and large doses of savine, until she had a terrific flooding. This was followed by a sanguinoid discharge for several months, and other symptoms of inflammation of the body of the womb, of which there was no sign previous to marriage.

All this concerns a large number of our countrywomen, for it appears from the Registrar-General's report, that in 1851, 982 spinsters and 2375 widows married from the forty-fifth to the fifty-fifth year. Of these 3357 women, some married for love, many more to better themselves, or to show that they could have married before, if they had liked; while others, like besieged fortresses, surrendered at last, for the sake of peace. When menstruation is well over, there is no reason why widows should not marry, although marriage will render them more liable than they would otherwise have been to vaginitis and the milder forms of cervical inflammation. It is a very serious thing for a spinster to marry about fifty, particularly if she be anxious, nervous, and excitable! Will she bear well the new life? Has she retained the power to adapt herself to new and enlarged circumstances? Will happiness be wrecked in the venture? These are questions to be seriously thought of.

At all times, marriage should be followed by a most quiet life, still more so, when contracted at the change of life. Fatigue should be avoided, and arrangements made for an hour's rest on the sofa, in the middle of the day. Local irritation may be allayed by fomenting the parts with very hot water, or by adding a drachm of acetate of lead to a pint of cold water, to be used as a wash three times a day. The following puff powder may be freely used; after washing:—

Camphor, carefully powdered	℥iv
Acetate of lead	ʒj
Essential oil of bitter almonds	♏x
Starch	ad ℥iv

The tepid bath at 92° to 95°, prolonged for an hour once or twice a week, will be very useful.

Hygiene of the Digestive Functions.—Having shown that the debility often experienced at the change of life sometimes depends upon the frame being oppressed by an overplus of blood, for which there is no longer a monthly drain, it is rational that on the very first appearance of the irregularities characteristic of this epoch, women should curtail, rather than augment, the amount of food and stimulants to which they have been accustomed. When in the family-way or nursing, or so long as the menstrual flow remains regular and abundant, many women can, without inconvenience, take meat three times a day, and beer and wine at both luncheon and dinner; but when the surplus blood, produced by high feeding, can neither be well employed nor regularly ejected, it increases all the sufferings of the change of life, and brings on obstinate biliousness and constipation. I should be ashamed of insisting on anything so self-evident, if I were not often consulted by plethoric patients, to whom generous diet had been recommended by medical men, to relieve the debility and nervous symptoms of which they complained. Some had disregarded the advice, because they found high living increased their sufferings and their sleeplessness; whereas when living rather low, they slept better and suffered less. Some had judiciously left off the wine they had been told to take, because they found it muddled their heads and increased their nervousness. Such women justify these observations; and their breakfast should consist of toast or bread-and-butter, with weak tea, coffee, or cocoa; they should take but *one* dinner in the day, and it would be better to make this principal meal, at the fashionable luncheon-hour of two o'clock, in order that their last meal may be light, which can be easily managed, even if the

usages of society should require a lady's presence at an eight o'clock dinner-table. Dinner should be a plain meal; fish, and white meats, such as fowl or veal, in preference to beef or mutton; more of the crust than the crumb of the bread, and jellies and ice in preference to puddings. If on the contrary, all sorts of farinaceous food, pastry and cakes, be indulged in, the natural consequence will be a desire to prolong sleep, a distaste for exercise, and a tendency to congestions, bleedings, inflammations, and gout, or women may become distressingly stout.

A cup of beef-tea, or arrowroot, or something equally light, with a biscuit may be taken for supper; but those want none, who dine late. Ripe fruits and vegetables may be indulged in, to any amount not interfering with digestion. While women who have a tendency to become fat thus require less food, sleep and exercise than those who continue thin at cessation, both should beware of misinterpreting sensations of internal sinking and exhaustion to which all are more or less subject, and they should not too often seek relief for languor, weakness, or nervousness, in wine, cordials, and spirits, by which only a temporary stimulus can be obtained, at the expense of an increase in the faintness, flushes, perspirations, and nervous symptoms.

The system requires supporting by medicines and regimen, rather than stimulating by spirits; and I have known instances of women, who by a misinterpretation of their sufferings, have gradually so increased their usual consumption of wine or brandy, as to induce habits of intoxication. One or two glasses of claret, or champagne, at dinner should be the limit of such indulgence, either alone or combined with seltzer-water; but many have been better for leaving off wine. Effervescing draughts, as well as effervescing lemonade, and ginger-beer, are well indicated; coffee should be made weak or avoided, and tea should be used in moderation. Patients prolong their sufferings, by ringing at every hour of the day for tea; for ten or twelve cups of strong tea in the twenty-four hours tell injuriously on the nervous system.

Some women of the plethoric type would do well to abstain, for a time, not only from wine and coffee, but also from pepper and spices, but of course, when women are thin, weak, and semi-chlorotic, they require more food and stimulants. If during and after the change of life, women live as I recommend, they have no further unsettlement of health to fear. If, on the contrary, they go in for Scotch breakfasts, heavy luncheons, long dinners, and for the usual amount of wine taken at meals by English ladies, they become, like men, liable to another kind of climacteric about sixty-two. Fatty degeneration begins unsuspectedly in the capillaries, and steadily progresses, till at last health fails without apparent cause, or the kidneys become diseased, or may be a fatty heart suddenly gives way. Owing to great increase of fat in the omentum and in the abdominal walls, or to the relaxed state of these walls, or to distressing flatulence, the abdomen often becomes very protuberant or pendulous, in which case a light, elastic abdominal belt gives great comfort.

Hygiene of the Skin.—The keeping of the skin in first-rate condition is a great point in the treatment of diseases at the change of life, for it throws additional work on the skin by which at all times we lose more in weight than by any other emunctory. Daily tubbing in warm water is indispensable, and twice a week it is well to remain at least half an hour in a whole bath, at about 93°. Unusually prolonged gentle friction of the skin after the bath is of great use, although we do not precisely know how it relieves the nervous system. When there is a great tendency to perspiration, flannel should be worn immediately over the chemise, and over the nightdress, when the patient perspires profusely in bed, otherwise she will be chilled by every change of position.

Hygiene of the Muscular System.—Exercise is useful at the change of life. 1st. It relieves the congestion of the internal organs, transferring the blood from them to the limbs, and if the late-hour exercises of civilized life are dangerous to all, particularly to the sanguine; gentle, regular, and long-

continued exercise in the cool of the day is very beneficial. 2nd. It has a depletive effect, causing the skin to perspire more, and the kidneys to excrete more urea. It is well known, that by substituting violent for moderate exercise, the quantity of urea in the urine passed afterwards, may be found double that contained in the morning urine, and this may account for strong plethoric women deriving benefit from exercise, carried to a certain degree of fatigue, as recommended by Auber. 3rd. Exercise acts by exhausting that redundant energy which, when unemployed, produces the fidgets, nervousness, and temper. The long walk, or the quick walk, at unaccustomed speed, which was wont to bring on menstruation, in a delicate woman, will at the change, bring on, back pain and feelings of pelvic distress and other symptoms of morbid menstruation. So very long walks are objectionable, and they are likely to aggravate uterine congestion, piles, and varicose veins. Driving is of course excellent, but horse exercise should be left off till after cessation; indeed, its utility in favouring the menstrual flow, sufficiently warrants the discontinuance of the practice while the change is in full progress, for then it is likely to cause flooding, piles, and leucorrhœa. It will be obvious that the preceding remarks do not apply, when the change is characterized by great constitutional debility, for walking is often then impossible, and should only be gradually attempted.

Hygiene of the Nervous System.—It cannot be too often repeated that nervousness, under some shade and type, may be expected at this period, and should be prevented by suiting the habits of life to the changes progressing. It is therefore sufficient to mention that the sufferings of this epoch will be increased by long dinners, balls, and operas; for, in addition to the numerous excitements to be there encountered, hot and impure air must be breathed. The susceptibility of the nervous system is shown by the danger of suddenly giving bad news, or by the shock of any powerful impression; and I will take my examples from the lower

orders, whose nervous system is less excitable than that of their more favoured sisters.

M. N. was well and regular, up to fifty, when she saw a neighbour's child severely burnt, and a dangerous flooding ensued. Hearing suddenly of the death of her husband, brought on a severe flooding in S. L. In A. B. the menstrual flow suddenly stopped at forty-five, on her first realizing that her husband was insane; and in several instances, has the news of the sudden death of a husband caused early and sudden cessation. Perhaps the most curious effect of the mind on the body, at this period, was lately published in a French journal. A highly nervous lady, aged forty-eight, had ceased to menstruate four years, when she attended a sister during a protracted and painful labour. A few hours after it was over, she was herself taken with similar pains, and by flooding for several days. Three days after this ceased, the breasts swelled, and a milky fluid came from the nipples. B. de Boismont and others have likewise seen flooding, at cessation produced by strong emotion, or a sudden fit of anger.

It is impossible to overvalue the importance of sleep, for long-continued sleeplessness is likely to produce insanity by habitually subjecting the mind to that increased intensity of feeling which takes effect in the darkness, the silence, and the solitude of night. It is astonishing, in how much more lively a manner we are apt, in these circumstances, to be impressed by ideas that present themselves, than when the attention of the mind is dissipated, and its sensibility in a considerable degree absorbed by the action of light, sound, and that variety of objects which, during the day, fully excite our external senses. In the first place, sleep should be courted by abstaining from exciting pursuits or amusements, between the last meal and bed-time. This will be often sufficient, and will allow required remedies to act well and speedily. It should be also remembered, that if cold sometimes causes insomnia, this is more frequently the result of the bad habit of so tightly shutting up bed-

rooms that the air becomes foul and hot; indeed, some say that insomnia is to be always cured by sleeping with the window open. Some cannot sleep while the process of digestion is going on, while others sleep better for a light supper, and very bad sleepers should have a cup of beef-tea or milk with a slice of bread and butter, on their night table, for taking one or the other, will often give sleep to those who have been tossing about for hours. Sleep should not be too freely indulged in by those who are stout and who belong to the plethoric type; thin and nervous women, on the contrary, may be encouraged to take as much as Nature will give them, even a siesta after meals may be allowed, as sleep is for them the best restorative, and an anti-spasmodic of heroic force. In obstinate sleeplessness depending upon nervous irritation, a warm bath, before bedtime, is often as serviceable at the change of life as in infancy.

Travelling is a great strengthener of the nervous system, for it places the patient in entirely new circumstances, every one of which makes a fresh call on her attention, solicits her interests, captivates her faculties, and completely leads her from trains of thought, to which she had been long and painfully enchained. In addition to this, exercise of various kinds being willingly taken, gives increased vigour to the muscles, and therefore to the brain. The mind is consoled by the probability of recovering health at some agreeable watering-place, it feels safe under the guidance of medical authority, and resumes peace and tranquillity. Indeed, all that has been said in praise of baths, exercise, and the advantage of light-hearted cultivation of the pleasures of Nature, rather than of those of society, by women at the change of life, will clearly explain, how their combination may be made serviceable for the cure and prevention of disease at this epoch.

Mental and Moral Hygiene.—I have already said that during the change of life, the nervous system is so unhinged that the management of the mental and moral faculties often taxes the ingenuity of the medical confidant. Clever women often lose confidence in themselves, are unable to manage

domestic or other business, and are more likely to be imposed on, either within, or without the family circle. The disturbance of regular ovarian action, during the first part of the change of life, sometimes tells unfavourably on woman considered as a *moral* agent. Her mode of dealing with the every-day occurrences of life may betray a want of principle, contrasting in a striking manner with her previous rectitude of conduct, and a return to that untruthfulness which may have characterised puberty. There is often unusual peevishness and ill-temper, or fits of ungovernable anger, sometimes amounting to moral insanity. After having lived in a most exemplary manner up to the change of life, English ladies have deserted husband and children for a scamp; while others only stay at home, to make it intolerable by their tyrannical conduct, and hate the long-cherished objects of their affection. Some become most miserable pictures of melancholy self-corrosion, sitting in silent and gloomy seclusion, neither loving nor hating, only wishing to be left alone to chew the cud of baleful introspection. Some, in the midst of affluence talk poor, and indulge a propensity for stealing. Women have confessed to me, that they were obliged to have their children removed, for fear they should murder them; while others commit suicide. Unless there be some strong hereditary taint, all such cases of moral insanity can be cured by judicious treatment, as I shall show hereafter, and when the change of life is passed, the habitual rectitude of moral action often returns. With regard to such cases, the family doctor will have a very difficult part to play. If he has the courage to give wise advice, he runs the risk of being dismissed, if he lets things drift, he is sure to be deservedly abused a little later. He will have to explain to the patient's relatives, that although the nervous system may be, for a time, unhinged, it would be cruel to consider as confirmed insanity, the strangeness of temper, the fitfulness of spirits, the perversion of character, which after some months, may considerably abate or entirely disappear He may have to advise the removal of his patient from home excitements and

troubles. A married lady may be no longer fit to manage a large family, her injudicious orders may wake up a spirit of resistance that tells painfully on herself. An elder sister at the head of a household, may so upset her sisters and dependents by fits of passion or by weeks of sullen silence, that they cannot help retaliating, which makes her worse. Removal from home is the first thing to be done in such cases. At no time do women require so much judicious management, and intelligent sympathy from friends, and the support of some strong mind, in whom faith is placed. It is certainly surprising that a stout lady, in excellent bodily health, eating heartily, and taking a fair amount of wine a day, should be put out by trifles, be low spirited, fretful and quarrelsome for the slightest worry or mental exertion, and be laid up with a severe attack of cerebral neuralgia if the exertion be persevered in; but such cases are occasionally met with, and they may last one, two, or more years, after which the patient may recover her right tone of mind. Premature efforts to resume the usual active habits of life increase the frequency and severity of these attacks of cerebral neuralgia, and compromise the chance of ultimate recovery. It cannot well be wondered at, that the full conviction that age has stamped a woman with its irrevocable seal, should cast a gloom over the imagination; but a well-trained mind will soon adapt itself to a new state, and take comfort from the knowledge, that this epoch proclaims an immunity from the perils of child-bearing, and the tedious annoyances of a monthly restraint. When the change is effected, the mind emerges from the clouds in which it has seemed lost. Thankful that they have escaped from real sufferings, women cease to torture themselves with imaginary woes, and as they feel the ground grow steadier underfoot, they are less dependent on others, their mental faculties then assuming a more masculine character. The change of life does not give talents, but it often imparts the power to bring out more effectively, talents that have been lying in abeyance. Doubtless the subsidence of ovarian action deprives one form of

love, of those emotional impulses which gift the passion with surprising energy; but even when at last the heart becomes capable of listening to reason, love still rules paramount in the breast of woman, and whether called charity, friendship, conjugal or maternal affection, it still engrosses the thoughts, and failing all other forms and opportunities of love, religion often takes then a stronger hold, crowning the evening of life with unanticipated happiness. When safely anchored in this sure haven, a woman looks back on the time when her health was disturbed by ever-recurring infirmities, and her mind distressed by delusions of passion, and she will understand what Madame du Deffand meant by saying, "*Autrefois, quant j'étais femme.*" The natural good sense of many will teach them how the notion, that after this period, life is not worth living for, is a *pagan* idea, suited to the position allotted to women in Greece and Rome, where they were seldom considered worth more than to amuse men and to bring forth children, but unworthy of women emancipated by Christianity. They might be shown that the importance of their position after the great change, may be inferred by the length of life allotted to them after its occurrence, and the singular immunity from disease which is often observed after that period. They may, however, have to be reminded, that although it is unfair to ask for one period, the pleasures allotted to another, many great sources of pleasure are attached to every age—

> "Qui n'a pas l'esprit de son âge,
> De son âge a tout le malheur."

Besides a vast improvement in health, it must not be thought that the change of life implies the loss of all personal attractions. There is a beauty about childhood seldom making a vain appeal for fostering care; the beauty of youth fascinates; that of mature age excites admiration; but in many women, there is for long after the change of life, an autumnal majesty so blended with amiability, that it charms all who approach within its magic circle. To those fired

with ambition, it may be safely said, that the home government of society, from the highest to the lowest of our social strata, offers a wide field of employment to women after this period of life. Many never think of cultivating their minds, until they find their influence fading with their charms, and then set about acquiring a less perishable empire, by employing this period of freedom in literary pursuits. Others govern with discretion that circle of society, limited or extensive, in which they have been placed; becoming the guides, the supports, and mainstays of both sexes in the difficulties of life. Indeed, it would not be too much to say, that the discordant elements of society can never be blended without the authority willingly conceded to the combined influence of age and sex. It is a matter of history, how society has been influenced by the drawing-rooms of Mme. Lambert, Mme. de Tencin, Mme. du Deffand. Those acquainted with French society in our own time, will remember the reign of the late Mme. Recamier over a large circle of talented friends; and during my residence in Paris, I have myself frequently witnessed the benign influence of Mme. Swetchine* prompting the illustrious men who gathered around her to what was great and noble; guiding many young women in the difficult paths of life; healing wounds caused by inexperience; and making many bless her still, for recovered happiness. This brings me to the noblest motive to be offered to the laudable ambition of women; that of doing the greatest amount of good, to the greatest number of their fellow-creatures. Time dulls the eye, robs the cheek of its bloom, delves furrows in the forehead, but cannot quell the seraphic fire burning in the heart of many women, prompting them to deeds of charity, and to heal the deep and ever-festering wounds which afflict society. Those who have attained their sunset, without having been granted the

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* When I wrote these lines in my second edition, I little thought that her life, by C^te^. de Falloux, and her published works would soon justify first tribute of admiration to so remarkable a woman.

anxious though desirable vicissitudes of wedded life, even if destitute of relatives, or unfortunate in friendship, may still find in the various forms of unmerited affliction which fill our country cottages, or the hovels of our populous cities, that whereon to expend a warmth of feeling, an energy of self-sacrifice, which the sophisticated state of society has not permitted to flow into their natural and more grateful channels.

The most distressing appeals to medical sympathy, are made by those who, when unnerved by the change of life, find themselves left alone in the world, bereft, when most needed, of the solace of filial piety, or the supporting sympathy of conjugal affection. One can only at first respond to such appeals, with a sympathizing look and a silent pressure of the hand; but when despair finds vent in tears, lightening the suffering spirit of half its load, sweeping away disquietude and doubt, and the too great bitterness of sorrow; then it may be hinted, that time steals even sorrows from the heart, and that after a period of gradual adaptation to new circumstances, there will still remain the calm, pleasant, and grateful remembrance of past happiness, whereas it was once thought, that life would be intolerable without the daily ministrations of impassioned love. Here again the best mode of affording relief, should strength permit, is to discover some kind of occupation, capable of engrossing the sufferer's attention, such as music, gardening, the education of a relative or of an adopted child, or work in a school, or some other charity. The continued friction of social duties will, in time, restore peace and tranquillity to the troubled spirit, and every effort should be made, in such cases, to prevent brooding and self-absorption, for the mind may gaze so long upon itself and its inner workings, that the moral vision may become affected with the same kind of disorder which befals the bodily eye, when fixed too long on one colour; surrounding objects then lose their real appearance, to shine only with unnatural tints.

PART III.

SPECIAL PATHOLOGY

OF THE

CHANGE OF LIFE.

CHAPTER VI.

DISEASES OF THE GANGLIONIC NERVOUS SYSTEM.

THE nervous system is one; its three divisions work for each other, complete each other, and any damage done to one damages the other two. The three persons of this trinity are co-equal; and I do not begin with the ganglionic nervous system, because it is the most important, but on account of its being the simplest type of nervous system, one shared by us with most animals, and which builds up and repairs its fellow systems. The ganglionic nervous system, can however only be the potent instrument of life, not the wondrous power, that is never so hard at work, as in the fecundated ovum, before the microscope can detect in it any trace of organization.

TABLE XXIV.

Liability to Diseases of the Ganglionic Nervous System, in 500 *Women at the Change of Life.*

Epigastric faintness and sinking	220
Epigastric pain or anomalous sensations .	49
Fainting or leipothymia.	25
Fainting off, for the first time in life . .	3
Prolonged and intense debility	41
Monthly depression of strength	1
Chlorosis	40
Palpitations	16
Aortic pulsation	2
Hysterical asthma	7
Monthly hysterical asthma.	2
	406

The great volume of the brain, its complicated and artistic structure, shows it to be contrived for important ends, and although the relation existing between the intellectual faculties and the structure of the brain cannot be understood, no one denies it. It is far different with respect to the ganglionic nervous system, and it will ever be incomprehensible, that so much vital force, for good or evil, should be centralized in little irregular lumps of nervous matter, bound together by tangled skeins of nerves, but however incomprehensible, it is no less certain, that these knots of nervous matter, and these tangled skeins of nerves innervate the viscera, control the blood-vessels, and are the seat of the power which guides the processes of nutrition, healthy or diseased. This is proved by the writings of Winslow, Bichat, Reil, Wilson, Brachet, Philip, Broussais, and Lobstein, besides the recent writers quoted in the following pages. Whether, with Bichat, anatomists look upon the ganglionic nervous system as independent, or more wisely with Haller, as an offshoot of the cerebro-spinal system, the ganglia contain every variety of nerve tissue, and must be considered as little brains, each having its special range of power, deriving sensitiveness from the sensory nerves, proceeding to every ganglion, and by means of these nerves, the brain becomes cognisant of morbid ganglionic impressions. With Müller, I consider the ganglia to serve for the storage of vital force, to be the source of energy of the sympathetic nerves, and the fountains from which the ganglionic nerves draw the constant, gradual galvanoid current by which the capillaries throughout the frame are enabled to do their work. Moreover, it seems reasonable to suppose, that each separate ganglion sends its contingent of nervous influence to the central ganglia, and that the force with which the ganglionic nervous system is endowed, should be centralized in the epigastric ganglia, as the intellectual faculties are in the brain. If on these ganglia the generation and conservation of vital energy do not devolve, why does a blow to the epigastric region cause death, and leave no lesion to explain death? Discordant as medical theories

have been, it is singular how often the importance of considering vital force as centralized in this epigastric centre has been prominently asserted; Galen and Fernellius called it the principal lever of the human forces; Van Helmont there placed his *Archæus*, Wrisberg and Lobstein* treated of it as *the cerebrum abdominale;* Hunter called it the sensitive centre, and the centre of sympathies; Bichat and Broussais, the prime conductor of nervous influence. The importance of this region as a centre of power, is even shown by the erroneous theories which made medical men place the seat of sensibility in the diaphragm, and by the popular belief that the human passions are centred in the præcordia, whereas they merely react upon the central ganglia, as stimulants when the passions are exhilarating, or as depressants when they are of a contrary nature.

Nevertheless, the ganglionic nervous system, in a pathological point of view, is still very incompletely considered in systematic works on pathology, and on nervous diseases. Thus, notwithstanding Lobstein's classic work, Georget, writing in 1836, affirmed, that nothing is known about the diseases of the solar plexus, or the ganglionic system of nerves, and a little later, Sir H. Holland stated "that the ganglionic system, and the various nerves of organic life, are still only partially known to us in their proper actions, and yet more obscurely in their intricate connexions with the nervous powers of animal life;" and that, "a less definite influence of the system of organic life, as one of the causes of exhaustion, is the only morbid liability of this all-pervading nervous system." Marshall Hall said of the ganglionic nervous system, that it was "another open field, requiring renewed culture and promising a rich harvest to the labourer." He admitted that surgical shock accidents told chiefly on the ganglia, but doubted whether disease originated in them. About this time, Dr. Davey† did more than any previous writer, to make out what diseases could be fairly attributed

* Lobstein, "De Nervi Sympathetici fabrica," Paris, 1823.

† "The Ganglionic Nervous System," 8vo, 1858.

to the ganglionic nervous system: he admitted with Dr. Copland, that many cases of congestion of the brain and apoplexy depended on a depressed condition of the vaso-motor nerves, leading to their distension and rupture; so they foresaw what Claude Bernard was soon to prove experimentally. His experiments establish the fact, that the section and partial paralysis of the ganglionic nerves leads to the congestion or to the inflammation of the tissues within the area of their distribution, and the controlling influence of the semilunar ganglia over the blood-vessels of the abdominal viscera is shown by the experiments in which Samuel found, that the extirpation of these ganglia in dogs, cats and rabbits gave rise to an extraordinary amount of hyperæmia of the intestinal mucous membrane. Besides controlling circulation, it would seem as if the ganglionic system furnished to the human frame a nervous influence, that plays the part of steam in the steam-engine, a nerve force giving to the cerebro-spinal system a power, of which the human mind only recognises the force when it fails. Any one who will take a comprehensive view of the various stages of the reproductive process in women, will be struck with the fact, that frequent prostration of strength is a predominant symptom even when women are healthy. At every recurring menstrual period, at the cessation of menstruation, after connexion, parturition, and during lactation, many women feel great loss of energy, and it seems as if woman could not pass through any of the stages of that function which serves to communicate life, without the momentary loss of some portion of her own vital energy, reminding us of those animals who die when once they have transmitted life to others.

"Et quasi cursores vitæ lampada tradunt."

A glance at the preceding table will show that debility of variable intensity is the constant characteristic of all the complaints which I attribute to the diseased action of the ganglionic system, and Dr. Handfield Jones,* who has so

* "Functional Nervous Diseases."

well studied nervous affections, has pointed out, that however painful may be cerebro-spinal neuralgia, it does not induce syncope or leipothymia, which are the proper symptoms of serious disturbance of the ganglionic centre, whether it occurs alone, or in connexion with chlorosis and other diseases. Ganglionic neurasthenia often occurs without our being able to trace its origin to any particular part of the body; but when disease of the central ganglia is evident, debility is so intense and so constant an attendant upon every form of gangliapathy, that we may consider debility as its main symptom.

Gangliapathy.—The central ganglia are much more susceptible to shock than the brain, for a blow which will only stun a man when applied to the temples, will kill him if hit below the belt. I give the name of gangliapathy to a condition in which more or less debility is associated with paralysis, hyperæsthesia or dysæsthesia of the central ganglia of the sympathetic system. Gangliapathy has often been erroneously described as cardialgia, gastralgia, and gastrodynia, but these names should be restricted to neuralgia of the nerves of the stomach. Gangliapathy has been written of, as neurosis of the vagus, as leipothymia, as sinking dyspepsia, as hysterical asthma, and one of my cases had been called *a nervous affection of the diaphragm* by other practitioners. Women themselves frequently complain of *chest pains*, or of *spasms*, *inward spasms*, or *inward hysterics*, of *a hurrying impulse*, *preventing rest*.

By ganglionic hyperæsthesia, I mean cases in which great exhaustion is coupled with intense epigastric pain, independent of disease of the stomach. By ganglionic paralysis, I mean great prostration having its cause and centre in the central ganglia; and when I find great prostration unaccounted for by any other disease and characterized by sensations at the epigastrium, both distressing and anomalous, I call this ganglionic dysæsthesia; but as I am directing attention to what has generally been written of, in connexion with other diseases, it is best to give cases in which there

was nothing else to explain the patient's sufferings, but functional disease of the central ganglia.

Ganglionic Paralysis.—It has already been stated, that the section of the ganglionic nerves paralyzes the vessels trusted to their control. Nitrate of amyl acts on the ganglionic nerves so as to paralyze the vessels in a similar way, and they are sometimes paralyzed in the same fashion by slight shocks, mental or physical, to the central ganglia of bedridden patients. Thus a lady who had been in the habit of bearing comfortably, much more wine than was good for her, when suffering at the pit of the stomach, could not take half a glass of sherry, without her face and bust assuming a purple hue. The law of the Ring, that prohibits the hitting under the belt, shows how well it is known, that a moderate blow to the pit of the stomach, causes an almost fatal loss of strength, and Marshall Hall explained in the same way surgical shock; but in railway and other terrific accidents, the damage is felt at once by the whole nervous system. Visceral disease may give a morbid shock to the central ganglia, and the occasional aggravation of chronic ovario-uterine irritation did so, in the following case, which has been off and on under my care for the last sixteen years.

Case 17.—Ganglionic Shock and Paralysis.—Mrs. H. was forty-two, when she first consulted me in 1866. She is of middle stature, stout and squarely built. Her features have the subdued expression of long suffering, her eyes are blue, and her fair skin blushes easily. An emotional woman doubtless; but there have been no serious nervous diseases in her family, and she is very sensible, and has energy enough to manage well a large establishment. She has a kind husband and daughter, a very comfortable home, so all the surroundings of the case were good. Childhood was healthy, menstruation came at fifteen, was always regular, but painful. She married at twenty-five, had a child that died, then another, making good recoveries, and having perfect health, till thirty-nine. Without known cause, she then grew weak and nervous, had infra-mammary pain, and abdominal neuralgia, so

severe and prolonged, that she would sometimes dash her head against the wall and think of suicide. She took a variety of medicines for a year, then tried homœopathy for eighteen months, without advantage, sometimes taking a mixture in which there was so much tincture of ignatia amara, that she could not get the taste out of her mouth all day. Six months of hydropathy only taught her the utility of warm hip-baths; then she consulted Dr. Cockle, who told her, that her symptoms were those of the change of life, and she came to me. I found the tongue pale, digestion good, and occasional constipation. There was an habitual sensation of sinking at the pit of the stomach, with general debility and despondency, but there was a perfect freedom from all other cerebral, and no spinal symptoms, she slept badly, pacing the room part of the night. Moderate pain was generally felt, just above the pubes and also in the back above the sacrum, menstruation was regular and there was a little yellow discharge from the vagina. The patient was fat, and the womb placed high, but it seemed to me about twice its usual size, tender to touch, the mucous lining of the cervix red and easily bleeding, and its lips slightly ulcerated. I concluded that a moderate amount of chronic inflammation of an enlarged womb was the cause of the above symptoms, and of the attacks of abdominal neuralgia, I am about to describe. They began with a period of abdominal uneasiness, then the abdomen swelled, and pain settled in the epigastric region, a continuous pain, with frequent paroxysms, as if she were being torn asunder, as with those suffering from the pain of lead colic, she often knelt on the ground so as to firmly press the epigastrium against the edge of the sofa. When not doing so, she lay helpless on the floor, as if all power had gone out of her. Anyone entering the room or walking across it, greatly aggravated the epigastric agony. These attacks lasted from three to eight hours, during which her mind remained perfectly clear, and neither then, nor at any other time, has she had globus hystericus or convulsive fits. The passing of a large quantity of pale urine, marked

the end of the attack, and then she always slept soundly, to wake exhausted. The pulse during these attacks rises from 60 to 100 or 120, but there is little or no increase of temperature. The attacks are more likely to come, and are more severe, when they coincide with an approaching menstrual period, or with any aggravation of the uterine disease, or with too strong surgical treatment. When Mrs. H. feels shaky, she carefully avoids emotional stimuli, thus when the Princess Alice died, she would read nothing about it. Nevertheless she did not have any attack, during a year in which her husband nearly died, in a strange house, after having been cut for stone, nor when marriage separated her from her only child. Although there is often a cause for the attacks, they sometimes seize her when she is at her very best, in the midst of a pleasant dinner party at home, and they will sometimes cease as suddenly. I may add, that I have never been able to cause an attack, or to make one cease, by firm pressure on the ovaries.

With regard to the treatment of the attacks, the patient had herself found, that nothing was so good as warmth: hot flannels and linseed-meal poultices to the pit of the stomach did great good, and she often remained for one or two hours in a hot hip-bath, and on leaving it, had a strong opiate liniment rubbed over the abdomen. This has been sometimes done thrice during a bad attack. For the first few weeks, I painted the cervix with a strong solution of nitrate of silver, every fifth day, and ordered vaginal injections with a solution of laudanum and acetate of lead. Vaginal suppositories with morphia and atropia, or with opium and belladonna were very useful. Henbane and valerianate of zinc were of service, until I found a better agent of relief in bromide of potassium, I have given from 30 to 45 grains a day, sometimes with 5 or 10 grains of chloral, and by these means the patient has herself often kept clear of attacks she felt to be impending. The patient improved and the attacks became less frequent; but in about six months, finding no reduction in the size of the womb, and nitrate of silver having been well

borne, I applied with great care, potassa fusa c. calce, to the cervix. It caused little immediate pain, and the patient was most careful, but this was followed for some weeks by a succession of very severe attacks, and then they ceased for six months; menstruation continuing to be regular and painless.

Since 1867, Mrs. H., on finding her remedies to be without avail, has come to me, about every six or eight months, and once after an interval of two years. She always complained of a return of the same attacks, of permanent epigastric distress, of pelvic pain and fulness. I always found the womb congested and sometimes cervical exfoliation; and she was always relieved by my swabbing the cervix two or three times with a solution of nitrate of silver. In 1873, the menstrual flow became irregular, with intervals of four and six months, and in November, 1878, after an interval of thirteen months, the flow returned, was moderate for three days, and was immediately followed by a bad attack. Finding it difficult to ascertain the size of the womb, owing to its being placed high, and to the abdomen being coated with, from two to three inches of fat, I passed a wax bougie into the womb, and I was surprised to find it went in, to the depth of four inches. There was little pain and only a few drops of blood; but the next day, it came as a moderate flow, lasting ten days, and was accompanied and followed by several attacks. She then took from 6 to 12 grains of Bonjean's extract of ergot every day, for six weeks; and I saw nothing of her till July, 1881, when she was suffering in the way previously described, but there had been no return of menstrual flow and she no longer suffered from heats and flushes, and the womb was smaller. The last attack was in March, 1882.

I do not suppose any one will deny, that the origin of the mischief in this case, was the occasional aggravation of chronic irritation of an imperfectly involuted womb. This aggravation of sexual disturbance gives a shock to the central ganglia, causing very great pain, and long-continued prostration. So far, the case resembled the first stage of a regular hysterical attack, but the mischief stopped short

at the central ganglia. It did not spread to the cervical ganglia to cause globus hystericus, neither did it upset the cerebral functions nor convulse the muscles, leaving unimpaired the cerebro-spinal system. Many women have similar uterine disease, without ever suffering as did Mrs. H., so it was her badly constituted ganglionic nerves that caused them to suffer so very much.

In another case, a widow lady had been quite regular, until forty-one, when the menstrual flow ceased suddenly on account of her being frightened by a revolution at Athens. She first suffered from vomiting and then from an overpowering sensation of faintness at the pit of the stomach. This sensation so exhausted her strength, that she was often confined to bed, for days. The complaint had been called "a nervous affection of the diaphragm," and aperients, tonics, and stimulants, with blisters to the pit of the stomach, were tried ineffectually until combined with sedatives, in large doses, which relieved this patient, notwithstanding ever-recurring domestic annoyances. For a few years she quite recovered her health, and was able to take active exercise.

Case 18.—Ganglionic Hyperæsthesia.—Miss C. was forty-eight, tall, stout, with dark hair and a flushed face. The menstrual flow came regularly, from thirteen to forty-seven, then irregularly, being often a mere show. This patient had never been nervous or hysterical; and she now complains of pain at the pit of the stomach, which first appeared when the menstrual flow became irregular, and says that she is never without uneasy sensations at the epigastric region, which do not generally interfere with her occupations; but paroxysms of acute pain often occur, especially at night, when they suddenly awaken her from a sound sleep. The pain then experienced is described as a "tearing pain," and after it has lasted from ten to twenty minutes, ropy mucus comes from the mouth, by expuition, without eructations. When the intensity of the pain has abated, the patient lies for hours, conscious, but prostrate. Sometimes she faints, after a bad attack, then she is forced to keep her bed a day or

two; and during the last six months, flushes and perspirations have been abundant. The tongue was clean, digestion good, and no trace of tumour at the pit of the stomach. I had 6 oz. of blood taken from the arm, and I gave 2 tablespoonfuls of a comp. camphor mixture before, and 10 grs. of carb. of soda after, meals; 2 comp. col. pills and 10 grs. of Dover's powder on alternate nights, and a mustard or a linseed poultice was applied to the pit of the stomach every night. The camphorated mixture that I gave in such cases, before the bromides came into use, was composed of 3 drachms of tincture of castor, 6 drachms of tincture of hyoscyamus, and 5 oz. of camphor julep. After continuing all this for a month, the paroxysms came only once a week, instead of almost every night; I then ordered a warm bath to be taken for an hour every other night, just before going to bed; belladonna and opium plasters to the pit of the stomach alternately every week, and a scruple of sulphur once a day. This was persisted in for six weeks, and was then left off, as there had been no paroxysms for ten days. When the patient left town, I advised her to take the mixture should she feel worse, as well as the pills and the sulphur, and to have 6 $\bar{3}$ of blood again taken from the arm in three or four months. This case seems to me best accounted for, by admitting a neuralgic affection of the ganglionic nervous centre, for the stomach performed all its functions healthily, there was no sign of cerebral disorder, neither was this affection obscured by other nervous disorders. It caused no hysteria, no pseudo-narcotism, not even headache. The neuralgic character of the case, was well marked by the paroxysmal outburst of the pain, its seat in the central ganglia by the exhaustion that followed the attacks.

Case 19.—Ganglionic Hyperæsthesia.—Mrs. K., aged forty-two, consulted me, July 5, 1855. She was stout, of average height, with dark hair and eyes, a swarthy complexion, and has all her life been subject to bilious complaints. The menstrual flow first appeared, with frequent fits of fainting, at twelve. It continued regular, and was often accompanied by

brow-ague. She married at twenty-seven, but never conceived. In 1848, after having been a year at Ceylon, she was first taken with excruciating pains in the dorsal region, and in the abdomen, which pains always came on at night. She improved under a mercurial treatment, had the Bombay fever, but came home recruited by the long sea voyage. Four years after her return, the menstrual flow became irregular, then it was like "green water," and only lasted a day. Since the menstrual flow became irregular, she has been always ailing; was once under Mr. Keate for some nervous affection of the shoulder-joint, and paralysis of the arm, and was often woke at night by an acute, "gnawing, hot pain" about the fifth dorsal vertebra. This pain encircled the right side, reached the pit of the stomach, where it centred and kept "tearing and gnawing" her for about two hours. The patient described the sudden coming of the attack, "as if pain played a thumping overture upon her." Laudanum has relieved these attacks, and in their absence, she is very often troubled with a burning pain at the pit of the stomach; and of late, when this was intense, she has sometimes fainted several times a day. This lady, though stout and healthy-looking, is very nervous, a condition made worse by anxiety for a nervous husband. She feels every change in the weather, and suffers acutely when there is thunder in the air. She is often heavy, stupid, drowsy, and forgetful: very low-spirited, thinks she is going out of her mind, and is often tempted to commit suicide. For the last two years, she has been much troubled with flushes, but without perspirations; and her fingers are cold and blue, even on a warm summer's day. The pulse is small, the tongue slightly furred. July 5.—I prescribed the comp. camphor mixture, as given in the last case, before meals, carbonate of soda after; 4 grs. of blue pill, and 2 of ext. of hyoscyamus every other night, 10 grs. of Dover's powder every night, a scruple of the sulphur and borax powder once a day, and warm baths twice a week. July 18.—Decided improvement followed the sound sleep which came when the

treatment had been followed for a few days; the paroxysms of neuralgia were no longer periodical, and she had only had two since the 10th. I continued the same treatment, but also ordered two belladonna plasters, one to the epigastrium, the other to the painful part of the spine, which were to be renewed every week. Aug. 15.—The patient being very bilious, I ordered 3 grs. of calomel every other night, and a black draught in the morning; the mixture, the soda, and the Dover's powders were continued, but she was salivated by two of the pills. Sept. 19.—The paroxysms of pain returned again every night; so she had the sixth of a grain of acetate of morphia in a mixture, every two hours, until sleep was induced. This procured fourteen hours of sound sleep, and the attacks only occurred at long intervals. When I last saw the patient, I advised her to take the c. camph. mixture and the Dover's powder occasionally, to take, every night, half a drachm of equal parts of sulphur and magnesia, and to induce sleep by acetate of morphia, whenever an attack was imminent. One point to be remarked in this case is, that the frequent flushes were dry and burning, whereas gentle perspirations coincided with the improvement in the symptoms, and their persistence affords the greatest chance of immunity from worse symptoms. This patient had been fearfully nervous all her life, without ever having been hysterical, so varied are the forms and shades of nervous suffering, for many of which there is no name.

Ganglionic Dysæsthesia.—In other cases, it is not from intense pain that the patient suffers, but from annoying and singular well-localized sensations, and as they do not depend upon any organic affection of the heart or stomach, and coincide with other nervous symptoms of cessation, it seems fair to ascribe them to some morbid condition of the ganglionic nervous centre. If these anomalous symptoms only occurred in those who have plenty of time to watch the coming of each new pain, and to nurse it until it has taken root in the nervous system, I should lay less stress on such cases; but when they occur in the sturdiest of Eve's daughters, hard-

working women without imagination, I look upon the symptoms as indicative of local disease, and not of mental delusion. A strong-looking washerwoman, aged forty-seven, after the menstrual flow had ceased for six months, was obliged to give up work, for the first time in her life, because slight exertion caused great pain at the pit of the stomach, with fainting fits often prolonged for three quarters of an hour. Mrs. W. ceased at fifty-six, she is now fifty-nine; and after mental excitement, during the last year, she has been subject to very distressing aching pains at the pit of the stomach. She sleeps well until five A.M., and then arise epigastric sensations, as if something were turning in the stomach, and this is followed by palpitation. She has no dyspepsia, but feels nervous, frightened, cannot cry, and like the Wandering Jew, "she must march on." Belladonna plasters entirely removed the epigastric sensations in a month. Phœbe M., aged fifty-six, has been unusually weak for the last five years, ever since cessation. She says she is troubled with "inward hysterics" and "faint heats." There is no aortic pulsation to be detected, but the least thing is said to bring on a violent abdominal beating, and causes her to pass two or three liquid stools, with blood from the bowels. At times she loses her sight, and cannot sleep. Flushes are generally preceded by heat, pain, or faintness, at the epigastric region, and the sensations have been described by patients as "a ball of fire," or "gnawing, tearing pain," relieved by pressure, and prompting the sufferer to turn on her stomach to press the painful organ, like patients suffering from lead colic. Others complain of the epigastric region being "all of a boil," and that any sudden impression sets the stomach "all of a flutter," with great subsequent weakness. Dr. Brown, of Newcastle, has met with a case of *emotional* insanity, in which the patient had the sensation of a bright flash of lightning in the epigastrium, and three other lunatics complained to him, of darkness in the same region.

Case 20.—**Ganglionic Dysæsthesia**—Sarah B., tall, stout, and healthy-looking, with brown hair, and hazel eyes, was

forty-seven when she came to the Paddington Dispensary, Sept. 8, 1849. The menstrual flow first appeared at seventeen, was always regular, and accompanied by pseudo-narcotism. She married at twenty-five, had two children, and the menstrual flow left suddenly, without known cause, at forty four. Since then, she has been entirely free from lumbo abdominal pains, but has suffered much from other nervous symptoms. There has been no headache, but a heavy, stupid feeling in the head, with drowsiness in the day, after sleeping well at night, and a forgetfulness of familiar things. She was nervous, desponding, and low-spirited; often shedding tears, and had strange sensations in the throat. Ever since cessation, she has been distressed by a fluttering at the pit of the stomach, "as if something were perpetually swinging within her." It becomes worse after meals, generally abates when she lies down, is seldom felt when in bed, but begins so soon as she rises. When turning the corner of a street, this sensation makes her feel afraid of losing her centre of stability, and of overbalancing herself; and when she has it, in bed, she feels "as if a tub were rolling to and fro within her," and then "the head goes too," as "if something rose from the pit of the stomach to the head, making it feel giddy and bewildered." Since cessation, she has been troubled by burning flushes, without perspirations; and there is sometimes a good deal of pudendal irritation. There was no organic disease of the heart, aortic pulsation, or dyspeptic condition, to explain these singular symptoms; several practitioners have told her "it was all nonsense," but it will not do to deny a patient's statement because her sensations cannot be explained. I ordered the comp. camph. mixture before meals and on going to bed; carb. of soda after meals; a large opium plaster to the pit of the stomach; and a small teaspoonful of sulphur and carbonate of magnesia every night. Sept. 15.—She was better; a lead lotion for the pudendal irritation, and 10 grs. of Dover's powder every night. Oct. 6.—Instead of perspirations, a papular eruption has appeared on the shoulders, and she feels rather worse than better, but the

remedies were continued, with the addition of comp. col. pills to be taken occasionally. Oct. 20.—All the cerebral symptoms have vanished, she is much better, and can bustle about; but the swinging sensation in the epigastric region still remains. The improvement coincided with gentle, well-sustained perspirations. I ordered the mixture and soda as before, but discontinued the sulphur and Dover's powders; prescribing, instead, sulphur, 2 oz.; borax, 1 oz.; Dover's powder, 1 drachm; 2 scruples of the powder to be taken in a little milk at night. A blister was ordered to the pit of the stomach. Nov. 6.—She looks cool and comfortable, is much stronger, and is less troubled by the swinging sensation. The blister did no good, so I ordered a rotation of belladonna and opium plasters, each to be worn a week on the epigastric region, and the mixture and comp. sulphur powders to be continued. Nov. 23.—The patient was discharged cured; she felt comfortable, and happy at having lost the epigastric sensations.

Case 21.—Ganglionic Dysæsthesia.—Sarah J., an average-sized woman, with dark-brown hair, grey eyes, and a semi-chlorotic complexion, came to the Farringdon Dispensary, February 25, 1853, being then forty-six, and unmarried. The menstrual flow appeared at sixteen, and continued regular, without any nervous or other symptoms, except that for two or three days, it was almost always preceded by the eructation of acid mucus. Flooding came on seven months ago, without known cause, and the menstrual flow has since appeared every six or eight weeks, varying in quantity, and being accompanied by abdominal bearing-down pains, and severe headaches. She has suffered from lowness of spirits, involuntary tears, choking sensations, gasping for breath, and a sensation of fluttering at the pit of the stomach, which she compares to a steam-engine, "pumping up something from the stomach to the head," inducing headache and giddiness. These sensations come on when she lies down, so she sleeps propped up in bed, the attack seldom lasts more than half an hour, but she is restless all night, and she sleeps a good

deal the following day. I could detect no disease of the heart, no aortic pulsation, but there was evidence of gastric disorder, and there had been neither flushes nor perspirations. I ordered the comp. camph. mixt. before, and the carb. of soda after meals, 10 grs. of Dover's powder at night, a scruple of the sulphur and borax powder twice a day, a belladonna plaster to the pit of the stomach, and 2 comp. col. pills to be taken occasionally. This treatment was continued three months, with the best result. The patient then became regular, was so for six months, when the menstrual flow ceased suddenly. She was then much troubled by exhaustion, headache, giddiness: flushes and perspirations, but the epigastric annoyance has not returned.

Hysterical Asthma.—The name has been given to more or less intense fits of difficulty of breathing caused by aggravations of uterine disease. The influence of the sexual organs on breathing is shown in the following case abridged from another work.*

Case 22.—Hysterical Asthma.—A lady of middling stature, a brunette with grey eyes, very sensible and strong-minded, was twenty-seven when I first attended her. She menstruated at twelve, with a good deal of sick headache and pseudo-narcotism, but never had anything in the shape of a nervous symptom, till she was twenty-four, when one day, while walking with a man she was engaged to, he kissed her for the first time. This acted upon her like galvanism on the limbs of a frog, and many minutes elapsed before her arms left off shaking. That year she married, sexual feelings were absent, and connection was always followed by epigastric pain, suspension of breathing, and loss of consciousness. The pain was described as like a shock coming from the womb. The suspension of breathing lasted several minutes, during which the heart beat quietly, but her husband was often alarmed, till at last he heard a slight "catching at breath." The gradual solution of

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* "Ovarian and Uterine Inflammation," 3rd Edition, p. 84.

spasmodic contraction of the diaphragm could be measured by the increasing length of respiration, and with a full respiration the open mouth would close. Semi-consciousness did not return for half an hour, and it was only after long-continued heavy sleep that she was quite herself, though thoroughly prostrate. This state of things continued even after the birth of a child. Family troubles gave rise to cerebral neuralgia, and to epigastric pain, relieved by pressure, and intense enough to make her weep. With this epigastric pain came, what she called "her stoppage," dysphagia, coming on sometimes when she was at her best, but chiefly when put out, and when food and drink were cold; and I have known her go three days without swallowing food. When about thirty-five, the patient was no better, and amongst others, she consulted Marshall Hall, who considered it a case of spasmodic stricture, and comforted her by saying that he had suffered in a similar way, and had been sounded by Brodie, who found no cause of alarm. Nevertheless, Hall died of cancer of the œsophagus, and so did my patient, some years afterwards, when the menstrual flow was ceasing.

In this case, the shock to the solar ganglia came from the sexual organs, checking breathing for a time, and otherwise troubling the cerebro-spinal system; moreover, she was fertile, though connection was devoid of pleasure.

Case 23.— Gangliapathy and Hysterical Asthma.*—A woman aged forty-four, entered the Hospital of "la Pitié." The menstrual flow came at seventeen, with disturbance of health, and at twenty-three was frequently irregular. She became nervous, had agonizing sensations at the epigastrium, with globus hystericus, and a spasmodic contraction of the diaphragm, continuing so long that her friends feared asphyxia. In these attacks, which occurred about three or four times a week, she heard what was said, but could not speak. Cessation took place at forty-two, the nervousness increased, and she laughed or cried at the least thing. The

* Dr. Marrotte, *Gazette des Hôpitaux*, 1854.

day the patient entered the hospital, the house-surgeon saw her in one of these attacks. Pain at the pit of the stomach, and a sensation of stricture at the basis of the chest were first felt, then respiration was suspended, after which followed efforts of inspiration and of expiration, both being separated by variable intervals, and accompanied by laryngeal whistling. The noise was strongest during inspiration, which was attended by an exaggerated dilatation of the chest, and great efforts to swallow an imaginary bolus. Several of these attacks occurred, lasting from half a minute to three minutes, and were followed by pain at the pit of the stomach, by fainting and exhaustion. The attacks seemed to abate on pressing the pneumogastric nerves, at the inferior edge of the thyroid cartilage.

Although there was no epigastric pain in the following case, it resembles the previous one.

Case 24.—Hysterical Asthma.—Miss O., tall, stout, of a sanguine temperament, was fifty-seven years of age. The menstrual flow came at thirteen, and was regular until fifty, when it ceased gradually. Until then she never had any serious illness, and no marked hysterical symptoms, though she was always very excitable. Just before cessation she had the shingles, and soon after erysipelas, but with the exception of flushes and gentle perspirations she remained well for two years. Five years ago, Miss O., for the first time, and without known cause, was seized with the nervous affection for which she consulted me. Without being sick, she goes through the pantomime of sickness; she does not suffer from positive pain, but gasps for breath, and is alarmed at not being able to breathe. The attack lasts for three to ten minutes, and is often preceded for several days by feeling "as if she could not put her teeth in the right place." A neuralgic flash of pain across the forehead and heavy sweats are its immediate precursors, and it leaves her in such a state of exhaustion, that she has often kept her bed for several days. These attacks used to occur at short intervals, but lately there has been a longer period between

them. Worry brought one on a month ago, and she has no epigastric pain during the attack, or at any other time. For the last three years there has been a red sediment in the urine, and an unusually frequent desire of passing it. She has no leucorrhœa, but for two years she has been frequently troubled by great irritation of the labia. Hard lumps are said to arise, and, after remaining a few days, to disappear, without suppurating, and she has suffered sometimes from piles. Miss O. is evidently very weak and nervous, but as her attacks were becoming less and less frequent, no active treatment was required. I recommended the comp. camph. mixture to be taken, off and on, for several months; twenty drops of liquor potassæ in a little water, after meals, and the sulphur and borax at night. Warm baths were also suggested, particularly when there was pudendal irritation. This patient enjoyed such excellent health until cessation, that I attribute all the subsequent illness, the nervous attacks, the erysipelas, and the pudendal irritation, to the organic changes set on foot by the turn of life. Some years afterwards, I learnt that Miss O. had only felt slight returns of the same symptoms.

Sir B. Brodie mentions the case of a young lady, in whom the slightest pressure on the epigastric region would bring on paroxysms of suffocation from spasmodic contraction of the walls of the chest. In a diminished degree, the symptoms frequently attend an ordinary hysterical attack, but it seems they may occur in an aggravated form at the change of life, in women suffering little from the ordinary forms of hysteria, and who present no signs of heart or lung disease. In my six other cases of hysterical asthma, the symptoms were less marked than in that of Miss O.

Having described the minor, as well as the most severe forms of gangliapathy, having adduced examples of it, where the prominent symptom was epigastric pain or sensations almost baffling description, and complicated by various reflex neuralgias, it is well to ascertain the opinions of pathologists, who have described under other names, these severe forms of

ganglionic disease. Hippocrates has noticed epigastric pain, accompanied by obstructed breathing, as occurring at puberty. F. Hoffman, in describing cardialgia, insists on the intense pain at the pit of the stomach, the sense of anxiety, the difficulty of breathing, and the prostration of strength, opining like Barras, that the stomach was alone affected. Schmidtman describes cases under this name which are similar to mine, like that of a girl of sixteen, who for several months, suffered severely, at the pit of the stomach, for a few days every month, before menstruating. Barras adopted, I think erroneously, the term Gastralgia, for the marked ganglionic phenomena occurring at lactation, chlorosis, and pregnancy; remarking, that his patients refer the sensations of weakness and prostration which overpower them, to the epigastric region. Joly and Georget also described these symptoms as gastralgia, noting their frequency in women, during the critical periods of reproductive life, and whenever the system is strongly reacted on by the reproductive apparatus. Louyer-Villermay gives cases in which hysteria was accompanied by attacks of intense epigastric pain, exhaustion, syncope, or suffocation. Dr. Addison has not exaggerated the frequency of gangliapathy in those suffering from uterine affections, and Hufeland and Chambon state, that at the change of life, women are subject to suffocation and epigastric spasms. Dusourd, remarking on the same phenomena, says, "they simulate asthma," and adds, that "the affections and sensations at the pit of the stomach, at the change of life, baffle description."

Dr. Shearman,* drew attention to the fact, already well established by Romberg, that neuralgia of the vagus nerve is indicated by patients becoming ravenous, who could previously take only the smallest quantity of food; and coupled this with Bernard's discovery, that irritation of the origin of the vagus caused sugar to form in the liver, to be removed by the kidneys, and appear in the urine, and he therefore "con-

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* *Medical Times*, September 20, 1856.

cluded, that the disease was one of the vagus nerve, in some parts of its tract, either centric, peripheral, or intermediate; of irritation in its early stages, and of palsy succeeding to that irritation." He designated it *sinking dyspepsia*, but, if I be not deceived, Dr. Shearman has exaggerated the importance of neurosis of the vagus, describing as such, affections of the ganglia and cœliac plexus, which are more or less complicated by reflex neuralgia of the vagus nerve. The vagus is the bridge by which the central portions of the two nervous systems are united, it resembles both nervous systems, but principally the sympathetic, by its organization and the modes of its distribution. It is not a well isolated nerve, for it often anastomoses with the sympathetic, and helps to form the cœliac plexus, by nerves which are both numerous and voluminous. Thus anatomically united, I doubt whether the affections of the vagus can be distinguished from those of the central ganglia.

Causes of Gangliapathy.—The ganglionic nervous system, particularly its central ganglia, may be morbidly influenced 1stly, by shock; 2ndly, by mental emotion and visceral disease; 3rdly, by heat; 4thly, by cold; and 5thly, by poisons.

1stly. A blow to the pit of the stomach does not kill by inflammation, but by a shock, so suddenly intense, that the laws of pugilism, forbid "to hit under the belt." The blow may, however, be so graduated as to determine corresponding degrees of leipothymia. The recoil of a pistol, to the pit of the stomach of a lad aged thirteen, made him faint and lose consciousness for several minutes, it emptied the stomach and rectum, and for fifteen minutes the heart's action was very feeble, the radial pulse could not be felt, and the temperature was much reduced. Surgical shock is to be explained in the same way, particularly when the surgeon attacks any of the abdominal viscera. The anguish of vomiting is partly due to the more or less intense concussion of the epigastric ganglia, which explains the intense debility it causes, and the occasional deaths that occur during pregnancy and on board ship.

2ndly. Great, sudden, and depressing emotion may act on

the ganglionic centre like a blow, causing the temporary loss of strength, and consciousness, setting up morbid action, that may last for twenty years, as in the last case of the next chapter, or for a shorter period, as in a dispensary patient, aged forty-seven, who on ceasing to menstruate, was in good health, when, without being expected, her son come home, very ill and menacing to commit suicide. She was suddenly seized with great epigastric pain, and a shaking of the abdomen so distressing, that during the day she was often obliged to sit down, and support it with her hands. This symptom was most troublesome at night, and was made worse by exertion or worry. A flooding came on, and the patient gradually mended.

Besides the liability to be stunned by a blow or by sudden emotion, the great central ganglia are susceptible of receiving shocks from self-generated poisons, spontaneously evolved in the system. "Miseros vidi ægrotos," says Lobstein, "qui, vix somno dediti, subitò fuerunt expergefacti atque valido et quasi electrico ictu territi, ab epigastrio proficiscente; crudele phenomenon, quod per plurimum mensium spatium duraverat." Other authors have noticed the same strange sensation, but independently of these rare occurrences, it will be obvious to the pathologist, that the ganglionic centre may receive milder shocks from diseased viscera and from other causes spontaneously arising in the frame.

3rdly. Emotions, feelings of pain or pleasure, past, present, or anticipated, are conceived in the brain, and sent, lightning-like, along the nervous cords to the various ganglia which stimulate the viscera to respond by appropriate action, and it is equally true, that the viscera by their ganglia, react on the central epigastric ganglia, and thereby on the brain, so as to plead for their own special emotions, to this supreme organ. What is obvious with regard to emotions, is probable with regard to the physiological and pathological stimuli that the viscera transmit to each other and to the brain, as was seen in Case 22, in which connection always caused ganglionic pain, prostration, and loss of consciousness; and in Case 17, in

which gangliapathy, with great pain and prostration always followed an aggravation of chronic uterine disease. In both sexes, there is more or less of paralysis and perturbed action of the central ganglia during convalescence, in consequence of the undue strain put on the ganglionic system, to support the effort made to repair the effects of disease; in helminthiasis, when the expansions of ganglionic nerves are irritated by worms; in agues, of which the ganglionic system is the prime motor; in hæmorrhoidal and other flows, when indiscreetly stopped by cold; in chlorosis, hypochondriasis, and in the earliest stages of insanity, before the ganglionic, are cast into shade by the magnitude of cerebral symptoms. But the too strong reaction of the sexual organs on the central ganglia, is their principal cause of disease, for puberty, menstruation, pregnancy, lactation, and cessation, almost always entail slight forms of gangliapathy, which are sometimes sufficiently severe to lead to insanity and to suicide. The ganglionic nervous system of woman suffers more than man's, because she is doubly taxed, for self-nutrition, and for the propagation of the race, and if she be susceptible of so often "tumbling to pieces," and of being again knitted firmly together, it is because her ganglionic nervous system has been endowed with extraordinary powers for good or for evil. Man does not, however, escape; and I can confirm the accuracy of Schmidtman, who paid so much attention to nervous affections, when he says, "If a young man consults me for epigastralgia, I suspect onanism." Gangliapathy, under varied forms, is observed in spermatorrhœa, explaining why some of these patients have committed suicide, and why many have become hypochondriacs. The *debauché* and the *roué* are frequently at a loss for terms to express the annoyance of their sufferings at the pit of the stomach. These sensations in women at the change of life, may be the harbingers of others that obscure them, such as flushes, perspirations, diarrhœa, bloody stools, and hysterical symptoms.

4thly. Intense heat diminishes the energy of controlling power seated in the solar ganglia, and Dr. Morehead has

noted the prominence of ganglionic paralysis in what he describes as the cardiac variety of heatstroke. Denon relates, that when marching through the burning plains of Upper Egypt, in the hottest part of the day, several men died of heat. "Nothing," says he, "can be more frightful than this death. Of a sudden comes intense sickness, then sinking and fainting that nothing can relieve, and death soon occurs." A French surgeon, describing the effects of the sirocco, on soldiers marching from Oran to Tlemcen, speaks of a kind of incubus weighing on the epigastric region, of debility almost reaching to syncope, of sudden bursts of heat in the face and intense headache. Similar phenomena, only less intense, may be caused by remaining too long in Turkish Baths too much heated, as I know by my own experience, at Damascus.

5thly. Dr. H. Jones has drawn attention to the paralysing influence of raw and intense cold, and to the manner in which it strikes at the pit of the stomach, yielding to brandy and warm epigastric clothing. The death of haymakers from the sudden drinking of cold water is thus explained, as well as the debility and pneumonia caused by washing the stomach with cold fluids, of which there have been several cases lately in the Paris hospitals.

6thly. The central ganglia feel the first shock of the cholera poison, when, during a severe epidemic, a man walking about in good health suddenly feels nausea, drops down and dies: pernicious intermittent fever poison has often acted in a similar way. I have noted the similarity of symptoms, in gangliapathy and lead poisoning, the pain centring at the pit of the stomach and being relieved by pressure. Too much food, or undigested food remaining in the stomach, often gives rise to much of the ganglionic disturbance, that characterizes nightmare, and sometimes to death in the aged, as suggested by Mr. Higginbotham.

Symptoms and Diagnosis.—Debility underlies all ganglionic affections, in the same way as nervous irritability underlies all cerebral diseases. Debility existed in a marked degree in all the cases tabulated at the head of this chapter.

although it was only noted as intense and prolonged, in forty-one instances, where it did not depend upon any other cause, than the change of life. Sometimes there was an overpowering sense of exhaustion pervading the whole system; thus A. M., a hard-working woman, says, "she hardly knows how to dress herself, and is often obliged to lay down to recover herself." M. W., a thin, delicate, red-haired woman, aged forty-five, got her feet wet two years ago, at a menstrual period; the flow stopped, there were great abdominal pains, and a state of intense and long-continued prostration, without any other cause than sudden cessation. In many, the debility is so rooted in the system, that a full meal with stimulants will not dispel it. There is only a difference of degree, none of nature, between this thorough exhaustion of radical strength, and its slight manifestations, so frequent at this period, which are felt to originate in the pit of the stomach. This epigastric faintness occured in 220, out of 500 cases, being one of the most frequent of the minor torments to which women are then subject, and I only see a difference of degree, not of nature between the severest of the 49 severe, and the slightest of the 220 mild cases. The symptoms are described as "a sinking and faintness," "faint heats," "or a dull, sickly feeling at the pit of the stomach;" and the sensations are compared to those of "hunger, or to the craving of the dram-drinker for his wonted stimulus." Others feel "as if they could faint," as "if they wanted support," as "if they had no inside," as "if there was a vacuum." They will not allow the sensation to be called pain, but speak of its being irritating, irksome, and worse to bear than pain. They will frequently say that "all the complaint lies in the chest," but they point to the pit of the stomach, and have no symptom of lung disease. There may be oppression and faintness, with or without violent pain at the pit of the stomach; sensations like "the fluttering of a bird," "the throbbing of an animal," or those "of internal rawness," "of gnawing and of tearing." These feelings do not depend upon gastric inflammation, for the stomach, even in some of

my most distressing cases, could digest any food, nor upon dyspepsia nor disease of the liver, and I therefore say with Lobstein, that they indicate a state of suffering of the central ganglia. "Hodie certissime evictum est, quod, tot numerosæ sensationes, quæ in epigastrio percipiuntur, neque ad musculos, neque ad vasa, neque ad organa gastrica sint referenda, sed unice ad plexum nervorum gangliosum, trunco cœliaco, insidentem, atque a Wrisbergio, summo cum jure *cerebrum abdominale* vocatum." At the same time it is evident that more or less ganglionic disturbance often accompanies disease of the stomach, liver, intestines, and of the womb. Romberg thinks "that the peculiar sense of fainting and annihilation accompanying the pain, is pathognomonic of cœliac neuralgia, and distinguishes it from neuralgia of the vagus," to which he ascribes a marked sensation of stoppage in the œsophagus, of choking, or of scalding, rising from the stomach to the throat, with regurgitation of ropy mucus or vomiting; copious perspirations or a greater flow of urine. Admitting, however, with Romberg, that the sense of repletion after taking a small amount of food, and the absence of satiety after taking a large quantity, indicates hyperæsthesia of the gastric branches of the vagus, and that the accompanying sensations of burning or gnawing at the pit of the stomach, with overpowering debility, indicate cœliac neuralgia, the distinction has no practical bearings, as Romberg himself allows. Women instinctively unfasten their clothes, when liable to gangliapathy, some of my patients have left off stays; but when the pain is very severe, firm pressure is often acceptable. The debility entailed by a severe attack, is beyond the conception of those who have not witnessed it. A good night's rest does not restore the usual strength, which seems drained to its fountain head, and is not restored till the patient has had several nights of sound sleep. The intermittent character of the pain has been well indicated by Schmidtman, *Per intervalla vexat cardialgia et remittet intermittetque.* I have seen the worst paroxysms of gangliapathy come on in the midst of perfect

health and without any apparent cause, but I have seldom seen them assume the tertian type, said by Dr. Shearman to be of frequent occurrence, neither have I often found sugar in the urine of my patients, although it has been given by him, as a pathognomonic sign of neurosis of the vagus. At puberty, when menstruation is morbid, during pregnancy, lactation, or at the change of life, pains at the pit of the stomach may be considered to depend on hyperæsthesia of the solar ganglia, if the patient has been subject to causes likely to produce nervous affections, or to diseases of the sexual organs, and if epigastric symptoms be unexplained by organic lesions of the stomach.

When debility is intense, it passes by a gradually sliding scale into the state called leipothymia by the older writers, and may end in the total extinction of vital power. Fainting is generally considered synonymous with syncope, whereas *syncope* is the failure of the heart's action, *leipothymia* is the sudden loss of ganglionic power, determining loss of consciousness; while *faintness* is the temporary depression of ganglionic power, consciousness being unimpaired. It is true that leipothymia and syncope may coincide, and produce each other; though in some of my worst cases of gangliapathy, I have seen fainting occur, consciousness diminished, and respiration imperfectly performed, the heart's action remaining undisturbed. Dr. Copeland has already noticed this fact, and states, that in similar cases, he has even sometimes found the pulse to indicate bleeding. By *fainting*, I understand the "deliquium animi," or the "defectio animi," of Celsus, the leipothymia of Sauvages, whose definition is true to Nature—"Subitanea et brevis virium dejectio, superstite pulsus vigore, et cognoscendi facultate." Syncope is rare at the change of life, whereas a frequent liability to fainting, occurred in 25 out of 500 women. M. S., aged forty-seven, swooned at cessation. For the first time in her life, S. A., a strong-looking woman, aged forty, was obliged to give up work six months, after cessation, because exertion brought on fainting, and irksome sensations of a load at the

pit of the stomach, and she has several times fainted off, for three-quarters of an hour. She is not dyspeptic, but nervous, has globus hystericus, and is relieved by passing wind. M. G. never fainted in her life until the dodging time, and then fainting fits occurred two or three times a week, for three years. A. L. frequently fainted before first and last menstruation, and during each menstrual epoch. C. S. had repeated fainting fits, in the year following cessation. B. de Boismont has noticed fainting at the change of life, and these comparatively rare cases of fainting should be looked upon as linked, by insensible gradations, to slight sensation of epigastric faintness. The preceding considerations may throw light on some cases of sudden death, insufficiently explained by *post-mortem* examinations. Those who have written on ague, and more recently Dr. Handfield Jones, have noted the paralysing influence of paludal miasma over nervous power. Sir G. Blane relates how the Walcheren patients, when in full convalescence, would unaccountably drop down dead, and some of the cases of sudden death in puerperal women, already in full convalescence, seem to me susceptible of being accounted for in this way. A tall, thin, pale-faced, flaxen-haired, inanimate lady had been confined a week, and was doing so well, that her accoucheur had ceased his daily visits, when, on sitting up to take her usual food, she fell back, and then suddenly expired. No clot in the pulmonary artery, nor anything else was found to explain this event, except a rather flabby state of the walls of the heart.

Some years after the change of life, ganglionic nervous affections abate, except debility, women being let down, as it were, to a lower level of strength, without any apparent cause for it. Sometimes chlorosis is the best name for the state they are in. Chlorosis is, doubtless, most frequently met with in the years which follow puberty, but all should recognise its frequency at the critical periods of woman's reproductive life. Caseaux and Dusourd have pointed out its occurrence during pregnancy; Blaud admits it to be more

common than is generally believed among adults; Dusourd and Pr. Charcot have recognised it, at the change of life, and it was noticed in 40 out of my 500 tabulated cases. Indeed, every one must have remarked the altered appearance, that will sometimes take place at that period, the change of skin from a healthy hue, to the waxy, sallow tint, the bloodless lip, the pale white of the eye, with headache, pseudo-narcotism, and general debility, and it may be accepted, that cessation may cause the relative proportions of the blood globules to fall low enough to produce chlorosis. This is doubtless a blood disease, but I have long believed, with Dr. Joly, that chlorosis originates in a neuralgic affection of the ganglionic nervous system. Admitting with Dr. H. Jones, that in many cases of chlorosis, occurring amongst the poorer classes in London, the action of malarious influences upon the ganglionic system is the first link in the chain of causation, such cases must not be severed from others, wherein chlorosis arises under the healthiest circumstances and in the wealthiest families, showing that the ganglionic system may spontaneously develop the disease. At the change of life, as at puberty, the nervous energy of the ovaria is often below par, and the central ganglia, being unable to promote healthy nutrition, the blood is impoverished and the whole system suffers.

Therapeutics.—The cases related in this chapter show, that gangliopathic affections are to be cured by sedatives, alkalies, tonics, and by promoting the action of the skin; but I must briefly allude to the administration of these remedies, and to begin, I cannot sufficiently praise the utility of sedatives applied to the pit of the stomach.

The common consent of mankind and the facts recorded in this chapter, go far to prove that there is a real centre of nervous power in the epigastric region, and I therefore seek to increase or diminish this power, and to regulate its disordered action. This should be done, if only to relieve the painful and distressing sensations experienced by patients in this region; but having so often seen gangliapathy derange

more or less severely the mental faculties, at puberty, during pregnancy, puerperality, lactation, and cessation, it is imperative to apply remedies to this centre. Another reason for relieving epigastric pain and anomalous sensations at the change of life is, that women will not long endure these sufferings without seeking relief. If they cannot find it in medicine, they will certainly fly to stimulants, the poor to porter and gin, the rich to wine and brandy.

The chapter on the general treatment of diseases at the change of life should be borne in mind, inasmuch as local applications can be of little utility, without constitutional treatment, and when I meet with the mild forms of gangliapathy, the epigastric uneasiness, the sinking and faintness, I first ascertain whether these sensations coexist with dyspepsia and disordered secretions requiring purgatives. In that case I order 3 grs. of blue pill and 2 of ext. of hyosc., every other night; a mustard, or a hot linseed-meal poultice, sprinkled with coarsely-powdered camphor, and a teaspoonful of laudanum every other night; sometimes dry cupping, as recommended by Galen, and the wearing of a camphor sachet, during the day at the pit of the stomach. The pains continuing unabated, I used to prescribe a belladonna, or an opium plaster, renewing them every fourth, or fifth day, or I ordered two, one to the pit of the stomach, and the other to the opposite region of the spinal column. Now I generally order a round bit of piline, from 4 to 6 inches in diameter, to be sprinkled every morning, with 30 or 40 drops of spirits of wine, to an ounce of which I add 3 grains of sulphate of atropia, and 6 grains of acetate of morphia. This is applied every morning to the epigastrium, and is kept there by the patient's clothes.

If, besides the sensation of prostration, there be downright pain, resisting the local means previously detailed, I have occasionally done good by applying a piece of lint, steeped in chloroform, and covered with oil-silk, to the pit of the stomach, retaining it in its place by a bandage. A blister has sometimes relieved the pain; and this reminds me that both Comparetti, Barras, and Lorry, derived no benefit from

blisters in the cases of gastralgia they attended, at Venice or at Paris. In the worst cases of cardialgia, where there were fits of agonizing epigastric pain, its intensity was often abated by taking from 30 to 60 drops of aromatic spirits of ammonia in the smallest possible quantity of water; or from 10 to 15 minims of chloroform or of chloric ether, on a lump of white sugar, dissolved in a little water; or by 20 drops of sulphuric ether, in one ounce of which a drachm of camphor had been dissolved; or by a drop of essential oil of peppermint, on a lump of sugar, to be dissolved in water. Sometimes the paroxysm defies all remedial measures, abating in its own time. Comparetti and Barras speak highly of ice, for pain in spasmodic affections of the stomach, and this reminds me, that in some severe cases of gangliapathy, when the patient could not swallow cold water, or anything warm, there was a strong inclination for ices; which were not only swallowed, but relieved the pain. Intense heat is as serviceable in this, as in other neuralgic affections; and as the actual cautery and moxas to the pit of the stomach have been used in olden times, so transcurrent cauterization might now be useful, and the Chinese relieve cardialgia, by plunging acupuncture needles into the epigastric region. Lastly, there is electricity, and the occasional application of the continued current to the spinal column in ganglionic affections at the change of life is deserving of more extensive trial, than it has hitherto received; but the application of electricity to the pit of the stomach cannot be done too cautiously.

If there be nervous irritability and sleeplessness I used to give one or two 3-grain pills of extract of hyoscyamus every night, and if that did not do, 10 to 20 grains of Dover's powder, or 20 minims of the British Pharmacopœia solution of acet. of morphia, with 20 minims of ipecac. wine, and in exceptional cases, the 16th of a gr. of acet. of morphia, every one or two hours until the induction of drowsiness. I never now give opium internally, till I have found that I cannot relieve the patient, by one or other of the three bromides of potassium, sodium, and ammonium, or by their combination.

Henbane, Indian hemp, and opium are still wanted when the bromides bring out too soon a rash on the face.

Dahaen, Barras, and many who have paid attention to the obscure affections under consideration, praise equally with myself, the internal and external exhibition of opium, hyoscyamus, camphor, and cherry-laurel water. Dumas, of Montpellier, frequently prescribed the taking daily, the 15th part of the following electuary, for nervous affections of the abdominal organs :—

Castor	30 grs.
Camphor	15 „
Opium	8 „
Conserve of roses . .	q.s.

Indian hemp alone, or associated in pills with extract of henbane or of hops, is invaluable to quiet nervous symptoms. Neither should I omit to mention, while writing of sleeplessness, in connection with gangliapathy, that a friend of Dr. Handfield Jones has found a sinapism to the epigastrium, to give sleep, when many powerful remedies had failed to relieve the insomnia of insanity.

Emetics are heroic remedies in a host of nervous affections, in long-continued globus hystericus, in spasms of the œsophagus, in nervous aphonia, in hysterical pains, or semi-paralysis of limbs; and as they frequently cure, with slight removal of bile, they probably act by suddenly breaking in upon a morbid condition of the cerebral and ganglionic nervous forces, and re-establish their healthy equilibrium. When, however, there is great debility in connection with the distressing epigastric sensations which I have described as gangliapathy, emetics do harm, and Joseph Frank, who was in Vienna, when Stoll's theory was in full force, mentions having seen the ill effects of emetics in such cases.

With regard to tonics, when gangliapathy predominates, I rely on good food, wine, and mineral acids, while the menstrual flow is still making irregular appearances. Mineral acids improve digestion, restrain irregular hepatic action,

and cool the skin, often teased by heats and flushes, and in support of my practice, I may mention that Hufeland thought highly of Haller's elixir in diseases of the change of life. Acetate of lead, in one-sixth of a grain doses, has been frequently given with good results by J. Frank, in cases of cardialgia, caused by onanism, and accompanied by gastralgic symptoms; but I have great objections to the internal exhibition of lead, and never prescribe it. J. Frank thought oxide of bismuth the best remedy for neuralgia of the cœliac plexus; and that the "oxide of bismuth and nitrate of zinc have a decided influence on the nerves of the stomach, appeasing the nervous affections of the cœliac, and of the abdominal ganglionic plexus," but he gave them in doses that would now be deemed inefficient. Hufeland writes favourably of hydrocyanate of zinc, in 1 to 4 gr. doses, two or three times a day, but I prefer the valerianate of zinc. Nitrate of bismuth is often useful in 10 to 20 gr. doses, suspended in a little mucilage, and should be taken on an empty stomach.

I have little experience of preparations of silver, but oxide of silver has been praised by Sir J. Eyre and Dr. Davey, and in recommending nitrate of silver, Dr. H. Jones correctly remarks, that when only taken for a fortnight, there is no danger of the skin being darkened. Dr. Shearman gave half-a-grain of nitrate of silver, with the same quantity of opium, and 5 grains of ext. of chamomile, three times a day, also sulphate of quinine, dissolved in an acid mixture; and ℥j doses of solution of potash, to prevent the formation of sugar in the urine. I have seen two pills, containing each one-eighth of a grain of nitrate of silver, cause distressing salivation with loss of three front teeth.

There is a general concordance of belief on the part of good observers in the value of strychnia to rouse and increase nerve force, and it may be tried in most cases. The powder of nux vomica in 2 gr. doses, or its extract in a 1 gr. dose, was strongly recommended by Schmidtman. Dr. Davey gives strychnia, and Dr. H. Jones writes encouragingly of it. The

tincture of nux vomica is the best preparation, given in some suitable mixture. I prize arsenic more and more as a nerve-tonic, at the change of life; Dr. H. Jones praises it in cases similar to those I have described; and if Dr. Leared has found it so useful in cases of confirmed dyspepsia, it is owing to its influence on the nerves of the stomach. I have often given digitalis at the change of life, during the last ten years, and when given in small doses, its power of strengthening and regulating the heart and blood-vessels, fully warrants its more extensive trial in all ganglionic diseases.

When, after cessation, there is a tendency to anæmia or chlorosis, I give quinine and iron in small doses and in a saline mixture, which is also the best vehicle for tincture of digitalis.

CHAPTER VII.

DISEASES OF THE BRAIN.

TABLE XXV.

Frequency of Cerebral Diseases in 500 *Women at the Change of Life.*

Nervous irritability	459
Headache	208
Headache, monthly	7
Sick headache	92
Hemicrania	3
Apoplexy and hemiplegia	6
Pseudo-narcotism	277
Hysterical state, or hystericism	146
Hysterical fits, only since cessation	3
Globus hystericus, only since cessation	17
Laughing and crying fits, only since cessation	4
Hysterical symptoms, every month	1
Hysterical flatulence	8
Prolonged fits of unconsciousness	3
Epilepsy, only since cessation	3
Epilepsy, much aggravated	5
Delirium	3
Insanity	16
	1261

Ganglionic diseases often determine or complicate the diseases to be treated of in the present chapter, and as exhaustion characterized the former, so excitability does the latter, as will be seen by a glance at the above Table. In

this Table, 500 women divide 1261 forms of cerebral disease, many of them suffered from several of these nervous symptoms at the same time, confirming the belief in the great frequency of cerebral affections at the change of life. After cessation, the liability to nervous affections decreases; headache, nervous irritability, and pseudo-narcotism, have seldom the same intensity; and if cerebral hæmorrhage, apoplexy, and softening of the brain became more frequent, it depends on pathological conditions common to both sexes, in old age. A glance at the preceding Table, will show that at the change of life, women suffer chiefly from functional diseases of the nervous system, while men suffer more from organic disease, which explains why the mortality from cerebral diseases, according to the Registrar-General's reports, is always greater among men, than women, from the twentieth year and upwards. Of those who confirm my assertion, Gardanne and Dr. Ashwell state, that even when most favourably passed, the change of life brings with it a train of nervous symptoms. Gardanne and B. de Boismont speak of the tendency to headache; Dr. G. Bedford alludes to the frequency, the intensity, and eccentricity of the nervous symptoms at this epoch; and B. de Boismont thinks transitory delirium and insanity to be then of frequent occurrence. A reviewer in the "Archives Générales de Médicine," says, "that however long is this chapter, it is still too short." I believe that many women are thoroughly unhinged by the change of life being left to take its own course, and that what is politely called *eccentricity* is allowed to embitter their existence, and the lives of those around them. Should they lose fortune or friends, they may become insane beyond endurance, or may be thought so by relatives; whence arise scandalous suits, and the squandering of fortunes, which might have been prevented by the rational treatment of nervous symptoms on their first occurrence. I cannot repeat too often that this crisis, like puberty, weighs upon the subsequent life-time of women, and, thus considered, the nervous symptoms of the change of life assume vast importance.

I shall now pass in review—1stly. Nervous irritability, the groundwork of all cerebral diseases; 2ndly, Cerebral neuralgia; 3rdly, Pseudo-narcotism; 4thly, Hysteria; 5thly, Epilepsy; 6thly, Insanity. To understand these affections better, I shall throw on them, the light derived from their study, at other phases of the reproductive function, and after giving facts and the results of experience, attempt to account for their production and discuss their treatment.

1stly. **Nervocism or Nervous Irritability.**—By this is meant, that the nervous system is unusually susceptible to external impressions, such as cold, light, noise, to emotion, and to the stimulus of diseased viscera. There are not only innumerable degrees, but various modes of nervousness. If patients are asked whether they are nervous, understanding the term to mean hysterical, they are often indignant at the question, though they readily own that they cannot bear the slightest noise, or a domestic upset, and that they are over-sensitive to emotional stimuli. Temper may not be easily ruffled, but they are ready "to jump out of their skin" at the jarring of a door, and are in agony at hearing the leaves of a book turned over. It is torture to some to hear others converse; others say, that on the most trivial occurrence, they "feel pulses beat all over them;" they "feel all of a tremble, all of a shake;" "my flesh feels so heavy upon me," said one Dispensary patient, and "sensation is my calamity, not pain," was the expression of another; while some cannot stop in church, "because they feel the people too close." The fidgets, the *anxietas tibiarum* of nosologists, are a very frequent expression of nervousness, so are the facial tics so common in nervous people, and indicating *nervous plethora*, seeking to be relieved by muscular action. Although one cannot determine the anatomical conditions of the nerves when in this state, I think nervous congestion may be admitted as much as blood congestion. The nervous fluid is too subtle to be seen or felt, but from the effects it produces, the mind can deduce the fact of its being too abundant. I first allude to this nervous irritability because it is the

"materia prima" of all nervous affections, the basis on which they rest, and the soil in which they grow; but to call nervousness *hysteria*, is to perpetuate the state of confusion out of which the pathology of the nervous system has scarcely emerged. The last table shows the frequency of nervous irritability at the change of life, and I believe it to be of almost constant occurrence, then, as at puberty.

2ndly. **Headache.**—Our poverty of language for cerebral diseases, is shown by our being obliged to give the same name, to an indisposition that does not interfere with habitual pursuits, and to something that will keep a patient in sleepless agony for two or three days. Headache is a very frequent symptom at the change of life, as at puberty, for it occurred in 208 of my cases. Some like E. P., aged fifty-five, never had a headache until cessation, but have ever since suffered from it, more or less. In another, headache was the prominent symptom at menstruation, parturition, and cessation; a dull heavy kind of pain, with pseudo-narcotism which lasted more or less for six months. With regard to its seat, it may be met with in the following order of frequency, in the temple and forehead, at the top of the head, and at the occiput. The last-named places have been noticed by Friend, Etmuller, and others, as most habitual. I have rarely met with it in the occiput, though that should be its most frequent seat, if Gall's ideas were correct. With regard to the nature of this pain it is described as "shooting," "throbbing," "gnawing," "burning," or as "if the head were in a vice." It varies in intensity, from the slight amount which merely inconveniences, to that agonizing pain sufficient to prostrate a hard-working woman and make her lie by, for some days. In ninety-two cases, the patients suffered from sick headache with little sign of gastric disease, only mucus being brought up. Need one be surprised at sickness sometimes accompanying cessation, when it often accompanies puberty, and sometimes attends each menstrual period? Headache may, doubtless, be caused either by plethora or by anæmia, but it is generally a nervous symptom and behaves as such. I have

had frequent opportunities of observing the alternation of violent hemicrania and gangliapathy, the one arising as the other abated; I have also witnessed a marked antagonism between the cerebral and the pelvic extremities of the spinal cord, the violent headache subsiding as pain became intense in the sacrum; but as a general rule, those who suffer much from cerebral, are less troubled by pelvic pains.

Case 25.—Periodical Headache at Cessation.—Sarah T., a tall, stout woman, with the capillary vessels of the cheeks very apparent, looking very nervous and lachrymose, was fifty-six when she came to the Farringdon Dispensary. The menstrual flow appeared at sixteen, and left gradually at fifty-one, after dodging her for a year. She then suffered for a twelvemonth, from flushes and perspirations, particularly at meals; she was pretty well all day, but at two o'clock in the morning, severe headache generally awoke her from a sound sleep. This occurred "off and on for two years after cessation," says the patient, and her account is confirmed by her daughter. The sudden loss of her husband induced great debility, and caused the flushes and drenching perspirations to return, four years after their subsidence. Dr. Teissier* has published a case of periodical hemiplegia. A lady, sixty years of age, and after cessation had taken place, became unconscious every month, and about the time at which she had been accustomed to menstruate. On recovering her senses, one-half of her body was paralyzed, and her speech was affected. This continued for several days, and gradually disappeared to return at the next monthly period. Being naturally of a calm and tranquil disposition, those about her knew when the attacks were coming on, by her agitation and restlessness.

Case 26.—Cerebral Neuralgia.—I have related in another work,† how, after having enjoyed tolerable health till the fortieth year of her age, a lady began to suffer from chronic

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* *Gaz. Méd. de Paris*, 1851.

† "Handbook of Uterine Therapeutics."

inflammation of the womb, which increased nervous excitement and occasionally caused hysterical fits and vomiting that resisted all approved remedies, and only yielded to the application of an issue at the pit of the stomach. She was a tall, thin and excitable body, with a skin that never knew what it was to perspire, a condition which I have often seen associated with severe nervous symptoms during the change of life.

On menstruation ceasing in her forty-eighth year, the patient still suffered occasionally from vaginitis and exulceration of the cervix with a yellow discharge, but she became less nervous, and hysterical attacks were replaced by maddening attacks of pain in the head, coming on every second or third week, or at irregular intervals. In these attacks the skin was hot, the lips parched, the eyes deep sunk, the pulse at eighty; there was also a moderate amount of salivation. At the beginning of the attack, the urine was scanty and thick with lithates, but towards the end there was an abundant flow of pale urine. These attacks generally obliged her to remain twenty-four hours in a dark room; and I have known them to last four days. During three years a host of remedies were tried in vain; among those given internally were the salts of zinc, Indian hemp, and bromide of potassium, while chloroform, the deutosulphide, and the tetrachloride of carbon were tried as outward applications to the nape of the neck, and to the temples; an occasional application of leeches to the temples doing more good than any other remedy, while the neuralgic nature of the complaint was shown by the fact, that no severe attack occurred during a six weeks' stay at Birkenhead; the attacks returning when she came back to her own healthy and comfortable home. After this state of things had lasted about two years, Dr. Russell Reynolds met me, and thought it best to rely on alteratives and tonics. The sudden loss of a husband and subsequent pecuniary losses, will account for the cerebral attacks becoming severer and more frequent. They told very unfavourably on the memory of the patient, and on her power of attention. Such was the state of the case when

Dr. Livingston, of New Brunswick, wrote to suggest the trial of tincture of aconite in a solution of hydrochlorate of ammonia, and I first tried scruple doses of this salt, three times a day, for a fortnight without any good effect, and then the tincture of aconite, beginning with five drops, but pushing on rapidly to twenty drops, three times a day. After she began to feel fulness in the throat, and tingling in the tongue, the attacks ceased for a month, when came a desperate one. The aconite was continued, and again there was no attack for another month, when two occurred. I increased the aconite to seventy-five drops in the twenty-four hours, and there were no attacks for three weeks, and then two in succession; but as the larger dose painfully increased the tingling and the numbness, I diminished it to twenty drops three times a day. The aconite was taken for sixteen weeks, and it checked the frequent recurrence of the terrific head attacks, and if it did not prevent them, the aconite certainly permitted her to get out more and to mix more with society, and should certainly be tried in a similar case. No day ever passed without headache, and about three or four o'clock A.M. the patient used to bathe her head with Raspail's lotion, which she has found to be the most effectual application, and in the afternoon she felt better and brighter. In a very severe attack, which lasted four days, the skin was hot, the lips parched, the pulse at ninety, the eyes deep sunk. There was a sensation as of blood rushing to the brain, and this was but slightly relieved by six leeches to the temples, although the loss of blood was considerable. In one of these attacks, I gave her a whiff of nitrite of amyl, which frightened her by the prostration it produced. Chloral, in doses of from twenty to forty grains gave some amount of unsound sleep, and a different kind of headache, with painful congestion of the sclerotics. Dr. Russell Reynolds subsequently advised placing the patient under the influence of atropia during the attacks, but the effects were so disagreeable, that she would not repeat the dose. He likewise advised the arseniate of iron, which was

taken for two months; it did no good, and seemed to cause a spasmodic cough, which only desisted on lying down. Dr. Handfield Jones suggested small doses of nitrate of silver; but salivation followed the second dose, was troublesome for a fortnight, causing the loss of two front teeth, and the tendency to salivation during the attacks should be considered to forbid the giving of nitrate of silver in nervous affections. Sir Thomas Watson is the only author who mentions having seen salivation follow the exhibition of this medicine, and Graves, who was the first to give it in cerebral neuralgia, makes no mention of salivation. In 1870, my patient gave up physic and took a religious turn: she frequently went to very early mass; and for several years she was neither better nor worse for leaving a far too active a life. Since 1875, she seldom leaves the house, the attacks are often bad, but they have not seriously damaged mental power. A solitary life was the worst possible condition in such a case. Travelling to German Spas would have done good; and greater efforts should have been made to promote perspiration, in hopes of relieving the nervous system.

3rdly. **Pseudo-narcotism.**—The following cases will show the meaning I wish to convey by this term:—

Case 27.—Pseudo-narcotism.—Mary H., very stout, middling stature, sanguine temperament, flushed face, heavy eyes, uncertain walk and attitude, with all the appearance of being intoxicated, was sixty when she came to the Paddington Dispensary. The menstrual flow appeared at eleven, with giddiness and sleepiness; it continued regular and abundant, though always accompanied by "a drowsy giddiness," for which she was often bled and cupped. She married at twenty-one, and had a child at twenty-six. The dodging-time began at forty, and lasted until fifty-eight. During these eighteen years the menstrual flow was irregular, being either very scanty; or like a flooding. She was also troubled with leucorrhœa, back pains, faintings, flushes, sweats, headaches, and was so giddy, that she frequently tumbled down, and people thought her tipsy. When walking out, she

always walked near the railings, so as to have something to hold by. She said she never drank anything but cold water, and her landlady confirmed her statement. At about fifty-eight, when the flow stopped, she was at St. George's Hospital for ascites and boils. Diuretics considerably reduced the ascites; and for the last six months she has suffered from intense headache, with pain, and singing in the ears, pains in the eyes, chills, flushes, and the perspiration trickles down her face. Every twenty-eight days, these symptoms are more troublesome, for a few days, so she has been unable to do any regular work for five years. I had eight ounces of blood taken from her, ordered a brisk purgative, to be repeated every week, several glasses of cream of tartar lemonade to be taken daily, and warm pediluvia every night. By following this treatment for a few weeks, the patient greatly improved; but she would not allow the bleeding to be repeated, and if ever there was a case, in which bleeding would have been beneficial, it was this; for she was of sanguine temperament, bore bleeding well, and the menstrual flow had always been abundant. Three to four ounces of blood should have been taken from the arm every month, for the first two months, then every third or fourth month, with baths, purgatives, alkalies, and mild sedatives. This is one of the most marked instances of pseudo-narcotism I have met with. It appeared with first menstruation, returned at every menstrual period, and completely incapacitated the patient from earning her livelihood, for five years.

What name then is to be given to this nervous affection? Is it to be called congestion of the brain? I think not, but there were no signs of this condition in the following case, in which the nervous symptoms were similar:—

Case 28.—Pseudo-narcotism.—Mary G., thin, tall, with dark hair, a pale delicate complexion, drowsy look, and, when roused, looks as if she expected to see something frightful, was forty-nine and unmarried. The menstrual flow appeared at fourteen, and continued very regular, with little pain or other disturbance until the last two years, when it became

irregular, and like "brown cinder dust." She also became unusually nervous, "feels silly, as if her head were one dead lump," and "five minutes after putting things away, she forgets where she has put them." More than once, she has lost her way in streets well known to her. She sleeps all night, wakes unrefreshed, often falls asleep during the day; sometimes feels stunned, and lost for an hour. She complains of a *hot* pain at the pit of the stomach, with frequent sensations of sinking, which pain is worse after eating. She will be three days without food, and then eat ravenously. For the last six months the bowels have been costive, and for the last two years, she has been troubled with flushes and sweats. I ordered the comp. camph. mixt. before meals, the carb. of soda after, 3 grains of blue pill, and 2 of ext. of hyoscyamus every night, also 10 grains of Dover's powder, a large belladonna plaster to the pit of the stomach, with hot pediluvia every night. This was continued for a week, and I never saw greater improvement in so short a space of time. The eyes looked peaceably at surrounding objects; she had a comfortable, self-possessed appearance, having lost her strange feelings, and being less drowsy during the day. The improvement was a lasting one; for I only saw the patient now and then during the following year, when there was a return of the head symptoms. Pseudo-narcotism is generally allied to other cerebral symptoms, but in this case it was not obscured by headache, sick-headache, or hysteria.

Again I ask, what is the name of this nervous affection? Congestion of the brain? There was none. Anæmia? There was none. Neither can it be called hysteria, unless by adopting the common custom of calling *hysterical*, all nervous affections that have not been named. I say that these patients suffered from pseudo-narcotism; and if it be urged, that it is useless to give a new name to exceptional cases, I reply that this affection is common at all the critical epochs of woman's life, especially so at the change, when I observed it, in 277 out of the 500 cases.

At puberty, girls previously lively and clever, often become

stupid, they will let things fall out of their hands, and fall down in stooping to pick them up, and it is useless to send them on a message, as they forget what they were sent for, or how to come back. Pseudo-narcotism is often very intense when the menstrual flow is either very painful, deficient, or completely absent. I have known intense pseudo-narcotism, caused by amenorrhœa, mistaken for an idiopathic affection of the head, in a girl of twenty-one. Her head was shaven, and she was bled and salivated to the ruin of her health. N. G., at menstrual periods, could almost sleep while walking, and once remained sixteen hours in a state of stupor, from which she awoke quite well. K. R., at menstrual periods, would remain for hours in what she called her "quiet fit," a state of wakeful abeyance of mental action, unaccompanied by hysterical phenomena, or by convulsions. Such examples of pseudo-narcotism are rare, but they present the extreme of what may frequently be observed. The ordinary symptoms are, a great tendency to sleep, an uneasy sensation of weight in the head, a feeling as if a cloud or cobweb required to be crushed from the brain, disinclination for any exertion, a diminution of memory and of the powers of the mind. But whether slight or intense, the symptoms indicate different degrees of the same cerebral affection, which I have described in the patient's own words. They represent the diminished degree of that hysterical coma, in which, says Pomme, some would have been buried alive, had he not interposed. A high degree of pseudo-narcotism is sometimes the immediate consequence of connexion. This was always the case in a patient of mine, during the first year of married life, sometimes she would recover from it, in half an hour or an hour, sometimes the morbid, would merge into the natural sleep, being followed by headache and prostration of strength during the following day, and I have repeatedly met with patients in whom connexion brought on sound sleep, not to be obtained from drugs. During pregnancy, the milder forms of pseudo-narcotism are frequent. The heaviness of head, the dulness of intellect, the giddiness, the tendency to

fall, which are often erroneously considered symptoms of plethora, used formerly to be treated by venesection. S. C. always knew herself to be pregnant, by feeling heavy in the head, giddy, and by very sleepy sensations which augmented as she increased in size. In P. N. there was no pseudo-narcotism at the menstrual epochs, but much during pregnancy.

Pseudo-narcotism to an aggravated amount is one of the symptoms of over-lactation. Physiognomists will be struck by the appearance women frequently present at that time, their uncertain step and tottering gait, their vacancy of expression, the drowsy look of the eyes, and the great efforts they make to recover their clouded intellects when aroused by a question. When asked what they feel, they complain of "heaviness in the head," "a stupid feeling," "a lump in the head," "a stupid headache," "a numbness in the head, not pain," of "feeling silly," "stunned," and "the head like a dead lump." Some talk of "an impulse to fall forward," they "are often giddy even in bed." Others complain of "senselessness," of "feeling lost and bewildered," "of a temporary loss of wits," "of the fear of going mad."

At cessation, the temporary loss of memory is sometimes a most distressing symptom. Patients forget, a few minutes after putting them away, where they have put their purse, keys, or things they are in the habit of using. "I write everything down, or I should forget it," says one patient; and another, "I am obliged to stop and ask myself if I am doing what is right." One was so forgetful that she accustomed her children to remind her; some forget their way home and even their own names. Patients say they feel so "sleepy and dreamy-like," "heavy for sleep, but without pain," "can sleep anywhere," "can hardly keep the eyelids open," and are "so sleepy they could drop off their chairs." In a few cases, however, I have noted *sleeplessness*, as in M. C., who says, that her head feels so funny when the time for the menstrual period comes round, that she cannot sleep for three or four days. Some patients feel as if they had taken too much, as

if something had got into their heads; they were accused of being tipsy, when they pass in the street, holding by the rails: they have been turned off as drunk, and one was not allowed to open the door to visitors, by a master anxious to save his servant's reputation. Pseudo-narcotism is most frequent and severe at the change of life, while hysteria is rare, but it may alternate with hysteria or gangliapathy, as in M. J., who, at this epoch, suffered severely from pain in the central ganglia, on the subsidence of which she could sleep anywhere. The nervous system of some women is so sensitive to the disturbing influence of the ovaria, that they have begun to be pseudo-narcotized before puberty, and continue so, more or less, until cessation. In advanced life, pseudo-narcotism becomes less frequent, less intense; should the contrary occur, it denotes a tendency to insanity, as in A. H., who ceased fifteen years ago, who is so sleepy that she seldom rises before 5 P.M., and was insane for several years.

In what precedes I have kept my own observations clear from facts recorded by others: but lest it should appear, that I have been too much struck by exceptional cases, I shall now show, that esteemed authorities have met with cases similar to mine. They have not, it is true drawn attention to the minor degrees of pseudo-narcotism, being satisfied to consider them as symptoms of hysteria, but they have noted the coincidence of prolonged sleep or coma with amenorrhœa, pregnancy, lactation, and cessation. Dr. Sandras, of Paris, gives instances of its occurrence in both married and unmarried chlorotics. Dr. Villarty de Vitré has made known* a curious case of lethargy, occurring regularly, every month, in a girl suffering from amenorrhœa, the attack lasting seventy-three hours; the lethargic state disappearing on the coming on of the menstrual flow. Dr. Copland notices coma, as a symptom of severe hysteria, in plethoric subjects, and in pregnancy; and he mentions its occurring from the suppression of the menstrual, and of the lochial flow. Mont-

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* *Union Médicale*, tom. v.

faucon states, that in some cases of hysteria, the principal symptom was continued sleep, lasting for several days, and only interrupted to take food. Pomme, who had a large acquaintance with nervous disorders, makes the following remark :—"L'hystérie est quelquefois accompagnée par une sorte de sommeil profond, qui prive les malades de tous sentiments. Elles perdent quelquefois connaissance aussi subitement que dans l'apoplexie, ce qui en a imposé plus d'une fois à ceux qui négligent d'examiner alors l'état de la mâchoire, qui est en convulsion dans l'accès hystérique." Tissot, and those who have written on onanism, relate, that some of those addicted to it, do not sleep at all, while others are almost always in a state of stupor. Mr. A. Hunter,* Mr. Blake and Dr. Montgomery have cited cases, where pregnancy was accompanied by very great drowsiness; and in Dr. Montgomery's case, the patient's memory was a perfect void, during the whole time of her pregnancy. Dr. Reid relates the case of a woman who was always able to judge pretty correctly of the time of conception, by a peculiar sensation of drowsiness, attended by sickness. J. Frank has known pregnant women to sleep eighteen, out of the twenty-four hours, and he remarks that some women can distinguish fruitful connexion by a kind of narcotism, but independently of conception, connexion sometimes gives sound sleep when opiates fail. Baudelocque mentions the fact of women about to be taken with fits of eclampsia, being thought drunk by the unexperienced; and although this disease may appear without prodroma, still heats and flushes, giddiness and bewilderment, are often its precursory symptoms. Soporous affections have been noticed at the change of life by Chambon, and Tissot says, "I have seen one of the most reasonable and witty women I ever knew, pass two years of her life, at the change, in a constant dream of a calm and gay character, like her own habitual disposition. She was at the same time so troubled with the fidgets, that she could only sit still for

* *Annals of Medicine*, 1799.

ten minutes at a time, and if she persisted in doing so, her sufferings were intense. Her nights were often sleepless, and remaining in bed was painful to her." I believe that to this condition, Pr. Charcot has given the name of "provoked hypnotic lethargy:" "mental stupor," has been lately proposed by Dr. Hack Tuke* who notices its connexion with catalepsy, and with melancholia cum stupore.

Nature is immutable; and good observers record the same facts, although differing in their mode of interpretation, and I cannot better conclude these citations than by a case, related by Pomme, of periodical pseudo-narcotism in a young lady.

Case 29.—Successive Fits of Coma at Menstrual Periods.—Mdlle. ——, aged eighteen, sanguine and nervous, was suddenly affected with a lethargic drowsiness, when the menstrual flow was due; and the drowsiness was alleviated by bleeding. At the following monthly period the drowsiness came again, with greater intensity, and bleeding was again resorted to, but it did not relieve her, so she was not bled at the following menstrual periods, when there was a recurrence of the same lethargic state, instead of the menstrual discharge. The drowsiness was followed by hysterical delirium, she became violent, and refused all food for seventeen days. Pomme put her into a tepid bath, and after being kept there twelve hours, she quieted down, and took food. For two months she had a daily bath of eight hours, cold applications being made to the head; then the menstrual flow returned, on which the delirium disappeared.

As sleep is often produced by the morbid action of the ganglionic nervous system on the brain, owing to the disturbed performance of the reproductive functions, I think that a good theory of sleep should take into consideration the influence of the ganglionic nervous system in its production; and without attaching too much importance to a single case, it may be mentioned, that in 1824, at the great hospital at Vienna, Joseph Frank saw a man, who for many years, passed

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* *British Medical Journal*, 1881.

all his time in sleeping. When his body was opened, the only unusual appearance found, was a considerable hypertrophy of the semilunar ganglia, of the cœliac plexus, and of all the divisions of the sympathetic. It would be interesting to ascertain the state of the ganglionic nerves in hybernating animals, before, during, and at the close of their long sleep.

I said that a frequently observed cerebral condition has no name, being confounded with hysteria, or with coma, a disease of rare occurrence, which may be the result of other affections. I have, therefore, given it a name, because new words are justifiable, when they specify the nature of things. Sir H. Holland has observed that, the difficulty of getting a correct nomenclature for morbid sensations, applies particularly to the cerebral. "Nervous stupor," or "spontaneous narcotism," would be good terms, but as the symptoms are similar to the gentle or powerful effects of narcotic poisons on the brain, I have applied to this group of cerebral symptoms the term *Pseudo-narcotism*, thus graphically expressing the fact, without prejudging the question.

4thly. **Hysteria.**—Medical writers should explain their meaning when using the term hysteria. When Dubois d'Amiens, Vigaroux, Béclard, Gardanne, and B. de Boismont say, women are not subject to hysteria at the change of life, and F. Hoffman, Pujol, and Meissner say that they are, what do they mean? Do they mean, that they are not subject to globus hystericus, and the minor symptoms of hysteria, or that they are not subject to hysterical fits? A glance at the table that heads this chapter will enable the reader to decide the question, for out of my 500 cases, 146 who had suffered more or less from globus hystericus and the minor symptoms of hysteria still continued to suffer from them at the change of life; and for the first time after cessation, seventeen had globus hystericus, and four had repeated laughing and crying fits, whereas only three had hysterical convulsions. In several of my cases, globus hystericus was so severe, as to make the patient jump up in bed, for fear of being suffocated. Landouzy gives a table showing, that out of 351 hysterical fits,

only twenty-five occurred after the fortieth year, and that they are also very rare before puberty. Out of 821 cases of hysteria observed by Georget, Briquet, Landouzy, and Beau, only twenty-one originated from the fortieth to the fiftieth year, while 259 began from fifteen to twenty, and 574 from ten to twenty-five years of age. With regard to the effects of the social position, hysterical symptoms are much less common among the poor, and they occur most frequently when the nervous system of woman is wrought up to an artificial state by luxurious living, by overworking the mental faculties, and still more by the over-development of emotion. With regard to the influence of temperament in producing hysterical phenomena, I have met with them most frequently in patients of a sanguine temperament, in whom the least disturbance of the periodical function has, through life, often brought on this disorder; whereas in women of a nervous temperament, hysteria often diminishes in proportion as the activity of the reproductive organs diminishes, ceasing entirely with the subsidence of their action. Landouzy has shown that, in the vast majority of cases, hysterical convulsions were ushered in by pain or strange sensations in the ovarian and hypogastric regions, pains which induce the sensation of suffocation felt at the pit of the stomach, and then the globus hystericus. In other works, I have long ago taught the ovarian origin of hysteria, and this has been adopted and proved by the recent researches of Pr. Charcot. Dr. Copland has known the convulsive attack to be preceded by leipothymia, and I have often been struck by the alternations of gangliapathy with globus hystericus or other minor hysterical symptoms; globus hystericus subsiding, for instance, on the coming on of a paroxysm of gangliapathy.

Case 30.—Hysteria.—Lucy P., tall, thin, with brown hair, grey eyes, and a chlorotic complexion, was forty-nine, when she came to the Farringdon Dispensary. She had always enjoyed good health, and married at eighteen; the menstrual flow first appearing the day after her wedding. She had several children, the last at thirty-three, and from that time

until she was forty-four, the flow continued regular. For six months it came regularly every fortnight, then every two, three, or five months, for the two following years. Several times, when she had been long without the menstrual flow, "a gush of blood would come from the mouth or ears, and she was obliged to go to bed." She was much troubled with faintness, flushes, sweats, abdominal pains, piles, which bled occasionally, pseudo-narcotism, and, for the first time in her life, she had a fit of hysterical convulsions, and very frequently crying fits, with the sensation of a lump in the throat. After suffering in this way for three years, the menstrual flow completely ceased, and for two years her health was worse. She then became weak, and her complexion turned from ruddy to sallow; she was laid up for weeks with bilious attacks; bringing up bile, and her bowels were either relaxed or confined. She was much troubled with headache, with pseudo-narcotism, with nervousness, and with the hysterical symptoms already detailed. This patient had always enjoyed good health until the dodging time began; she had never been well for the following five years, but she was restored to health in about six months. She first took 4 grs. of blue pill, and 2 of ext. of hyoscyamus, every other night; the comp. camph. mixture before meals, and a drachm of carbonate of soda, in a mouthful of water after meals. After three weeks, these medicines were discontinued, and 5 grs. of citrate of iron were given in an effervescing draught, after meals, twice a day, and 10 grs. of Dover's powder every other night. The bowels were kept open by an occasional dose of sulphur.

5thly. **Epilepsy.**—When it appears in connexion with first menstruation, it will often wear itself out in a certain number of years, only occasionally returning at the change of life. I have seen four such instances, and in another, the patient first suffered from epileptic fits during lactation; she had seven children, but the fits only came on, during four lactations, and subsequently at the change of life. She could assign no cause for their coming on at some lactations and

not at others; but she had kept the temperance pledge four years previous to the epileptic fits at cessation. Tyler Smith and B. de Boismont have seen several cases wherein hysterical and epileptoid attacks only came on at first menstruation, at the decline of life, and sometimes at menstrual periods, the attacks completely disappearing after cessation. One of Dr. Radcliffe's patients had repeated epileptic fits at puberty, which induced medical men to advise her remaining single, but she married, had children, and did not suffer again from the epileptic fits until the change of life. In one of my patients, epileptic fits became more frequent and severe after the ménopause, while in two other cases, epilepsy occurred without any other cause than the change of life; and Moreau notes this epoch, as the only cause of epilepsy, in nine out of 529 epileptic women. Besides the well known anomalous sensations arising from various parts of the body, I have met with one patient, in whom the attacks were brought on by a fixed and intense ovarian pain, the result of subacute ovaritis. Pressure on the ovarian region often brought on attacks, and I myself thus caused a severe one. Dr. Copland has often seen epileptic fits preceded by leipothymia, the pulse retaining its usual strength. It is not uncommon for women to have the minor symptoms of epilepsy such as vertigo, temporary loss of power of speech, or of consciousness, and twitchings of facial muscles, but the following cases illustrate the more severe forms of the disease.

Case 31.—Aphasia.—Mary H., a tall, healthy-looking woman, with brown hair, and hazel eyes, was fifty when she consulted me. The menstrual flow appeared at ten, and came regularly, with little disturbance until she married at twenty-one. She had four children, the last at thirty-nine, and was regular until forty-seven, when cessation took place, after menstruation had been irregular for four months. Some days after the last menstrual flow, and without any known cause, while she was hanging out clothes in the garden, she felt giddy and fell down, remaining insensible for ten minutes. The fit was repeated once a week, then every

fortnight, afterwards with an interval of six weeks, when she became free from them for six months, but felt unusually nervous, and some time after, while in apparent good health, and talking to her husband, she all at once lost all power of speech. She was perfectly conscious, knew what she wished to say, but could not utter the words. She had no pain, no choking sensations, she did not stammer nor stutter, she had no headache, but intense vertigo even when lying down. For two years this fit came every day, and if it missed the day, it would come at night, on waking after her first sleep. She consulted me because the fits have lately come three or four times a day. She is very nervous, frightened at the dark, and at everything, and she complains of headache. After well opening the bowels with the comp. col. and calomel pills, I gave my comp. camph. mixt. before, and the carb. of soda after, meals. This was continued from the 12th of December to 26th of January, and the number of fits of speechlessness diminished from four to one a day, and they were of shorter duration. In addition to other measures, I then ordered 8 grs. of ox. of zinc, and 2 grs. of ext. of hyoscyamus to be taken every night. This was continued until March 15, when the patient was discharged, being still unable, once a day, to give utterance to her thoughts, but the speechlessness scarcely lasts a minute. She was in good circumstances, had a kind husband, was in fair health, and there was only the change of life to account for the disease.

Case 32.—Epilepsy and Impetigo.—Mary F., a woman of the average size, with grey eyes, brown hair, and a florid complexion, came to the Paddington Dispensary in 1849. She was then forty-eight. The menstrual flow came at ten, and continued regular, sometimes too abundant, but without other disturbance. She married at seventeen, had three children, the last at thirty-four; since then the menstrual flow has only been irregular for the last two years. With the exception of giddiness during the previous year, she had enjoyed uninterrupted good health up to this period, but now flooding, at irregular periods, with great abdominal

pain, lay her up for three months at a time; there is no uterine disease, but she is troubled with obstinate constipation, faintness, flushes, and sweats. She suffers from pain at the top of the head, which is worse when she lies down; she always feels giddy, stupid, sleepless, heavy, and "never as she ought to feel." Moreover, two years ago, when the menstrual flow began to be irregular, she had, for the first time in her life, a rash attacking her arms and face. The arms very soon got well, but the face never did, and the cheeks are hot, livid, hard, and covered with flaky scales, a quiescent state which has lasted for three months, but the skin often blisters and distils a gummy discharge, every month or six weeks. Since this has appeared, the patient has been subject to fits, which come on suddenly from fright, exertion, or without cause, two or three times a day. Talking to me has often brought one on. Her teeth chatter, she becomes unconscious, and this, at first, lasted only for a few minutes, but now often for an hour, when she becomes violent, and tears everything she can lay hold of. The fits are worse and more frequent when the eruption fades, and the brain always feels relieved when the eruption is worse. February 16, I ordered 2 comp. col. and calomel pills to be taken every second night, and 1 oz. of castor oil the following morning; a scruple of sulphur and borax twice a day; the comp. camph. mixt. before, and one drachm of carbonate of soda after each meal. Hot foot-baths were given every night, and later on 10 grs. of Dover's powder; and on March 8, five leeches were placed behind each ear, as the patient would not be bled. March 17, The leeches did no good, the patient being no better than when she first came, and in addition to the usual treatment, the face was fomented with warm milk and water. April 5, Abdominal pains were much complained of, requiring enemata, with 30 drops of Battley's solution twice a day; and she occasionally passed "large clean clots of blood," without pain or red discharge. June 14, There had been no menstruation for eight months, when a flooding relieved the abdominal pains, but the head is as bad

as ever, the nervous fits as frequent, and the face discharges much gum-like matter every second day. I ordered a blister to be kept open on each arm, but being myself laid up about this time, I lost sight of the patient. The life of no woman ever presented a more marked contrast. Perfect health up to the change of life, after which constant illness, set on foot by the change of life. Bleeding, daily tepid baths, prolonged for three or four hours, would have been very serviceable, but could not be taken, and arsenic should have been given.

When there is any periodicity in the attacks, it is well to be on the look out for any increase of mental irritability, headache, languor, a sense of uneasiness, perhaps a great dread of impending calamity. Sometimes, there is marked increase of phosphates and uric acid in the urine; and on several occasions, nearly total suppression of urine was observed for the day or two preceding an attack. The state of the urine should be noticed; and, in any case, the secretions should be carefully regulated by alkaline salines, aloetic or mercurial pills, or Püllna, or Friedrichshall waters. The attack frequently comes on in the night, so the patient should not sleep alone, and the person sleeping with her should be told what to do. It would also be wise to increase the dose of bromide of potassium about this time; and to give at once a full dose of chloral, if there be any threatening symptom.

6thly. **Chorea.**—Dr. Anstie has noticed the occasional recurrence of chorea, at the change of life, but this is of very rare occurrence, as I have never met with it, nor catalepsy either, in hospital or private practice.

7thly. **Insanity.**—Some authors assert that insanity is more common to women than to men: and explain this supposed frequency by the shock given to the nervous system, by puberty and by cessation. The first assertion is doubtful, and the second an exaggeration: for, on consulting the Registrar General's Reports, it will be found, that deaths from insanity are most frequent in women, from twenty to forty, or while the reproductive organs are endowed with greatest activity; results in accordance with the statistics of Haslam,

Pinel, Esquirol, and Fœdéré. From forty to sixty, when men are most actively engaged, and hope is failing, as well as physical strength, many more men than women die insane. From sixty to eighty, when the sexes most resemble each other, insanity affects them equally. A still better way of ascertaining the liability to insanity at the change of life, is to take the admissions of a large lunatic asylum. The following table, for which I am indebted to the late Sir Charles Hood, shows the ages of women admitted at Bethlem Hospital, from January, 1845, to December, 1853.

TABLE XXVI.

Relative frequency of Insanity at different periods.

Period of Life.	No. of Cases.	Period of Life.	No. of Cases.
Under 15 years.	9	40 to 45 years.	162
15 to 20 „	61	45 „ 50 „	153
20 „ 25 „	216	50 „ 55 „	122
25 „ 30 „	223	55 „ 60 „	57
30 „ 35 „	217	60 „ 65 „	55
35 „ 40 „	218	65 „ 70 „	27

Hence it appears, that although the change of life is not most prone to insanity, still 437 out of 1320 became insane, from forty to fifty-five, whilst after that age the number suddenly diminished. Dr. Davey, of Northwoods, informs me, that about one, in every six insane women, have had a first attack between thirty-six and forty, and that the liability to insanity diminishes from forty to fifty-five. The effects of the puerperal state and of lactation in producing insanity explain why it is most frequent in women before the fortieth year; but the table heading this chapter shows that, out of 500 women, there were sixteen in whom the mental and moral faculties were severely compromised by the change of life. B. de Boismont received into his asylum in one year, eight patients in whom insanity could only be

accounted for by this cause. Dr. Forbes Winslow assures me that he has frequently seen it bring on insanity, and Dr. Wood confirms the assertion, and if headache, pseudo-narcotism, hysteria, and epilepsy be caused by the change of life, it would indeed be strange if it did not likewise produce insanity. If Esquirol be right in establishing that derangements of menstruation form one-sixth of the physical causes of insanity, and B. de Boismont in professing the same opinion, and in saying, that the menstrual epochs are always "*un temps orageux*" even for insane women who regularly menstruate, it would indeed be singular if the change of life did not sometimes produce insanity. As it is caused by puberty, a fact already known to Hippocrates, it would be astonishing if it were not sometimes the result of the change of life. A favourable prognosis of climacteric insanity may be given as to ultimate recovery, but although I have known women recover in six months, it is best to explain to the relatives that the disordered state of mind may last for two or three years. In two of my cases there had been insanity at an earlier period of life, but no relapse at the change of life.

Forms of Climacteric Insanity.—I shall pass in review—I. Delirium; II. Mania; III. Hypochondriasis, or Melancholia; and IV. Irrepressible impulses, and the perversion of moral instincts.

I. Delirium.—B. de Boismont, who has seen four cases of delirium at puberty, has likewise met with it at the change of life. Sometimes the delirium is general, or it may run exclusively on one subject; and it is a matter of reflection for the psychologist, that while in virtuous women, ideas combined, without the guidance of volition, may take a lascivious turn; in prostitutes, delirium usually runs on ordinary matters, rather than on erotic subjects, if Parent Duchatelet is to be believed. I have met with three cases of delirium at the change of life.

Case 33.—Delirium.—Mary S., of average size, with a sallow complexion, dark hair, and hazel eyes, was forty-seven. The menstrual flow appeared at thirteen, and it had always

been particularly free from morbid symptoms and though twice married, she never conceived. About fifteen months before seeking my advice, the menstrual flow became irregular, and she was much troubled with headache and abdominal pains. One night she went to bed as usual, and awoke delirious. She ran down the street in her night-gown, required three men to hold her, was taken to the Bristol Infirmary, but in three days, the menstrual flow appeared and her senses returned. Several abscesses appeared in both arm-pits, some broke, others were lanced, and when better, she came to London, and applied for relief from headache, nervousness, and lightness of head. There had been no menstrual flow for the last ten months. I gave her a scruple of Dover's powder every night, and the comp. camph. mixture. The singularity of this case is, that there were no nervous symptoms until the attack of delirium. The patient was in good circumstances, had a kind husband, nothing to trouble her, and I could only explain the delirium by the change of life.

Case 34.—Delirium.—Mary L., a tall, stout woman, with brown hair, light grey eyes, and a sanguine temperament, was thirty-six, when she came to the Paddington Dispensary in 1850. The menstrual flow appeared at twelve, and continued regular, abundant, and without much disturbance. She had none of the usual head-symptoms of menstruation, but from her twentieth year, was subject to epileptic fits. She married at twenty-two, had three children, pregnancy always warding off the fits. The menstrual flow was regular until her thirty-second year, when a few days after its last appearance, without any other cause, she became delirious, and was taken to the Marylebone Infirmary. In a few weeks she was well enough to leave, and though her health continued bad, she never had a similar attack. She is very nervous, giddy, and bewildered: but for the last year has had no epileptic fits. Ever since cessation the breasts have been very painful, and the nipples frequently exude a milky-looking or a glutinous fluid. Treatment similar to that employed in the preceding case relieved the patient. She

was forty when I last saw her, and the menstrual flow had not returned. If the sudden stoppage produced delirium in this case without any appreciable cause, her nervous system was tainted with epilepsy, and the patient's sister was also epileptic.

II. Mania.—Dusourd and Tyler Smith have noticed mania at the change of life, and before giving a curious instance, I shall mention, that B. de Boismont has seen a case of mild dementia transformed by this epoch into furious mania, which lasted long. When, on the contrary, cessation occurs in maniacs, the disease subsides into dementia, and a sudden calm often follows a state of furious agitation. Ferrus, Dubuisson, B. de Boismont, and others have noticed this singular effect, which reminds me of a mode of curing mania, ascribed to the priests of Cybele. "*Qui ante castrationem maniaci erant, sanam aliquanto mentem ab illo recuperant.*" All this points to the possibility of its being thought desirable in some particular case, to remove the ovaries, at the change of life, to cure mania, but I have never met with such a case.

Case 35.—Mania.—Alice B., a bilious-looking woman, tall and slender, with gipsy features, dark hair, and grey eyes, was forty-four. The menstrual flow appeared at thirteen; was abundant every two or three weeks, with a good deal of sick headache and pseudo-narcotism. Married at nineteen, she had several children, the last at thirty-six, and was regular, until she had a violent flooding at forty-two, after which there has been no menstrual flow. After sudden cessation, the abdomen swelled, was very painful, and without serious disease, she dwindled down to a skeleton. She was improving, when, about two months after the flooding, while sitting by the fire, she felt a sudden flush in the head, face, and arms; she could not speak, and became unconscious. She was very violent, scarcely slept, eat enormously, and clamoured for what she could not afford. After this had gone on for three months, one night she said in a collected manner to her husband, "I will go to bed." She did so; slept soundly; was comparatively rational when she awoke, and gradually

improved, without any other medicine than an occasional purgative. She never had a return of mania, but it has left her nervous, light-headed, and forgetful of where she puts things. She came to the Dispensary for an inguinal abscess, with flushes, and drenching perspirations, returning for advice, whenever the nervous symptoms became too troublesome, and they were always subdued by scruple doses of Dover's powder, alkalies, purgatives, and tepid baths. The particulars of this case were confirmed by the patient's husband, and both affirmed that the attack of mania came without any known cause, so I consider it as a result of the organic changes evidently determined, in a nervous woman, by the sudden cessation of a flow accustomed to be abundant every two or three weeks. I have occasionally nipped mania in the bud, at the change of life, by bleeding women who had been accustomed to an abundant menstrual flow, as in a case given at p. 95.

III. Hypochondriasis and Melancholia.—These two degrees of the same mental condition are often met with at the change of life, particularly hypochondriasis, which may be considered as an exaggeration of some of the symptoms of the change. I have already drawn attention to the haziness of intellect, and to the state of temporary self-absorption into which women so often fall; to their love of solitude, their distrust of friends, their exaggerated estimation of trifles; and what is this but a state of hypochondriasis, likely to become worse if not attended to? Gardanne and Dubois d'Amiens have often observed hypochondriasis at cessation; and they correctly remark, that it is accompanied by epigastric suffocation, globus hystericus and neuralgia. Chambon has likewise noticed the frequency of hypochondriasis at this period, and rightly states the bilious, to be most liable to it. Sir H. Halford has drawn from nature the picture of such a patient. "She sits in an indolent posture, looks gloomy, hardly speaks at all, and we learn from her attendants that she lives under the impression that some fancied evil is about to befall her. She is suspicious,

undecided in all her movements, and manifests symptoms which differ in degree only from melancholy mania." Dr. Maudsley observes, with regard to such cases, that "When positive insanity breaks out, it usually has the form of profound melancholia, with vague delusions of an extreme character, as that the world is in flames, that it is turned upside down, that everything is changed, or that some very dreadful but undefined calamity has happened or is about to happen. The countenance has the expression of a vague terror and apprehension. In some cases short and transient paroxysms of excitement break the melancholy gloom. These usually occur at the menstrual periods, and may continue to do so, for some time after the function has ceased. It is not an unfavourable form of insanity as regards probability of recovery under suitable treatment." Dr. Conolly mentions having seen the melancholia of cessation last two years; but those must have been exceptional cases, of which he could affirm, that they were the beginning of an incurable decline of bodily, as well as of mental, health. With regard to the causes of this state: it is induced by plethora of the portal system, and by ovarian misrule, but these physical causes would not produce insanity without cerebral predisposition, and the concurrence of psychological causes. Peace and tranquillity of mind are the happy lot of most women who have passed the crisis; but it is easy to understand how their life, in this transition period, is often full of anguish. Supposing health not undermined by the coming change, a sensitive mind and a loving nature cannot remain undisturbed when all is changing around her, and one by one the cords snap which anchored her to life. At fifty, parents have been gathered to the dust, and children may have left the parental roof. The flame of vitality cannot die without forebodings of decay, and there may spring up a doubt never before harboured, a doubt whether, with faded charms and failing energy, one can possibly retain possession of a husband's affection, or of a friend's sympathy, and proofs of unkindness are looked out for, where none were meant.

Because the strength of youth is gone, a woman sometimes tries to convince herself she is useless, and first becoming suspicious, she will then revenge supposed grievances, by making miserable those under her control. If unmarried, is it wonderful that this peremptory notice served by Nature, to put aside long-entertained visions of fancied bliss, should wound to the quick an impressionable nature? The future then becomes a void, and despondency shows itself as boundless as the sands I have often watched at sunset, from my desert tent. In the desert of her thoughts, no refreshing fountain is heard to pour forth the melodious song of hope; no palm-tree promises relief against a scorching sun. She peoples the void with imaginary evils; hears strange voices where all is silent; feels awful forebodings, though Nature smiles around her; and thus hopeless and full of fear, she will sit alone, for weeks and months in the darkened room of some gloomy dwelling, without any other enjoyment than solitude, or that of brooding over unbegotten evils, with mental faculties now paralysed, except when she hears the voice of conscience reproaching her with her inactivity, her sloth, and her want of faith in God. I have repeatedly noticed, that the loss of a husband, at the change of life, aggravated its dangers, and gave them permanence.

Case 36.—Apathy and Sudden Change of Habits.—This incapability of, or rather dislike to exertion, this aversion to the mental exercise of *willing*, is characteristic of the female mind when disturbed by cessation. I have been often consulted by a widow lady blessed with connections, personal appearance, and with a mind so highly cultivated that she might have taken the lead in society, had she not shrunk from its pleasures and duties, so soon as she first felt the influence of the change of life. Cessation took place five years ago, and ever since she has severed herself from connections, shut her door to numerous friends, and lived in seclusion. She rises at 4 P.M. and goes to bed between 4 and 5 A.M., saying she cannot do otherwise, although she knows that her mode of life forces her sons to seek elsewhere

society they cannot find at home. To expostulation or joking, she replies, "You do not understand me;" the usual reply of those who cannot justify their conduct. This want of energy, which has been so unfortunate for others, is no less detrimental to her own happiness; for though annoyed at her distressingly nervous condition, she has not the courage to follow any plan of treatment. I said I had been often consulted, but my advice has been seldom followed, and none of the host of medical men consulted by this lady have been more fortunate. She continued this kind of life for a few years, took to drinking and died of disease of the kidney. What could medicine do in such a case without judicious management? Her state depended upon her having had no strong guiding influence when it was most wanted. Evidently, therefore, to look for improvement while her actions had no other rule than caprice or apathy, was like placing an infant at the helm of a three-decker, and expecting it to steer safely into port. In this lady's case, a widow, with children unable to direct her, her only chance of recovery was to enter the family of some judicious medical man, under a promise to stop twelve months, and to implicitly obey all his directions. Thus would the patient, in spite of her lamentations and prophecies, have been gradually brought back to rational hours; thus could the medical man have taught her the long-lost art of taking exercise, sometimes mingled with distractions, at others carried to fatigue; while travelling would have completed the cure.

Case 37.—Melancholia, with Suicidal Tendencies.—Mary W., a tall athletic woman, with a pale face, iron-grey hair, a whimpering tone of voice, was forty-five when she came to the Farringdon Dispensary in November, 1855. She was the wife of a publican, and in good circumstances. The menstrual flow appeared at thirteen, and came regularly, even during lactation, but it ceased suddenly eight months before I saw her. Two months after cessation, she passed a large quantity of blood by the bowels, and for the last five months, every month or fortnight she has had several loose motions con-

taining blood. The abdomen was also very painful and enlarged, so much so that she was thought pregnant by a high obstetric authority. For the last five months she suffered much from dry flushes during the day, and from "her skin stinging and perspiring" during the night. "All this," says the patient, "I could easily bear were it not for my nervous state." She complains of being all in a tremble, she is sleepless all night, and powerless all day, sometimes dozing, as if intoxicated, and waking up to be thankful she was still in her senses; at other times, she sits alone, doleful and disconsolate, ashamed of being so lazy, and still unable to do anything, or forgetful of what she ought to do. "When she sits thinking, she feels numbness and a pricking sensation in her limbs," and is much afflicted with suicidal thoughts. I first prescribed my usual mixture before meals, carbonate of soda after, 3 grs. of blue pill, with 2 of ext. of hyos. every other night, 10 of Dover's powder every night, a large belladonna plaster to the pit of the stomach, and vaginal injections with a solution of acetate of lead. February, 1856, To relieve the abdominal pains, she took pills, each containing 2 grs. of blue pill, and a quarter of a gr. of ext. of opium. March 27, The patient was in every way better, but the motions were again bloody; the same treatment was continued, and on April 16 she stated that she was less subject to gloomy fits and to suicidal tendencies, though pseudo-narcotism was intense, the abdomen much distended by wind, and the tongue furred. An increased amount of flushes and perspirations coincided with the improvement, and she had grown suddenly stouter, although eating very little. May 17, After fourteen months' absence of the menstrual flow, there was great vaginal pruritus, and she passed many large black clots of blood, with skin-like substances, after this there was a watery vaginal discharge, and she also voided about a teacupful of blood by the bowels, with sickness, and flatulence. More blood was passed on the 28th, after a scene with her drunken husband, and I ordered her to take three times a day a table-spoonful of a mixture containing 2 drachms of the liquor

morphiæ hydrochloratis and of chloric ether, in 6 oz. of distilled water, and when this had relieved the internal pains, she took effervescing draughts three times a day. August 13, She had again become bilious, had passed a little blood in motions, looked seven months pregnant, but her health and mental state have surprisingly improved, notwithstanding the worry of sick children, and the bankruptcy of an unkind husband.

Case 38.—Melancholia.—Mrs. L., a thin nervous-looking lady, with dark hair and grey eyes, was fifty-nine when she consulted me in 1855. The menstrual flow appeared at fifteen, and came regularly with but little disturbance. She married at twenty, had six children, and was regular until the menstrual flow ceased gradually at fifty-four. Soon after this, without worry or any apparent cause, she became subject to headaches, drowsiness, and for a time her sight and hearing failed. She would sit by the fire all day, absorbed in transacting strange things, with people of former times, and was often frightened by ghastly faces. At other times, she felt an uncontrollable impulse to move about, and to dash her head against the wall, getting up and moving about without a motive, and then sinking down again, to remain immovable for hours. She slept with a light in the room, lest on awaking in darkness, she should throw herself out of the window. At times she had a strong impulse to kill her two grandchildren, and took care never to be left alone with them; but finding the temptation becoming too strong for her to resist, she left an affectionate daughter's comfortable home. She was much troubled, off and on, with dry flushes, and with the sensation of weight and gnawing at the pit of the stomach. I ordered 10 ounces of blood to be taken from her, and, after a brisk purgative, I prescribed a quarter of a grain of acetate of morphia, every night for the first ten days, every other night for the next ten days, and every third night for the ten days following. I prevailed on her to stop two hours a day in a tepid bath, hot water being added when the water got cool. The baths were thus taken

for a month, after which time, the patient looked and felt another person. I then gave 10 grains of Dover's powder every night, my comp. camp. mixture before meals, and a scruple of a powder composed of equal parts of flour of sulphur and of biborate of soda, to be taken twice a day. I also ordered a belladonna and an opium plaster to be applied, on alternate weeks, to the pit of the stomach. After a fortnight, the flushes, instead of being dry and burning, were mitigated by gentle perspirations. The treatment was continued for several months with slight interruptions, and a tour to the German spas completed the cure.

IV.—Uncontrollable Impulses and Perversion of Moral Instincts.—Law has decreed, that to establish a defence on the grounds of insanity, it must be proved, that at the time of committing the offence, the accused did not know that he was doing wrong; whereas medicine teaches, that some are led by an irresistible impulse to deeds which they know perfectly well are criminal; deeds committed without motive, because liberty is warped by an instinctive impulse, which the patient cannot control. Freewill alone should be punishable, says medicine; where freewill is not, punishment is barbarity, and the more barbarous, if inflicted by the hand of justice. It is, however, so difficult to distinguish the strong temptation, which might have been successfully resisted, from an utterly irresistible impulse, that judges are averse to the doctrine of irresistible impulses; they look upon it also with just suspicion, because it is the plea too frequently brought forward to save undoubted criminals from the scaffold. Abstract views of punishment also render judges averse to this doctrine. Baron Bramwell, in summing up on Dove's case, is reported to have said: "Why should punishment be administered at all? It is not inflicted on a man because he has inflicted evil on others, but to hold out an example to deter others from evil. That is the true reason, in my opinion, and the only object of punishment." Assuredly the punishment of criminals has also for its object the appeasing of divine justice, and the

atoning to society for mischief done; and although the inconsiderate admittal of the plea of irresistible impulse, would certainly increase crime by withdrawing the fear of punishment, still, rather than one innocent should suffer, it is better that a hundred criminals should escape. Although the plea of irresistible impulse is sure to be abused, I firmly believe it leads some to commit crimes they abhor. I have been consulted by at least twenty women, of high or low degree, who, at the change of life, bitterly lamented their frequent temptation to commit suicide or murder. It seems to me, that judges have admitted the doctrine of uncontrollable impulses by allowing that plea in cases of puerperal insanity, for if they admit that parturition may determine uncontrollable impulses, they must also allow the possible occurrence of the same impulse at all the critical periods of woman's sexual life; during puberty, pregnancy, lactation, the menstrual periods, and at cessation. It is notorious, that the female mind is susceptible of being totally unhinged by the first action of the reproductive apparatus on the nervous system; by the irregular performance of the menstruation; by connection, parturition, lactation; by some diseases of the ovaries; and lastly, by the shock felt on the withdrawal of that ovarian stimulus to which the system had been accustomed for thirty-two years. Such being the case, what is to be the fate of women, who, at the change of life, unfortunately yield to some ungovernable impulse? Judges will be consistent, and as they shrink from inflicting punishment on mothers who murder their children during a fit of puerperal mania, and as on two occasions* they have advised juries to return a verdict of "not guilty" for the murder of infants by young women, who had habitually suffered from disordered menstruation, they will, I trust, deal

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* Regina *v.* Brixey, Central Criminal Court, June, 1845. The murder of an infant by this woman was proved; but she was acquitted on the plea of her being subject to disordered menstruation.

Amelia G. Snoswell was tried at Maidstone, March 20, 1855, for the same crime, and was acquitted on the same plea.

in a similar spirit, with crime committed by women at the change of life, if it can be proved by medical testimony, that this period had already been to such women an evident source of mental trouble. I lay stress on this subject, because, when, a few years ago, the wife of a well-known physician was brought up for shop-lifting, and when the mental infirmities determined by the change of life were pleaded in extenuation of the offence, the jury were divided. Some years ago, the wife of an officer in her Majesty's Service, walked out of Whiteley's with a basket full of things she had not paid for. She was brought up, at the Marylebone police court, before Mr. d'Eyncourt, and I was fortunately able to prevent her being sent to trial, by representing to this distinguished magistrate, that this lady had previously suffered severely, in Jamaica, from brain fever, that she was at the change of life, and that the day before the robbery, she had come down to breakfast, without shoes or stockings, although it was freezing out of doors. The difficulty of dealing with such cases is, that a patient cannot accept the benefits of a merciful interpretation of the law, without abiding by the means wisely devised for the prevention of crime by the insane, seclusion amongst criminal lunatics. Now seclusion may be useful in some of the cases under discussion, but would be highly objectionable at the change of life, until it has been proved, that judicious treatment cannot remove a temporary form of insanity, as yet shallowly rooted in the system. Dr. Reid's* reflections on mental derangement apply forcibly to that occurring at the change of life. "Lord Chesterfield speaks in one of his essays, of a lady whose reputation was not *lost* but only *mislaid.* In like manner, instead of saying a man has lost his senses, we should, in many instances, more correctly say, that they were mislaid. There is ground to apprehend that fugitive folly is too often converted into a fixed and settled frenzy, a transient guest into an irremovable tenant of the

* Reid's "Essays on Insanity," p. 204.

mind, an occasional aberration of intellect into a confirmed habit of dereliction, by a premature adoption of measures, necessary in extreme cases."

I shall briefly notice the most frequent of the ungovernable impulses occurring at the change of life, after mentioning that I have known women, previously economically inclined, become reckless in their expenditure, and given to extravagance, at the change of life; while others, from generous, became avaricious, in the midst of plenty, their talk was about the workhouse, and dying without bread. A lady, who suffered much from melancholy at this period, twice had *both* her ponies shot, because one of them was taken ill; and a Dispensary patient laboured under a delusion that she was covered with lice, which I could never detect; and notwithstanding copious ablutions and sulphureous baths, she constantly returned with the same pitiful story. Another patient, who was very queer in the head, for six months after the ménopause, had the same notion, and actually put some bugs in a bottle, and used to exhibit them as having come out, from different parts of the body. Pediculophobia has been already noted, as an early symptom of confirmed insanity.

Temper, or Uncontrollable Peevishness.—As at puberty, so at the change of life, temper is perhaps the most frequent of its instinctive impulses. The patient often says, "From mild and kindly disposed, I have become irascible and mischievous;" or, "I have suddenly become so mischievous, that I am quite afraid of myself." The character of a charming lady, whom I have been so fortunate as to cure, was thus, for a time, completely altered. The menstrual flow came at thirteen, and left at forty-seven. During the dodging-time, uterine prolapsus was troublesome, and required a pessary; at cessation, there was uterine irritation, incontinence of urine, distressing flushes and perspirations. She was low-spirited, melancholy, snappish, quarrelsome; so uneven-tempered that her servants would not stop with her; and so suspicious, that a common-place observation made by

her husband, servants, or friends, was interpreted as a conspiracy against her. This condition, after lasting more or less for two years, yielded gradually to treatment, and there has been a surprising amendment during the last year. Both at puberty and at cessation this lady became suddenly very stout. An aggravation of all such symptoms is not uncommon, about every month, for a year or two after cessation.

Dipsomania.—Like B. de Boismont, I have several times seen temperate women have a craving for spirits, only at the menstrual epochs, the craving subsiding with the flow, and the same desire has been noticed in pregnant and puerperal women. Esquirol and H. Royer-Collard have met with women, in good circumstances, who all through life had been temperate, but who, at the change, were suddenly seized with an irresistible desire for brandy, which again became disagreeable to them, when the critical period was passed. This impulse is akin to the well-known longings of pregnancy, and those who yield to it, know they are doing wrong, struggle against it, but are sometimes overcome. It is easy to understand how such impulses should be rife at all the periods when the ganglionic nervous system is in a state of perturbation, and when anomalous sensations at the epigastric region indicate morbid action in the central ganglia. It can be cured by proper treatment.

Impulse to Deceive.—It is strange, that women should surpass men, by stupendous powers of deception. When man has an object to gain, when he wants to beg, or to escape military servitude, he is clever enough; but he does not, like woman, find pleasure in deceiving to excite interest or for deception's sake. It would take a large volume to contain the authentic accounts of deception practised by women. There was nothing at all amiss with the bodily health of most of these women, in some, menstruation was deranged, and others were hysterical. While admitting a large amount of fully intended deception by women, there will remain a certain number of cases in which the patient is herself deceived, and has not the slightest intention to

deceive others, even when making the most outrageous accusations. It is well known that irreproachable women, when suffering from puerperal insanity, have accused themselves of having had connection with one or more men, they knew little or nothing of. I have known women at the change of life to do the same, and who, after having been insane for six or eight months, have learnt with horror of what they had accused themselves.

With regard to untruthfulness at this time of life Dr. Barnes judiciously remarks in his Croonian lectures, "that however real the untruthfulness may be in point of fact there may be no untruth if reference be made to the patient's own impressions. Under the mental perturbation of an impending fit, a state compounded of vertigo and delirium, the senses are subject to illusions, perception is distorted, and the false impressions are often crystallized as delusions, and so indelibly engraven on the memory. Something similar, I am certain, often occurs in persons whose faculties are impaired under the combined influence of nervous disease and the abuse of stimulants." Neither must we forget, with regard to the untruthfulness of women, that in the fifteenth and the sixteenth centuries, hundreds of women, burnt as witches, died protesting they had had impure connection with the devil.

Kleptomania.—Drs. Taylor and Marc have known patients who, previous to puberty or to disordered menstruation, were conscientious respecters of rights of property, but who, though in affluence, would steal, at all risks, at the critical periods of life. Dr. Marc mentions a rich lady who, during pregnancy, could not resist the temptation of stealing a chicken from a cook-shop. I have already described cases of this description caused by the change of life, and I believe they are of more frequent occurrence than is supposed, although, the sense of acting wrongly is still present to the mind of those who yield to this impulse.

Homicidal Mania.—This irrepressible impulse has been admitted in English Law Courts, whether it occurs during disordered menstruation, pregnancy, or puerperal mania. I

cannot cite any case where this impulse led to lamentable consequences at the change of life, but one of my patients was constantly troubled with the temptation to kill her grandchildren, and she feared to dine with them "because of the knives." I have noticed this strong temptation in several other cases.

Suicidal Mania.—Hippocrates relates that self-murder was once epidemical among the young women of Miletus, and like B. de Boismont, I have observed a tendency to suicide at puberty and at the change of life. From his extensive statistical researches, it appears that in France, for one woman, three men commit suicide; and, with respect to the age at which it is most frequent, he found that, out of 5960 suicides committed by women in the whole of France, 1111 took place from forty to fifty; 1026 occurred from fifty to sixty, and 992 from twenty to thirty. It appears, however, that the capitals hold an exceptional position, for the same observer found, that out of 1380 suicides committed by women in Paris, the largest number, 343, occurred from twenty to thirty, and 241 from forty to fifty. Capitals excepted, wherein the battle of life rages with fearful activity, it is safe to conclude that women feel the greatest propensity to self-murder between forty and fifty. Many patients have told me, with inexpressible anguish, that they feel "so strange in the head, so lost, so troubled with sensations of impending horror, that they must commit suicide to prevent their going mad," and one drowned herself in a cistern.

Case 39.—Suicidal Impulse.—In 1873, I was consulted by a Miss K., aged fifty-three, who kept house for a brother in good circumstances. Menstruation came at fifteen, and gave no trouble; she had congestion of the brain at twenty-three, and ever since she has occasionally suffered from headache. When menstruation ceased, at fifty, she became more and more nervous, and troubled with thoughts of despair of salvation, and was often tempted to kill a nephew she loved and was nursing. She was, however, most troubled by thoughts of suicide. The digestive organs were sound, the skin acted well,

and, with the exception of want of sufficient sleep, there was no bodily ailment. There was no insanity in the family, but her father was epileptic. This case was very much relieved by large doses of bromide of potassium and Indian hemp.

Demonomania.—When the belief in Satanic influence had a strong hold on the popular mind, lunatics often thought themselves possessed by the devil; now they are more afraid of the policeman. The only case of demonomania that I have seen, occurred to a lady at the change of life. She attributed the distressing symptoms of uterine disease to the devil having taken up his abode in her body, and the delusion vanished when her health was restored. Dr. J. Conolly relates a similar case, of a patient who was also at the turn of life: and on analyzing Esquirol's article on demonomania, I am struck by the fact, that all his cases occurred at this epoch. One patient, aged forty-six, thought the devil had placed a cord from the pubis to the sternum; another, aged forty-nine, had been troubled by cerebral symptoms, ever since cessation, at forty, and thought the devil lodged in her womb. A third, aged forty-eight, declared that he had taken up his abode in each hip-bone. A fourth, aged fifty-seven, from nervous had become insane at fifty-two, when cessation occurred, and she claimed the devil as the father of her children. A fifth, aged fifty-one, thought she had signed a contract with the devil, an illusion which originated in puerperal mania.

Erotomania.—The inordinate desire for sexual gratification, described by writers as *furor uterinus*, *erotomania*, and *nymphomania*, is not a very common *mental* affection, and is suggested, promoted, and intensified by morbid ovarian influence, by uterine affections, and by the various kinds of pudendal disease that I shall soon describe. A reviewer of one of my works mentioned the case of an aged female, who suddenly exhibited intense sexual passion, which had not abated when she died. One ovary was found acutely inflamed, and four times as large as the other ovary.

The Greeks considered erotomania to be the result of

Divine vengeance for neglecting the worship of Venus. In the Middle Ages, the complaint was considered to be a proof of Satanic influence; but we rightly place in lunatic asylums those who suffer from it to an aggravated extent. Erotomania is frequently seen in lunatic asylums in younger women, but it is very rare at the change of life. Mathieu cites the case of a lady at fifty, and another in a woman at sixty years of age, and B. de Boismont had six cases in his asylum. Dusourd mentions three, and Louyer-Villermay cites two cases, as having occurred after cessation. I do not agree with Mathieu and Roubaud that the disease is frequent at the change of life, for I have not met with a single instance of an aggravated nature. There is, however, some truth in the old French proverb about "Ce diable de quarante ans, si habille à tourmenter les femmes," for towards the change of life, there is sometimes a temporary rekindling of passion, thought to be altogether extinguished, like the sudden re-awakening of a smothered flame. With regard to treatment, I will only say, that it behoves the medical adviser to remove any kind of morbid irritation that may exist, not only in the pudenda, but in the womb and ovaries, and those who have to treat severe cases of erotomania in lunatic asylums must remember that a digital examination will not enable them to decide that there is no uterine disease; that point must be determined by an instrumental examination, the patient having been previously placed under the influence of chloroform; indeed it is difficult to understand how medical men can assume the treatment of insane women, unless they are thoroughly conversant with diseases of women.

Apoplexy and Hemiplegia.—Notwithstanding Dusourd's assertion, women are little subject to apoplexy at the change of life. The following is a curious instance of an ataxic state of circulation, leading to the simultaneous loss of blood from many parts:—

Case 40.—Hemiplegia.—Eliza C., aged forty-seven, came to the Farringdon Dispensary, February 18, 1853, being then forty-four. She was of average stature and size, with

brown hair, hazel eyes, and flushed face. The menstrual flow came at fourteen, and continued regular, profuse, and with unusually severe pains. She married at fifteen. The menstrual flow ceased for eight months, and then a large blood clot came away, and for several years either the menstrual flow came every fortnight, or was absent for five or six weeks, being then followed by a voluminous clot and great flooding. She never conceived, was once flooded for three weeks, and for the last six months the menstrual flow has appeared every fortnight. Such being her state of health, she was suddenly seized with hemiplegia of the right side, but was able to walk to the Dispensary, dragging the right leg, the right arm was numb, often felt like pins and needles, and could be pinched without causing pain. She looked stupid, complained of headache, loss of memory, temporary loss of sight, could not find the words she wanted, and stuttered in speaking. The attack of hemiplegia was accompanied by epistaxis from the right nostril. She had been already cupped at the nape of the neck, and I ordered calomel with opium, and black draught. February 21st. She lost blood from the right nostril; 6 oz. of blood were withdrawn from the neck, and immediately afterwards came a violent flooding, which continued until March 5th, when I ordered alum injections, antimonials, and 1 gr. of opium, with 3 of c. ext. of colocynth, to be taken at night. During the flooding, blood frequently trickled down the right nostril. Notwithstanding the quantity of blood lost by the patient, her strength seemed but little impaired; she was quite conscious, and walked to the Dispensary; but the hemiplegic symptoms were as marked as ever. May 12th. On her return from the country she was better, but still complained of numbness of the right side. She could say what she wanted, but had a difficulty of utterance, and complained so much of pain on the right side of the head, that I ordered her to rub in twice a day the size of a filbert of 2 oz. of mercurial ointment, mixed with 2 drachms of ext. of belladonna, and to take the comp. camphor mixture, and the aloes and myrrh pills at night.

June 16th. After having rubbed in the ointment four times, her head felt very sore, and "as if it was heavier and larger than usual." She could not see distinctly; salivation came on, but soon subsided, after which she was better in every way, the head was no longer painful, and she could more freely use her right arm and leg, though they remained weak. I lost sight of the patient until May 31st, 1856, when she looked very much as when I first saw her, except that her face, instead of being flushed, was spotted with dabs of capillary injection. Since the flooding, during her previous illness, there had been no menstrual flow, and she had suffered more or less from headache, abdominal pains, faintness, flushes, and perspirations. Lately the head has been very painful, she found it difficult to keep awake, and cannot bear to be spoken to; the right arm and leg were almost useless; the right hand was soddened with perspiration, had pricking sensations, and scarcely felt when it was pinched. Blood had been passed in the urine, and she said that hæmaturia occurred also in her first attack. I ordered 8 oz. of blood to be withdrawn as before, calomel and opium to be taken at night, and a black draught in the morning. June 25th. She was cupped to the same amount on the 4th and 18th, the bowels had been kept freely open, antimonials had been administered, ice applied to the head, and the patient was sometimes better, sometimes worse, often bewildered, at times ungovernable, but the hemiplegic symptoms remained stationary. I again ordered the mercurial and belladonna ointment to the head; and after rubbing in two ounces, the head seemed swollen, she felt stupefied, could not see clearly for three days, and was salivated. The head and right side then became much better, but the right hand was still powerless. She had a slight menstrual flow for three days, after an interval of as many years, and I prescribed comp. col. pills, the camph. mixt., and 15 grs. of nitre three times a day. Finding the hemiplegic symptoms somewhat worse on the 16th, I advised the posterior half of the head to be shaven, and the ointment to be again applied. This was done with

decidedly good effect; and when I saw the patient on August 20th, she no longer suffered from hemiplegia, and was able to attend to her domestic duties, although suffering from debility, headache, and nervous symptoms, most likely increased by occasional fits of intemperance.

Theory of Mental Disease.—After recounting the facts which prove that there are morbid affections of the central ganglia of the ganglionic nervous system, I sought to understand their import; and now that I have discussed what relates to the various forms of cerebral disturbance, induced by the change of life, I shall call attention to their probable mode of production, before stating the best means of cure. Those who only want facts, and eschew theory, may pass over what follows, until their eye meets the name of some familiar drug; they should however remember, that if practising in the time of Stoll, they would have inevitably sought to relieve by emetics, the cerebral affections I have described, and if during that of Mauriceau or Broussais, by repeated and copious bleedings. In other words, practice is always governed by theory, so it is wise to choose the best.

How can organic or functional disease of the reproductive apparatus act on the brain? There are but two channels of communication between the reproductive apparatus and the brain; the blood-vessels and the nerves. It will not be difficult to show, that the cerebral phenomena I have described do not depend on cerebral plethora, for taking each nervous symptom in succession, it will be found most frequent and intense in weak and anæmic patients. Leaving out of the question, women in whom headache is caused by biliary derangement, it coincides much more frequently with a deficiency in the amount of blood than with the opposite condition, and headache often exists without any indication of congestion of the blood-vessels of the head. The same holds good with regard to hysteria and hysterical fits; doubtless fulness of the pulse and cerebral congestion may be met with, but in most cases the pulse continues weak,

and the blood-vessels of the head exhibit no signs of over-distension. The symptoms described as pseudo-narcotism have many points of similitude with those of plethora and cerebral congestion, which were often, so interpreted, and have been often injudiciously treated by bleeding; but the fact of the symptoms of pseudo-narcotism being most apparent when the pulse is weakest, shows that it does not depend upon plethora. It is very seldom caused by biliary derangement, and its being usually unattended by paralysis, or other signs of cerebral disease, implies that it is not caused by structural lesions of the brain.

Delirium and convulsions are often caused by flooding; and when the cerebral symptoms I have described occur with chlorosis or profuse menstruation, they may be explained by the brain being imperfectly stimulated, by too small a quantity of watery blood. Very frequently, however, hysteria, pseudo-narcotism and headache are observed when the system presents every appearance of health, and when the amount of fluids in circulation seems in exact proportion to the wants of the system. The nervous phenomena cannot therefore be explained by the amount of blood in circulation. Dr. Todd and Sir Rose Cormack revived the old opinion, which attributes hysterical delirium and convulsions to a poisonous state of the blood, owing to the retention of something that ought to have been eliminated by the menstrual flow; but hysterical symptoms may be observed before first menstruation. In this respect my observations are confirmed by Landouzy, who has noticed symptoms indicating the influence of the generative organs upon the nervous system, long before first menstruation, and I have met with well-marked cases of pseudo-narcotism in girls of eight or nine years of age, though first menstruation was delayed to fourteen or fifteen.

If the reproductive apparatus does not act on the brain by the instrumentality of the circulating organs and the blood, it must do so by means of the nerves. The genital apparatus is richly endowed with ganglionic nerves, and I have shown how frequently evident signs of disturbance in the ganglionic

centres coincided or alternated with headache, nervousness, hysteria, and epilepsy. The influence of the generative apparatus in the production of nervousness is perceivable in some of the lower animals. In the beginning of spring, just before the period of copulation, the nervous system of frogs is endowed with an unusual degree of irritability. The slightest touch will then excite those states of the nervous system, which, at other times, can only be produced by narcotic poisons, or by strong galvanic action. It is a matter of daily observation, that when women are under the influence of increased ovarian action, they are also more irritable, more easily impressed by cold, noise, other physical agents, and emotional stimuli.

Catamenial headache may surely be considered a nervous symptom; if it does not depend on plethora or anæmia, is in frequent connexion with other nervous symptoms, comes and goes like those affections, alternates with them, and yields like them to sedatives. Pseudo-narcotism may be explained in the same way, for it should be considered as a peculiar kind of poisoning of the brain, by the too abundant galvanoid influence sent to it, from the diseased central ganglia, or else it may be owing to a loss of that control, exercised by the ganglionic nervous system over the blood-vessels of the brain, as over all other blood-vessels. This disturbing influence may act on the totality of the brain, or on some particular portion of it connected with the function of sleep. Pathologists of all ages, who have particularly studied diseases of women, though at variance in all else, agree in pointing to the reproductive organs, as the starting-point of hysterical affections, and some of them, with Landouzy, have observed, that in hysterical fits, the patient generally complains, first of anomalous sensations at the lower part of the abdomen, then of pain or suffocation at the pit of the stomach, afterwards of the sensation of strangulation, and lastly, of involuntary laughter or tears, convulsions, and coma. These views have been adopted and amply confirmed by Pr. Charcot and others who study nervous diseases, without any gynæcological bias.

The ovarian force seems to react on the *cerebrum abdominale*, so as to multiply its power, and causes it to so influence the brain, that woman, no longer the mistress of her own actions, is literally "fuddled with animal spirits, and made giddy with constitutional joy." The same ovarian nisus, acting with greater power on different parts of the cerebro-spinal system and on differently disposed nervous systems, after accumulating for a time, breaks out into floods of insane babble, or spends its energy in hysterical convulsions, which may be followed by a temporary paralysis of the upper or lower limbs. Finally, if when the ovarian force is at the highest, it be suddenly disturbed by intense mental emotion, the whole energy of that strange force is thrown on the central ganglia; and death ensues in a few hours although nothing is found to explain it but congestion of blood-vessels.

Pr. Schulzenberger,* of Strasburg, has shown long ago, that it is sometimes possible, by mere pressure on the ovarian region, to cause the radiation of some subtle influence from that focus to the epigastric region, and by continuing the pressure, to cause globus hystericus, and then disturbance of the brain and spinal marrow, hysterical convulsions being thus produced, while pressure on any other part of the body produced no such effects. In a highly nervous hospital patient, pressure to the ovarian region caused hysterical convulsions, without the above-mentioned intermediate stages of hysteria; and this experiment was repeatedly tried by several professors of the faculty of Strasburg, as well as by Pr. Schulzenberger. Similar cases have been seen by Romberg, by myself, and more recently, by Pr. Charcot.

The intimate connection between the ganglionic and the cerebro-spinal symptoms of hysteria, their multitudinous gradations and great frequency, make me look upon hysteria, as the keystone of mental pathology; and if I were lecturing on insanity, I should begin by an accurate study of a complete case of hysteria, and show the regular steps by which it may culminate into mania and other forms of insanity.

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* *Gaz. Méd. de Paris*, 1846.

With regard to epilepsy, Esquirol has stated, that the reproductive organs are often the centre from which emanates the epileptic aura; and I have seen this literally confirmed in a woman affected with subacute ovaritis, for pressure to the right ovary, whether intentionally or accidentally applied, repeatedly sent her off into epileptic fits, like the young lady mentioned by Sir B. Brodie, in whom a fit of chorea would be induced by the gentle pressure of the finger on the pit of the stomach. In cases of epilepsy, the predisposing condition of the cerebro-spinal system is of course different from that of hysteria, but the mode of induction of the two diseases is the same. Little is known about the anomalous sensations and epileptical aura arising from various parts; but the epileptic fit is often preceded by intense nervousness and fretfulness, numbness or formication of the limbs, and sometimes by epigastric pain, or a sense of suffocation sufficient to show the influence of the *cerebrum abdominale* in the production of the convulsive fit. Some of the cases recorded in this work, particularly one, that I shall borrow from Ollivier d'Angers, show that a relation of cause and effect may sometimes exist between gangliapathy and paraplegia. I have purposely left out of question the strange part played by the central ganglia in catalepsy* and mesmerism.

Having passed in review the action of the reproductive organs on the cerebro-spinal system, at successive periods of life, it remains to be shown that it is the main cause of insanity in some women. If the reader will recall the results of his own experience, he will own :—

1. That between the haziness of intellect, and the temporary loss of mental power and idiocy, there is no break; every intervening degree being exhibited in some women, at some one of the phases of healthy, or of morbid action of the reproductive organs on the brain.

2. That between the first slight estrangement of a girl's

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* Vide Petetin, "Electricité Animale et Catalepsie hystérique." Paris. 8vo. 1808.

temper and the maniac's frenzy there is no break; every intervening link being supplied by some women, at one of the successive phases of healthy, or of morbid action of the reproductive organs on the brain.

3. That between those first indications of spontaneous muscular action called "the fidgets," and the strongest convulsions of hysteria, there is no break; every intervening link being supplied, at one of the phases of healthy, or of morbid action of the reproductive organs on the spinal cord.

What wonder, then, if the same powerful influence of the sexual organs, through the instrumentality of the ganglionic nervous system, should at times produce a *permanent* derangement of the mental and moral faculties, a permanent craving after what is sophistic in a mental point of view, after what is wrong in morals, as well as after brandy and physical stimulants? I am thus led to look on the ganglionic nervous centre as a source of vital power producing reflex morbid phenomena, in accordance with variable cerebral predispositions. If this be a true explanation of those comparatively rare instances of insanity produced by the undue action of the ovarian force, it follows that, in other cases of insanity, its cause should often be looked for in the ganglionic nervous system, more than in the brain; for if one visceral apparatus, by virtue of its ganglion and plexus can so react on the brain, through the intermedium of the central ganglia, as to produce mental derangement, why should not another viscus, endowed with similar ganglion and plexus, react on the brain through the medium of the ganglionic centre, so as to cause similar results? Does not this justify Hippocrates, and many other illustrious men who thought the liver and connected viscera were the main cause of insanity. In health, the ganglionic nerves of each viscus send up no intimations of their operations to the brain, and do not disturb the harmony of its functions; but they do so when diseased, and in the same way the mind powerfully influences all the viscera because they are endowed with ganglionic nerves. The soul acts on the viscera by emotion, and they react on the soul, so as to determine

passion. There is no passion without visceral, that is, ganglionic, sensations. "The yearning of the bowels," an oft-recurring expression in the Bible, is physiologically true. Mothers feel it, so do lovers, and sailors at the first sight of long desired land. Neither can revenge be potent, without strong visceral reaction; or if, in popular phraseology, "a man lacks gall." Broussais was right in saying, that there cannot be epigastric pain without its causing some shade of anger. Many are without passion, because visceral sensations are slight, or wanting; but if the brain often acts so strongly on the viscera, it is not surprising, that, in their turn, they should react upon the brain. When the disturbance is slight, there is felt a loss of power, or a sudden failure of mental energy, on the occurrence of a sinking and faintness at the pit of the stomach. From some slight visceral disturbance, lowness of spirits and melancholy frequently come over us like a cloud. And if the cloud does not pass away, what is this but hypochondriasis, or insanity, for which the cause will be sought in the brain by those who take a too partial view of pathology? These assertions hold good with both sexes; and I have occasionally met with patients in good health, who, after a sudden mental shock, were immediately seized by epigastric pain and disturbance, which lasted a considerable time, and were followed by a permanent cerebral disturbance, with a strong and motiveless impulse to suicide and murder. Here the shock can be traced to the ganglionic centre, as in the following singular case:—

Case 41. Melancholia and Gangliapathy.—About 1860, a lady came from abroad to consult me. She was tall and thin, with kind and intelligent pale face, and was forty-eight years of age. Born in India, menstruation first appeared at ten, was quite regular, and her health was perfect, till she married at nineteen. Although there was no intromission, and the semen was said to have merely passed over her, and although the wedding-night brought on the menstrual flow, she *then* conceived; I say *then*, for there was a quarrel the following morning, and husband and wife parted never to

meet again. This unexpected shock was immediately followed by tremulous sensations at the pit of the stomach, compared to the fluttering of a bird, and these sensations have continued ever since with variable intensity, being always aggravated by worry and bodily illness. When her son grew up, he went into the army, contrary to his mother's wish, and for the four following years, there were superadded frequent fits of violent epigastric pain, with expuition of ropy mucus. After having been irregular for a year, menstruation ceased at forty-six, and all her sufferings had been worse for two years, while, during that time, constipation had been habitual, lasting once for sixteen days. The skin had always been dry, and the flushes without any critical moisture. I found no signs of gastro-intestinal disease, no epigastric tumour nor aortic pulsation, and no uterine disease whatever. The fault was in the nervous system; for she had little sleep, with bad dreams, and an habitual distressing amount of nervous excitement or depression. She had vague terrors, was suspicious of everything and everybody, and was afraid of going to Woolwich, to see her son, and at other times she longed "to faint away, to be oblivious, to die, but not to commit suicide," although her father did. She repeated, that "her life was a living death." The only treatment had been a three weeks' stay at Plombières, during the previous summer, where she had taken a daily warm bath of two hours duration, and had drunk half a tumbler of mineral water twice a day, which had increased constipation. My advice was to keep the bowels open by purgatives; to take nitro-muriatic acid first, and then quinine, and a grain of Indian hemp every night for a fortnight, leaving it off for a week, then taking it again. I also wished plasters of opium and belladonna, to be alternately kept for a week, on the pit of the stomach. If this plan of treatment did no good, I urged the patient to try hydropathic appliances, or the mineral waters of Aix-la-Chapelle, or of Aix-en-Savoie.

As a rule, there is no means of tracing the shock to the ganglionic nervous system, as in the previous case. The

shock is spontaneous, self-generated, and seems to depend on some disturbance of the healthy action that one viscus exercises over the others, and all viscera over the brain, and I believe that insanity is generally preceded by more or less prolonged gangliapathy, which is scarcely to be ascertained in lunatic asylums. To study insanity, in asylums only, would be like studying tubercular consumption in its second stage; the first stage of insanity is hidden in the domestic circle, incapable of understanding its phenomena, or anxious to hide whatever may be understood. This has been pointed out by Moreau of Tours, who observes, "That almost all mental diseases are foretold and preceded by symptoms which generally pass unobserved, such as fainting, giddiness, and vertigo, and then by nervous sensations arising from different parts of the body like the aura epileptica, which the patients compare to excitement, or to electrical shocks." Dr. Shearman has laid great stress on the frequency of mental disturbance in the cases he has reported, and the subsidence of the ganglionic symptoms on the occurrence of the worst cerebral symptoms, has not escaped B. de Boismont, who remarks, "Without denying the part of the brain in hypochondriasis, it is evident that this affection has its starting-point in the ganglionic nervous system; and I have frequently remarked that gastralgic affections, with great disturbance of the digestive functions, *alternate* with mental diseases, and that these gastralgic affections cease entirely when insanity becomes permanent."

In like manner Dr. Maudsley observes, "that in many cases of insanity, when we look closely into the symptoms, there are not unfrequently complaints of strange, painful, and distressing sensations in some part of the body, which appear to have a relation to the mental derangement, not unlike that which the epileptic aura has to the epileptic fit. Common enough is a distressing sensation about the epigastrium: it is not a definite pain, is not comparable strictly to a burning, or weight, or to any known sensation, but is an indescribable feeling of distress to which the mental troubles

are referred. It sometimes rises to a pitch of anguish, when it abolishes the power to think, destroys the feeling of identity, and causes such unspeakable suffering and despair that suicide is attempted or effected." And again he remarks, "Allowing that the generative organs have their specific effect upon the mind, the question occurs whether each of the internal organs has not also a special effect, giving rise to particular feelings with their sympathetic ideas. They are notably united in the closest sympathy, so that, although insensible to touch, they have a sensibility of their own, by virtue of which they agree in a consent of functions, and respond more or less to one another's sufferings; and there can be no question that the brain, as the leading member of this physiological union, is sensible of, and affected by, the conditions of its fellow-members. We have not the same opportunity of observing the specific effects of other organs that we have in the case of the generative organs; for while those come into functional action directly after birth, these come into action abruptly at a certain period, and thus exhibit their specific effects in a decided manner, at different periods in the life of woman. It may well be, however, that the general uniformity among men, in their passions and emotions, is due to the specific sympathies of organs, just as the uniformity of their ideas of external nature is due to the uniform operation of the organs of sense." Morbid lesions are earnestly sought for in the brain, while the condition of the ganglionic system is never ascertained. Accurate research might confirm the assertion of Comparetti,* who found the splanchnic ganglia, particularly the semilunar, swollen and harder than usual in a hypochondriacal man who died at forty. What relates to the general principles governing the treatment of cerebral diseases and to the best means of curing them, will be found at page 87.

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* "Occursus medici de vaga ægritudine infirmitatis nervorum." Venetiis, 1780, p. 136.

CHAPTER VIII.

NEURALGIC AFFECTIONS AT THE CHANGE OF LIFE.

TABLE XXVII.

Neuralgic Affections at the Change of Life in 500 *Women.*

Lumbo-dorsal neuralgia	226
Hypogastric pains	205
Monthly hypogastric pains	16
Frequent ovarian pains	5
Habitual dry colics	6
Paraplegia, mild forms of	6
Sciatica	4
Intercostal neuralgia	6
Numbness and impaired sensation of hands and arms	3
Paralysis of arms, hysterical	1
Brow ague, brought on	1
„ „ increased	2
Aphonia, hysterical	3
Deafness, induced or aggravated	10
„ permanent	1
Odontalgia	2
Total	497

Thus, during the change of life, 497 neuralgic affections were divided amongst 500 women, some taking more than their share, but this table gives no idea of the endless variety of neuralgic affections that may be met with in the upper classes of society. Some singular nervous affection seems to arise all at once, out of some trifling occurrence, but on investigating the case, it will be found to have been

preceded by many symptoms indicating the gradual development of a highly irritable state of the nervous system. A maiden lady aged forty-seven, had begun "to change" and was seized with all the symptoms of fever, save increase of temperature, when it was deemed advisable to have her vaccinated. This was a mere scratch leading to no eruption of any kind, yet it set up an acute attack of neuralgia extending from the origin of the brachial plexus, all along the brachial nerves, to the tips of the fingers, an attack so severe, that she was several days without sleep, and little for many weeks, with her pulse at 150 and a thirst that nothing could quench, notwithstanding bromides, chloral, opium and morphia. This sudden advent ceased to surprise, when it was found that this lady came of a family tainted by insanity, that she herself had nearly died of brain fever in early life, and had always remained nervous, with a pulse never lower than a 100; that for two years her mind had been severely tried by domestic affliction, loss of parents, and the severe illness of other relations. A year before the attack of neuralgia, her handwriting had become bad, she had been troubled by an inextinguishable thirst, she occasionally passed a fortnight without sleep, her legs had lost the power of walking and the slightest exertion made her "all of a tremble." Whenever a patient is in a similar state, the slightest occurrence may determine a neuralgic explosion, for which the cause must be sought in the state of the patient's nervous system. Sea baths taken in the open, and a Swiss tour almost cured this patient. When the change has taken place, neuralgic affections become much less frequent, with the exception of lumbo-dorsal neuralgia, which often persists, in a slight degree, until advanced age.

The ovary may transmit pain to the spinal nerves, by means of splanchnic nerves, for the upper part of the womb is supplied with spinal nerves from the intercostal branches, through the medium of the splanchnic nerves and ovarian plexus, and any disease seated in that part of the womb may cause pain to be reflected to various parts of the spinal column.

The middle and lower portion of the uterus is furnished with branches of spinal nerves from the lumbar plexus through the medium of the hypogastric, and when this part of the womb is diseased, pain is transmitted along these nerves and reflected to those which arise from the lumbar plexus, and therefore along the nerves supplying the muscles of the lumbar portion of the back, the walls of the abdomen, inside of the thighs, the front of the leg, and even sometimes to the instep. The spinal nerves distributed to the vaginal portion of the generative intestine arise from the sacral plexus; hence disease of the vagina causes reflex pain along the nerves which come from this plexus, and as it furnishes nerves to the sacral region, to the peritonæum, the posterior part of the thighs, and the calves of the legs, pain may be experienced in all this course, and even in the soles of the feet. Hence it is not possible to ascribe the dorsal and the hypogastric pains, each to a distinct set of nerves.

Dorsal Pains.—These are almost always fugitive in the upper portions of the spinal cord, and principally settle in its lower extremity, radiating to the small of the back, the loins, thighs, and legs. The pain is generally described as an aching or numbing pain, a gnawing, dragging, burning, or grinding pain; a sensation as if the back were broken, or as if it were opening and shutting, varieties of pain, like those of neuralgia in other parts of the body; their intensity varies from that of slight pain, which does not prevent moving about, to that which, for a time, usurps the place of all other sensations, confining women to their beds for a few days. The relative frequency of these pains was as follows:—

Lumbo-dorsal pains already existed in . .	70 per cent.
They were augmented at cessation in .	46 „
„ the same in	17 „
„ less in	7 „
They did not exist in	30 „
	100

A great intensity of pain, in the brain and spinal column, is seldom met with at the same time, for the two are in general so counterbalanced, that when a great amount of cerebral disturbance exists, the spinal symptoms have not a similar intensity. During the prodroma of menstruation, and during the "dodging time," the cerebral symptoms are most intense; the spinal symptoms are, in general, more common and annoying during the period of the full activity of the generative functions; but at cessation great may be the intensity of both modes of suffering.

Hypogastric Pain.—This pain is generally referred to the ovarian, and to the uterine regions. It differs from the symptom just described, in being a pressing, forcing, or bearing-down pain. It seems to indicate a tenesmus of the cervix uteri, to have an expulsive character, and to mark the direction of those neural currents which direct the course of blood towards the womb, and procure its expulsion from that organ. Even when the menstrual flow has ceased, these pains sometimes recur monthly, and determine the leucorrhœal discharge, or the diarrhœa, by which they are sometimes accompanied. Such pains had previously recurred during menstruation in

	51 per cent.
They were augmented at cessation in .	30 „
„ the same in	12 „
„ less in	9 „
There were none in	49 „
	100

I have known women suffer habitually from colics for eight and ten years after cessation, the intestines being the seat of pain, which, however, did not interfere with their proper functions. The following was a tedious case in which dorsal and a fixed ovarian pain were prominent symptoms:—

Case 42.—Lumbo-abdominal Neuralgia.—Patience K. was tall, stout, with a broad face, thick masculine eyebrows, dull,

squinting grey eyes, brown hair, a sanguine temperament, and she was in her forty-eighth year. The menstrual flow appeared at fifteen, and continued regular without disturbance. She was once laid up for a year, by some acute affection of the brain before she married at twenty-four, and she was childless. At forty-four, she again suffered much from pains in the head, and pain in the right arm, which was benumbed and contracted for some time. Since this was cured, P. K. has been liable, off and on, to a throbbing, heavy pain at the top of the head, to nervousness, to trembling, to loss of memory, to palpitation, to gangliapathy and for the last four months she has been bilious. She looks vacant, bewildered, and of late has had fainty feelings, and a clammy skin. For the last two years there have been frequent pains in the ovarian regions, "as if from the plunging in of a knife," and for the last year, intense pains have arisen at the lower part of the back and sacrum; her other sufferings have increased, and have become more frequent. The menstrual flow has been irregular, more abundant, and with scarcely more than ten or twelve days between the menstrual periods. To allay the derangement of the biliary functions was the first indication; and then I had 10 oz. of blood taken from the arm, and later on, a blister to the left ovarian region did little good, neither did mercurial and ext. of belladonna ointments rubbed in twice a day, but 20 drops of Battley's solution and 1 drachm of tinct. of hyoscyamus mixed in a little warm milk, injected once a day into the rectum gave great relief.

There being still intense pain in the back, I examined the patient, but I could not find any uterine disease, and the pains were evidently caused by the cessation of menstruation, in a woman whose nervous system had been shattered for the previous five years. When I lost sight of the patient, she had been many months without menstrual flow, the pains were much less severe, and her health good.

Treatment.—There is a distinct indication to use sedatives until the habitual pains are assuaged, and they may be continued for weeks without ill effects. Soothing liniments may

be rubbed in night and morning; I mean a liniment, with the addition of tincture of opium, belladonna, hyoscyamus, and aconite, separately or combined, as the case may suggest. Soft opium or belladonna plasters may be applied and renewed every four or five days; linseed-meal poultices sprinkled with camphor, mustard poultices, and blisters, may be useful. For abdominal pains, the best application is a piece of piline, large enough to cover the lower half of the abdomen, to the upper corners of which, tapes are to be sewn, so that the piline may be worn like an apron next the skin during the day. This alone often gives relief, but a teaspoonful of laudanum, or my sedative drops, sprinkled over the cloth side of the piline are most efficacious.

Paraplegia.—In infants, paraplegia generally depends on intestinal irritation; in adults, on vesical or uterine affections; and in old age, it appears as an idiopathic disease. It might have been supposed from the manner and frequency with which the lower part of the spinal cord is influenced by menstruation, miscarriages, parturition, and diseases of the sexual organs, that women would suffer more than men from diseases of the spinal cord, but out of 177 cases of paraplegia tabulated by Brown-Séquard, only forty-nine occurred in women. Out of 114 cases of locomotor ataxy collected by Dr. Topinard, there were only thirty-three women; and in seventy cases of the same disease collected by Eisenmann, there were only twenty women.

With regard to paraplegia at the change of life, it must be considered a very rare disease. Gardanne mentions having seen it occur after the sudden cessation of the menstrual flow, but he gives no details. My six cases and some others subsequently observed were of a mild nature, and all recovered. There were pricking sensations in the feet, numbness of the lower limbs, great pain in the dorsal region, and considerable loss of walking power. Three had difficulty in passing water, and the sensibility of the skin of the lower limbs was impaired. Similar cases have been met with by Dr. G. Bedford and B. de Boismont, and paraplegia occurred

in two, out of Dr. R. Leroy d'Etiolles' twelve cases, but many of the paraplegics at the Salpêtrière, dated the complaint from the change of life. Most of these cases might have been cured in the early stage of the disease, when it depended upon congestion of the spinal cord; but subsequently, atrophy of its lower portion prevented the possibility of cure. In most of these cases, there was no uterine disease to account for the paraplegia; but in one of Dr. R. Leroy d'Etiolles, there was considerable uterine swelling, with abundant leucorrhœa, and when iodide of potassium cured the hypertrophy, the paraplegia disappeared. The following case is related by Ollivier d'Angers, who did not seize the import of the ganglionic symptoms which play so prominent a part in the case.

Case 43.—Paraplegia, and Gangliapathy.—A lady, aged forty-nine, in whom the menstrual flow had been very irregular for a year, had every now and then, without ascertainable cause, the following train of symptoms, whether in bed or up, reposing or walking, eating or fasting. There was pain and constriction in the epigastric region, with or without sensations of suffocation, which sometimes awoke the patient suddenly. Then came flushing of the face and head, and afterwards burning sensations in the upper part of the spinal column, with pain and numbness in the arms, which became partially paralysed. This lasted for about an hour, when cold perspirations appeared; she then felt as if cold water were being poured down her back, and her lower limbs became paralysed. This temporary paralysis has often occurred so suddenly, that, taken unawares, the patient has fallen down. In about three-quarters of an hour, these symptoms disappeared, but they have recurred, from three to five times in one day, on several successive days, previous to the menstrual flow, and for about ten days after, during which time constipation was great, urine more frequently passed, and with tenesmus. Leeches repeatedly applied opposite to the painful part of the spinal colum, tepid baths and purgatives, greatly diminished the frequency and intensity

of the attack, and the menstrual flow became more regular. A blow to the pit of the stomach paralyses the system, and here, the womb, after its fashion, gave a shock to the central ganglia at the pit of the stomach, and they reacted on the spinal cord, causing temporary paralysis of the limbs. Ollivier d'Angers insists on the necessity of applying the leeches to the spinal column, asserting that the same effect would not have been produced by applying them to the pudenda; but this is disproved by the following case, which occurred in the practice of a medical friend:—

Case 44.—Paraplegia.—A lady's maid, aged forty-five, complained of violent pain in the loins, for which a mustard poultice was ordered; and, as the pain persisted, a blister was subsequently recommended to the lumbar region. This application was soon followed by paraplegia, and a neighbouring practitioner gave, as his opinion, that the application of the blister had determined the paralysis of the lower limbs. Although this was denied by another medical man, who was called in, on account of the persistence of the paraplegia, my friend received several letters from the solicitor of the family, menacing him with an action; but he set them at defiance, and he afterwards learnt that the patient went home, and that a country practitioner, more clear-sighted in this instance, than the eminent men of town, putting together the circumstances of the patient's age and the previous irregularity of menstruation, applied leeches to the womb. The result was a gradual diminution of the paraplegia, and she quite recovered the use of her limbs.

Treatment.—Although decided cases of paraplegia are rare, there is often a very marked loss of power in the lower limbs, walking is difficult, going up hill seems impossible, any persistence in the attempt makes the limbs tremble and it is paradise to drive in a comfortable carriage. Rubbing in the well-known sedative liniments into the lower half of the back is very useful, but the most convenient way of administering relief is to take a bit of piline ten inches long and six broad and so shaped that it may fit the lowest part of

the back. Tapes sewn to the upper corners will keep it in proper place. Laudanum, or some strong solution of sedatives in proof spirit should be sprinkled over the piline, which should be worn all day. When the patient feels strong on her legs, she should still wear the piline, but without the drops, and only leave it off in summer, so it is well to have two bits of piline, and to keep one, for when the sedative solution is required. I do not know a better way for the cure and prevention of the mild forms of paraplegia and sciatica. In some of these cases the shock of sea-bathing has done wonders. The rain douche received on the back just after getting out of a hot bath, followed by energetic friction is also good. Electricity does good service. I have seen admirable effects from the use of the hot mineral waters of Aix in Savoy, where great good is sometimes done, by parboiling the powerless limbs, the patient being placed in a bath, in and out of which hot water is continually flowing. Shower baths and douches of hot mineral water will be found useful; and shower baths of alternately hot and cold water. Such appliances, irrespective of sex, are valuable, not only in paraplegia, but in all chronic, local paralytic affections.

Sciatica.—From four cases, I have selected one which forcibly shows the utility of sudorifics in diseases of the change of life.

Case 45.—Sciatica.—Jane A., aged forty, had dark hair, grey eyes, small stature, nervous constitution, and was of slender make. After having suffered two years with violent headache and giddiness, she first menstruated between fifteen and sixteen, and continued regularly to do so very abundantly. She married at sixteen, had seven children; was always regular, until she quickened, and in three pregnancies she menstruated regularly up to the period of parturition. The previous summer she was treated for rheumatic fever, at the Royal Free Hospital, and menstruation appeared four times after her return home, and has not appeared during 5 months. She complained of an intolerable pain in the left lower limb; and, on examination, I found that pressure on the spine did

not increase or cause the pain, and the pain followed the course of the sciatic nerve. I ordered several blisters to the most painful spot, pills of compound extract of colocynth, a sedative mixture, and turpentine embrocations, for no good. The patient suggested, that her pains might have been caused by the sudden cessation of menstruation five months previously, and on learning that she had lately had flushes and nightly perspirations, never experienced before, I ordered her to take, 1 scruple of ipecacuanha with 1 gr. of tartar emetic, to continue the mixture and the pills, and later on, ten grains of flower of sulphur on going to bed at night. As the heats and perspirations increased; the pains abated, so I prescribed another emetic, and continued the other measures. In a few days the pain became very trifling, and the heats, flushes, and perspirations, were more frequent, coming on, when she was quiet and in bed, and I ordered sulphur, 2 oz.; bicarbonate of soda, 4 drachms; and 2 scruples of ipecacuanha, a teaspoonful to be taken in a little milk every night. The pain soon disappeared, but when the flushes and perspirations abated, she suffered either from headache or from the sensation of "something working" to bring on the pain in the leg. I saw this patient again in 1855; there had been no sciatica, nor return of the menstrual flow, and her health was good.

Gardanne mentions, that a woman of a strong constitution, at her forty-fifth year, suddenly ceased to menstruate; and was at the same time seized with violent pains in the left thigh, and at the end of four months, was not able to move the limb. As she had suffered from syphilis in her youth, mercurials were given, but without effect. Sabatier then advised moxas to be applied to the leg, which caused great perspiration, and restored the use of the limb.

Ovario-uterine Neuralgia.—I am not aware that cases similar to the following, have been described by gynæcologists, but Dr. Handfield Jones has recorded two instances in his work on functional nervous diseases, and Prof. Charcot has attended a similar case. One of Dr. H. Jones's patients was

thirty-eight years of age, the other younger still, but four of my cases occurred at the change of life, and two after cessation. These cases were characterized by a most distressing burning sensation in the vagina and pelvis, with a considerable amount of tenesmic action, shifting from the rectum to the bladder or to the womb, and occasionally felt in the three organs at once, the sensation being sometimes so well localized, as to impress the patient with the conviction that there was a solid body pressing on the rectum or the bladder, or a tumour on the womb. These pelvic symptoms were said to bring on exhaustion and prostration referred to the pit of the stomach, followed by sleeplessness or pseudo-narcotism, despondency, apathy, and the singular variety of neuralgia described in a previous chapter, as gangliapathy and ganglionic dysæsthesia, for these pathological conditions are closely related to that form of neuralgia of both sensory and ganglionic pelvic nerves now under consideration. I am strengthened in the belief, that the ovaries are greatly implicated in this neuralgia, by my having observed a somewhat similar train of pelvic symptoms to occur in man as the result of concussion of the testicle. Very nervous women are most liable to the complaint, but I have seen it assume its worst form in strong-minded women, who had always enjoyed good health. I have always found the neuralgia accompanied by a certain amount of vaginitis, and its cure alleviated the symptoms, but seldom cured them. Vaginal injections were often useful, but sometimes an injection brought on a fit of neuralgia, so for a time injections had to be left off. Worry, mental anxiety, and fatigue made the symptoms worse. A tranquil tenor of life, rest, particularly in the recumbent position, with the feet higher than the pelvis, quieted the symptoms for a time; and they sometimes yielded to opium and belladonna suppositories introduced into the vagina, or the rectum, but the cure of the complaint must be sought for, in whatever can strengthen the system, such as change of scene, travelling, more cheerful circumstances, the exhibition of our ordinary tonics and those called

nervine, like arsenic and strychnia. Although I have only met with six aggravated cases of this description, I believe that, in a less degree, the complaint is far from uncommon, remaining unnoticed, because most women so conceal that kind of suffering, that it is difficult, if not impossible to fully understand their complaints. The following cases give a good idea of the disease:—

Case 46.—Ovario-uterine Neuralgia.—Miss X., was forty-seven when she first consulted me. She is small but well proportioned, has been highly nervous all her life. Menstruation was irregular, and there was a muco-purulent discharge, vaginitis, and decided ulceration of the cervix, and a most irksome sensation of heat and irritation in the passage. I cured the vaginitis and ulceration by surgical measures, without relieving the vaginal heat and pruritus, so I sent the patient out of town. When she returned after many months, the pruritus was as bad as ever, and would come on after any excitement or fatigue or standing about, and would be relieved by resting with the feet higher than the pelvis. This vulvo-vaginal irritation would sometimes disappear on the coming on of a similar pruritus, on the palms of the hands and on the soles of the feet, showing that however much the chief seat of neuralgia might be in the womb and vagina, the ultimate nervous expansions in other parts of the body might similarly suffer. When this irritation affects the feet and hands, there is nothing to be seen there, and she refrains from scratching them, because it would prolong the irritation for hours. As might have been predicated, the symptoms were worse at night, and led to great exhaustion and despondency. I have watched this state of things for twenty years, and at times could give no relief. She was always better for plenty of food and wine, and for such small quantities of citrate of iron and quinia as she could bear. I tried all sorts of injections, tar water did most good, but it has been repeatedly advisable to leave off all kinds of injection, for they seemed to do more harm than good. I syringed the vagina with a solution of nitrate of silver, and touched

the passage with the solid caustic with questionable benefit. A rectal suppository containing a grain of opium and one of extract of belladonna often gave temporary relief, but this remedy could not be relied on. By the sacrifice of her own health, many a daughter has well repaid the gift of life, and when my patient lost a mother, who had been long a cripple, requiring anxious and fatiguing nursing, she went out of town and got fat, and now suffers much less, only having a slight return of the old symptoms, when she gets weaker and more nervous.

Case 47.—Ovario-uterine Neuralgia—A very strongly constituted lady, aged forty-seven, is said to have had some acute uterine disease twenty years ago, while residing in France, when forty leeches were applied above the pubis. With the exception of not being able to retain the urine so well as previously to this attack, health remained so good, that, every year, she was able to take long pedestrian excursions with her husband. She never conceived, and menstruation ceased suddenly at forty-four; in the following months the nose bled very frequently and the bowels became constipated; for which she went to Homburg, and was restored to health. On returning to town, in December, 1868, she took very cold enemata for constipation, which was so great that a wine-glass of Friedrichshall water, taken every hour, failed to produce watery motions, and only irritated the bladder, apparently causing the strange abdominal sensations, which have lasted ever since. The patient feels as if there were a heavy body in the pelvis, bearing down upon the rectum, with a burning sensation, referred sometimes to that organ, sometimes to the vagina, or to the bladder. When in bed and lying down, with the feet up, she feels comfortable; by the time she has half done dressing, the burning sensation begins, and lasts until the bowels have been moved; soon after this the burning comes back; it is aggravated by standing or sitting, by indigestion, flatulence, constipation, and repletion of the bladder; also by worry and bad news. The sensation is relieved by moderate walking, by lying down, and by

regularity of the bowels. Homburg was again tried, it did good, but on her return, the lady was as bad as before, and consulted several doctors. One attributed the sufferings to stricture of the rectum, another to irritation of the bladder, a third to displacement of the womb. The following summer, Homburg was tried for a third time, but the waters were soon left off, for they aggravated all the symptoms, and after the patient's return to town, Dr. Beale sent her to me. In addition to the pelvic symptoms already described, a strong-minded, sharp, matter-of-fact woman, was in a state of mental confusion, her brain felt muddled, and she would sit for hours dozing or doing nothing; despondency being doubtless increased by finding herself helpless as a child, after having passed all her life in doing everybody else's business, as well as her own. She forgot where she put things, once thought she had taken out a large sum of money in her purse, and that she had lost it, whereas a month afterwards she found it in some out-of-the-way place. On examining, I found the rectum perfectly healthy, notwithstanding the pain and stricture ascribed to it. I was given to understand that marriage had never been concluded, and the vagina was so narrow, that I could with difficulty introduce part of my index finger, so I ordered linseed tea and laudanum injections, three times a day, and henbane internally. A few days afterwards I was able to reach the os uteri, I found the womb exquisitely sensitive; and on sounding the bladder there was nothing abnormal, except great pain when the sound passed over the urethra, the pain not being caused by inflammation, for the finger in the vagina did not feel the urethra as a hard and round body, painful on being pressed. Injections with acetate of lead and laudanum, as well as opium and belladonna rectal suppositories, enabled me a little later to examine the womb without giving pain; there was no ulceration, and there had been little vaginal discharge. The pain was most felt at the opening of the vagina, which looked sore, red, and injected, a condition that accounted for a very unusual hardness of the recto-vaginal tissues, a hardness of

which the patient was sensible, and complained of, as something wrong with "the bridge." This was caused by long continued congestion, although the parts were then without heat or redness. This sore state of the vaginal opening was relieved by the application, twice a day, of zinc ointment, to each ounce of which was added a drachm of diluted hydrocyanic acid. Vaginitis becoming worse, I swabbed the vagina, once a week, with a solution of nitrate of silver, and I ordered alum and zinc injections; suppositories did harm, whether administered by the vagina or the rectum. After thus treating the patient for a few months, the sensations of burning and weight had considerably diminished, but were often troublesome. Digestion was much inproved by nitro-muriatic acid and pepsine, pseudo-narcotism and mental disturbance were not relieved by bromide of potassium, but were much reduced by henbane and Indian hemp, and then the patient took for two months, three times a day at meals, the twenty-fourth of a grain of arseniate of iron, made into a pill with the fourth of a grain of Indian hemp; a combination suitable alike to the general nervous derangement and to the abdominal neuralgia. This leads me to the question of diagnosis. There was no organic disease of the bladder or rectum, nor of the womb, neither displacement nor ulceration of this organ. The disease originated in vaginitis, kept up by excessive walking and drastic medicines, at the change of life. The vaginitis causing neuralgia of both the sensory and the ganglionic pelvic nerves, the neuralgia causing pseudo-narcotism and the other forms of cerebral disturbance that usually attend the ménopause; the neuralgic element of the case being shown by the patient's often feeling the disturbance to ascend, as it were, from the pelvis along the spinal column, to the back part of the head, where there was most suffering. There was a gradual recovery of health, and this patient has been able to resume her usual very active life.

Nervous Aphonia.—This is a rare affection, but I have had a good opportunity for studying the case of a lady, at the change of life, who after losing her husband, came to

town, and settled in Belgravia. Though she had not been hitherto subject to nervous affections, cold, over-exertion, worry, would suddenly deprive her of her voice for a few days, and this sometimes occurred without apparent cause. The nervous nature of the ailment was shown, by the sudden coming and leaving of the aphonia, and by the effect of change of air; for a drive in Regent's Park or to Hampstead would often restore her voice to its natural tone. On leaving town to reside in the country, she has ever since enjoyed a comparative immunity from this complaint. Sometimes a potion, containing ether, speedily dispelled the aphonia. In two cases, I found sudorifics useful, the permanent return of the voice coinciding with a marked determination to the skin. Cerise speaks in favour of emetics for nervous aphonia, and I have witnessed their sudden good effects, but the best treatment is the direct application of electro-magnetism either to the tongue or to the larynx by means of Dr. Morell Mackenzie's galvanizer. The shock makes the patient scream, the spell is broken, and she is immediately cured.

Neuralgic Affections of the Eyes.—In two women, at the change of life, I have noticed the head symptoms to be accompanied by marked photophobia, and many patients complained of an unusual dimness of sight, which wore off on the abeyance of pseudo-narcotism, and other head symptoms. H. D., aged fifty, and chlorotic-looking, has been irregular for the last six months, and suffers much from intense debility, even after a full meal. She can scarcely keep herself awake during the day, but at night she cannot sleep on account of a dull, heavy pain in the eyes, lasting more than two hours, the probable cause of which being, that she has lately worked too hard at embroidery. A frequent cause of disturbed vision at the change of life is simply due to an objection to wear glasses. B. de Boismont gives the case of a woman who, at forty-five, was blind for three days; Boyer rightly judged that it depended on the change of life, and on recovering her sight, she remained subject to giddiness. Dusourd met with three women who were blind for

two or three days, at the change of life. These cases were probably due to retinal hæmorrhage, which is not uncommon at this time, the blood being usually absorbed without permanent injury to vision. Hemeralopia has been met with several times by Dusourd; but Romberg erroneously considers women predisposed to amaurosis at the change of life.

Deafness.—When deafness occurs at the change of life it should not be considered senile, for it may depend upon inflammatory affections of the internal ear, or upon morbid lesions of the throat and of the external canal; but deafness may be purely nervous, attending on pseudo-narcotism; the patients being, as it it were stunned, do not hear until they are fully roused from their state of torpor. In one case deafness came on suddenly six years ago at cessation, after a flooding, and the deafness has continued ever since. I have known women driven to desperation by continued noises in the ear, which baffle all treatment. M. S., aged fifty-two, never had a day's illness until forty-five, when she saw a man executed, which brought on flooding. The menstrual flow never reappeared, but loud and continual noises have been heard ever since, for which Mr. Harvey could not account. Cupping and blisters to the nape of the neck, and other treatment were useless. In a very nervous lady, erysipelas of the face occurred at the change of life, and left an excruciating pain, sometimes accompanied by a most annoying "forcing sensation" behind the ears. This had lasted for three years when I was consulted, but it yielded to tonic treatment, to the rubbing in of belladonna ointment behind the ears, and to the local treatment of uterine irritation.

CHAPTER IX.

DISEASES OF THE REPRODUCTIVE ORGANS AT THE CHANGE OF LIFE.

TABLE XXVIII.

Liability to Diseases of the Reproductive Organs in 500 *Women.*

Flooding, terminal	82
Floodings, successive	56
Leucorrhœa, frequent, at irregular intervals	146
„ monthly	12
Remittent menstruation	33
Vaginitis	4
Follicular inflammation of the vulva	10
Inflammation of the labia	4
Ulceration of the neck of the womb	9
Hypertrophy and inflammation of the womb	2
Prolapsus of the womb	5
Uterine polypi	4
„ fibrous tumours	4
„ cancer	4
Ovarian tumours	3
Irritation and swelling of the breasts	14
Milky or glutinous secretion of the breasts	2
Tumour of the breast, non-malignant	2
Cancer of the breast	1
Habitual deposits in the urine	49
Pain and difficulty in passing urine	9
Incontinence of urine	4
Hæmaturia	1
Erectile tumour of the meatus urinarius	2
Perineal abscess	2
Total	464

I doubt whether the foregoing table gives a fair idea of the derangements of the reproductive organs that are met with at the change of life. I think it is a time of greater turbulent activity for the reproductive organs; they are much less liable than before to acute inflammation, but more than usually so, to congestion, chronic inflammation, hæmorrhage, mucous flows, and neuralgic affections. When the change of life is over, the reproductive organs become more or less atrophied, and this process of involution protects women against the recurrence of inflammatory diseases of the womb. If these complaints occasionally occur, it depends on this process of involution having been checked by chronic irritation; in other words, uterine inflammation seldom occurs at, and after cessation, except in those who have previously suffered from it. After cessation, uterine irritation may be due to a fibroid development in the substance of the womb, or to a polypus growing from the cervical canal, or from the mouth of the womb. It may be therefore laid down as a rule that, after cessation, inflammatory affections of the sexual organs are less frequent and less severe, and that if these organs then assume great activity, it is an activity of a lower type, denoting a deterioration of the plastic force; the ovary, the womb, the breast, becoming more frequently the seat of cystic, fibrous, or cancerous growths.

Diseases of Menstruation, at the Change of Life.—Flooding seems to have been the only disease of menstruation of this period, which has engaged the attention of medical men, but besides flooding, there is the *stillicidium uteri*, or continual dribbling from the womb, lasting for weeks or months, and effectually undermining strength. The pains accompanying menstruation may become unusually intense; they have been considered in the previous chapter, but the mode of recurrence of the menstrual flow calls for some remarks. It is better that the menstrual flow should cease gradually, and its stopping suddenly may depend upon some obstruction to be removed by sedatives, mild tonics, purga-

tives, and occasional tepid baths, after which the flow will often reappear with comparative regularity, for some time longer. Instead of appearing every two or three months, the menstrual flow may return every two or three weeks, and this occurred in twenty-six cases out of 383, in whom the catamenia were ceasing. It is unnecessary to point out how weakening and how irritating to the nervous system is this too frequent recurrence, which can in some cases, be prevented by the exhibition of sulphate of quinia, in three-grain doses, to be given at night. If quinia alone or combined with ergot, along with rest and the avoidance of hot drinks, do not check the too frequent flow, I give a mixture with sulphuric acid, alum, and tincture of digitalis, and advise the use of cold vinegar and water to the vulva and adjacent parts.

Flooding.—Mauriceau, Levy, and others, look upon flooding, at the change of life, as indicating cancer of the womb; Astruc, Gardanne, and modern pathologists, consider it to depend on ulceration of the womb; but I have known women, free from all uterine symptoms, and in every other respect well, have floodings from a fall, from suddenly hearing of the death of a relative. This brings me again to the diagnosis of flooding at the change of life, for I have already shown, at p. 37, that the flooding of internal metritis, uterine hydatids and fibroids, uterine polypi and cancer, are sometimes attributed to the change of life. I have thus seen women reduced to the last stage of debility by a uterine blood flow, more or less abundant, being allowed to continue for two, three, or four years without an examination being made, because these patients were at the time of life when the menstrual flow usually ceases. Quinia and port wine were given, and change of air recommended; but no astringent vaginal injections, not even cold applications, had been made. I have now under my care a lady, who has been flooding more or less for the last two years, and who was repeatedly told there was nothing to be done, that it depended on the change of life. On examination, I found

a polypus hanging to a cavity of the womb by a pedicle as thick as my little finger. Another lady was allowed to flood, at short intervals for three years, and on examining her I found the cervix three or four times the right size, giving the idea of a soft and podgy substance torn to shreds.

When flooding occurs at a catamenial period, as a critical discharge, subsiding completely after a few days, every one recognises its dependence on the change of life; likewise if successive floodings occur at successive menstrual periods. When flooding occurs a few months, or years after the absence of the menstrual flow, and is accompanied by flushes, perspirations, and other symptoms of cessation, without being explained by uterine disease, it is fair to suppose that it depends upon the change of life; but whenever it does not appear as an evident critical flow, when it is followed by a lingering sanguinolent discharge, with returns of flooding at irregular periods, with muco-purulent discharge, and other uterine symptoms of disease, the case is doubtful, and no medical man can conscientiously give a diagnosis without a previous examination. Who has not been consulted, for flooding, by women of forty-five, with every appearance of health, and has not been grieved to find such cancerous lesions of the womb, as warranted the conviction that the patient's days were numbered? Louis and Valleix mention that profuse menstruation will sometimes be the first symptom of cancer, which is an additional reason why profuse menstruation should be frequent at the change. What other cause of flooding is wanted, besides the great predisposing cause already discussed? But it may sometimes be occasioned by a fall, a fright, strong emotion, a fit of anger, by sneezing, or by connexion. Fothergill has seen an intermittent fever at cessation give rise to menorrhagia every month.

Beyond a certain loss of blood, which must be estimated by the patient's pulse, by the expression of her features, by her feelings of strength or weakness, further flow is dangerous. If those who lose too large quantities of blood at this period

do not quickly repair the loss, they can seldom do so; and, although not completely invalided, they remain pale and chlorotic, they do not enjoy the degree of strength with which they were previously gifted, and become more nervous. There is, however, a certain amount of danger in stopping the critical flow too soon, particularly in those who are plethoric, or who have been accustomed to lose much blood at the menstrual periods. J. Frank says he has often seen apoplexy brought on by injudiciously checking the floodings of cessation; and two of my cases confirm his remark. F. Hoffman has likewise seen apoplexy at the change of life when the flow had been always abundant. This sufficiently shows that it is wrong to let flooding take its chance, and that it should be considered to require medical advice. The treatment should be directed so as to check the flow, by placing the patient in the horizontal position on a horse-hair mattress, with light covering, in a cool room; by giving cold lemonade or alum whey, before trying ergot, and digitalis. Local measures may be required, such as iced vinegar and water to the abdomen, and to the inner parts of the thighs; or a lump of ice to the neck of the womb. Dr. West has shown the utility of intra-uterine injections of a solution of gallic acid, or of an infusion of matico, to stop continued flooding, after all other means had failed, in a woman of fifty-one, and I have found a strong solution of the perchloride of iron still more useful. When too little blood has been left to stimulate the brain and nervous system, it is well to keep up respiration and circulation, by confining the blood into the smallest possible space: bandaging the four limbs and pressure to the aorta will do this.

It has been pointed out at page 95, that in the plethoric, and those accustomed to menstruate profusely, bleeding often did good and prevented subsequent ill-health; but it is seldom advisable to bleed the month following a flooding, or the one after that, unless there be evident signs of congestion. It was for continued flooding, that Fothergill, Hufeland, Lisfranc, recommended the plan of taking less and less

blood, from a patient, at successively longer periods, and the practice is sometimes very useful. By bleeding, we take away the material of flooding; but it must not be forgotten that hæmorrhage as often depends upon the perturbed action of the blood-vessels as on plethora; and that the return of hæmorrhages may require a judicious use of sedatives. As in metrorrhagia, the blood is directed with force to the womb because it is a centre of morbid attraction requiring to be lulled and stupefied. This may be done by sedative injections in the rectum, or by means of a suppository made of one grain of opium and two of extract of belladonna, put into the bowel every night, until the nervous irritability of the reproductive organs be quelled. Saline purgatives and small doses of nitre are also indicated; and it should be borne in mind, that at the dodging time, or after cessation, centrifugal tendencies of blood should not be encouraged by pediluvia, hip-baths, mustard poultices, or by similar applications to the lower extremities.

Pudendal Irritation.—Some kind of pudendal irritation is very frequent at the change and afterwards; women often bear it without complaining, and I have cured patients whose life had been made miserable for thirty years by eczema pudendi. Whatever the disease, when it has lasted long, the skin may be rough and thickened, or like white parchment, and the mucous lining may be of a dusky or a pale red and have a glazed appearance. Pudendal diseases require to be treated very much in the same way, so I will pass them in review according to the order of their frequency.

1. Vulvar itching is caused by a more or less swollen, heated, and irritated state of the labia; this may depend on some uterine discharge, but the itching is sometimes the result of glycosuria, so the urine should always be treated by Fehling's test for sugar.

2. Eczema makes intolerable the life of many women, and the disease assumes various forms, a hot, red, and weeping skin may clothe the pudenda and surrounding parts, or there may be no exudation, and the skin may be dotted with thick

blains, which may form a ridge at the edges of the pudenda. In dark women, these blains have a slaty colour, as when nitrate of silver is applied to a sore mucous membrane. Eczema seems sometimes to owe its origin to diabetes and to gout.

3. Prurigo pudendi is not uncommon at the change of life, and in old age it sometimes forms part of prurigo senilis.

4. Follicular inflammation of the labia occasionally begins at the change, and relapses, in the following years; and I have met with three instances, in which the disease had begun about thirty, and continued many years after the ménopause. The annoyance suffered is extreme, and the irritation such as to render the application of the hands imperative, and causes the discharge, at other times mucous, to become bloody. In one lady the irritation came on periodically, and then several hard lumps, about the size of a filbert, would appear in the margin of the labia. These swellings seldom suppurated, but occasionally vesicles appeared on the skin. I have observed, that in severe cases of this description, there is no exaltation of sexual desires, connexion being on the contrary abhorrent to the feelings, and this remark applies to all severe forms of pudendal disease. I have also met with a painful red spot, on the mucous membrane of the vulva, to which Mr. Lawson Tait has drawn attention as occurring at the change or afterwards. At that spot all the textures seem to have been removed save a few fibres, the walls of the capillaries, and the superficial epithelium under which the loops of the capillaries, with thinned and dilated walls, and nerve fibres, lay almost unprotected. I have sometimes met with the same anatomical conditions in the vagina, causing loss of blood.

Case 48.—Herpetic Affection of the Labia.—A single lady of fifty, who had never menstruated, suffered from irritation, chiefly confined to the left side of the clitoris, which was in a very swollen state from the constant friction. As the patient could not well retain her water, a careful exami-

nation was made, when it was found that the meatus was larger than usual, and that *there was no vagina or uterus*. When young she frequently had leeches applied to the labia to induce menstruation, but no examination had ever been made to ascertain the cause of the amenorrhœa, nor was she at all aware that she was malformed up to the age of fifty. She had all the other physical characteristics of a female, together with the modesty and delicacy of mind peculiar to her sex; there was sexual passion, and she would long previously have been married, had she not feared that matrimonial unhappiness might arise out of the total absence of the catamenia. She was never conscious of any local pain or fulness at the monthly periods; but she had headache and giddiness at irregular intervals. In other respects her health was excellent; but the pruritus, which was often accompanied with an herpetic eruption on one of the nymphæ, was the great plague of her life, and strong religious principles had alone prevented her committing suicide. Arsenic and other remedies were tried in vain by the late Mr. Hunt.

All forms of vulvism or pudendal irritation require very similar treatment. Cooling and sedative medicines, warm baths, warm hip-baths, are suitable in all the above cases, likewise lotions made with the unirritating parasiticides, like borax and boracic acid. By adding 2 drachms of powdered acetate of lead to 4 ounces of milk, a capital lotion is made, and this can be applied every two or three hours, and allowed to dry before being covered up. When this lotion gets watery it should be thrown away. I believe we owe to Dr. Lieving, of Manchester Square, this excellent lead lotion, which is quite sufficient to cure many a case of eczema. Bichloride of mercury, in doses of from 1 to 5 grains in 8 ounces of almond mixture, is a good remedy, long known to Trousseau. In mild cases of eczema, where there was no exudation, I have found hot sea-water baths and hip-baths to effect a cure. Failing these remedies, particularly when the pudendal irritation is associated with

a diseased state of skin, a solution of nitrate of silver should be applied by the medical man, and he should carefully rub it into all the recesses of the mucous membrane, or the morbid pudendal excitement will not abate. I have used a lotion containing 40 grains of the salt, to an ounce of distilled water, but Dr. Lieving uses a much weaker solution with good effect. Need I say, that each case will require suitable constitutional remedies, and that arsenic should always be tried. The utility of preparations containing carbolic acid in prurigo, confirms Hebra's assertion, that it is caused by pediculi, and suggests the careful cleansing of the patient's clothes so as to destroy the insects by which the complaint is often indefinitely prolonged.

Pudendal Neuralgia.—What relates to nymphomania has been already discussed at page 200, but sometimes at the change, the pudenda are subject to very distressing sensations of heat, aching and itching, although no structural lesion of the pudendal tissues can be detected. Many patients complain that for a few nights after each menstrual period, there is an intense itching and skin irritation, unaccounted for by any cutaneous eruption. Such cases explain why cessation is sometimes followed by itching of the pudenda, or of the whole surface, the prurigo latens of Alibert, to which Aran believed women at the change of life to be particularly subject, indicative of some form of uterine disease. In some of the most distressing cases of pruritus and perverted feelings, there is, however, nothing morbid to be detected, as in a woman of sixty, who was also subject to hysterical attacks if a young man came near her, and in whom Biett could discover nothing amiss, although he inspected the pudenda with a magnifying glass. Lisfranc has drawn attention to vulvo-vaginal neuralgia; and Tanchou thinks it occurs most frequently at the change of life. He mentions the case of a lady of forty-eight, who had never suffered from uterine disease, in whom the menstrual flow ceased at forty-six, and ever since she had been afflicted with pruritus and darting pains in the pudenda. These sensations were

increased by walking and over-exertion; no morbid lesions could be found to explain the sufferings; and they were relieved by the internal exhibition of assafœtida and valerian, combined with the external application of opiates and belladonna. These cases are generally met with in broken-down constitutions, which do not yield kindly to remedies, and yield only to such influences as have power to strengthen the nervous system, and to those nutritial transmutations of tissue that time alone brings about.

Leucorrhœa, or a flow of mucus unmixed with pus, at the change of life, is like flooding, a critical discharge, the indiscreet interference with which might cause a more serious complaint, and I have met with women in whom it was immediately increased by wine and by emotion. If the discharge becomes abundant, the best way is not to check, but to regulate it, by increasing the solubility of the bowels and the habitual moisture of the skin. Frequent lotions with tepid water may be recommended, and I very rarely order cold injections, but when these are necessary, I seldom add any astringent substance; after a time, however, injections of water, containing 1 drachm of acetate of lead or of alum to the pint, might be useful.

I have met with women who have a continual sero-sanguinolent discharge of no serious import. In one case, the lady was remarkably strong and healthy, and menstruated with great regularity up to her death, at eighty-four. Six years before this lady's death, I was consulted, and I found a considerable enlargement of the capillaries of the vagina, particularly on the cervix, but no redness of the mucous membrane itself, and no ulceration, or enlargement. Several applications of the solution of nitrate of silver did no good, neither did injections, so all treatment was abandoned. Another patient, a very strong lady, ceased to menstruate at fifty, and at fifty-two, she was suddenly told, that she was to be deserted by a man who had lived with her, as her husband for twenty-five years. The shock brought on delirium which lasted a fortnight, and a muco-sanguinolent discharge from

the womb, which has continued ever since, and has now lasted three years, without impairment of health. There was neither ulceration, polypus, nor cancer to explain this discharge, which came from the internal surface of the womb, only inconvenienced the patient, and was not much diminished by astringent injections. Another patient has a pale pink discharge whenever she strains, or remains standing for long, and whenever she puts her hands into warm water.

Vaginitis.—Of all sexual infirmities, subsequent to cessation, vaginitis is the most frequent. Vaginal involution is of rare occurrence, being prevented by matrimonial intercourse and by every variety and form of uterine disease. The frequency of vaginitis is explained by the continuance of sexual intercourse long after cessation, and I have been repeatedly asked by women about sixty years of age, whether, on account of vaginitis, it would be dangerous for their husbands to have connexion with them. Sometimes vaginitis coincides with a cachectic condition of other mucous membranes, which implies a general failure of health, and explains the frequency of relapses; sometimes it seems to be caused by gout; more frequently it is the extension of eczema to the vagina. Inflammation is sometimes transmitted from the cervix to the vagina, or else it may be produced by acrid secretions from the body of the uterus. The secretion is generally muco-purulent and inoffensive; it may be greenish or yellow, or slightly tinged with blood, and one lady complained bitterly of its offensive smell. Sometimes the patients were mothers of large families, and had never suffered till cessation, when vaginitis became troublesome, but usually those who have suffered much from uterine disease, have occasional attacks of vaginitis after the change of life, and patients have been obliged to come to me on this account, once or twice a year, for several years. Vaginitis is often attended by great internal heat, bearing-down pains, vesical disturbance, with or without scalding sensations on passing urine, and by pruritus pudendi. The mucous membrane is found smooth and has a glazed appearance, the rugæ being oblite-

rated, and sometimes there are areas over which the mucous surface seems to be destroyed, and these bleed readily, when touched, and then the discharge is blood-like, and has been thought menstrual. The vaginitis of the old is probably the cause of those common, partial, thin-edged vaginal strictures which are sometimes found high up in the passage.

Cooling medicines, copious dilution, warm baths and hip-baths, will be of obvious utility; injections with linseed tea or decoction of poppyheads should be first tried, then solutions of borax or acetate of lead. Three drachms of trisnitrate of bismuth suspended in half a pint of water, thickened by tragacanth mucilage may be useful as a lotion and injection, and another good injection is made by adding 5 grains of the sulpho-carbolate of zinc to the ounce of water. It may be necessary to apply a solution of nitrate of silver to the vagina, as in cases of pudendal inflammation.

Ovaritis.—Before alluding to the heteromorphous growths that become so frequent after the ménopause, I will say a few words on the ovaries considered as the seat of congestion and inflammation. I am not aware of there being any case reported of abscess of the ovaries, at the change of life, and subacute inflammation of the same organs is not common. It is difficult to separate the influence of the ovaries from that of the womb in the production of the sexual diseases of women, at the change of life, nevertheless, as we know that the ovaries rule supreme over menstruation, and that they cause many diseases of women, during the period of woman's greatest reproductive energy, it is fair to suppose that their involution being delayed, aggravates and delays the cure of the most common uterine diseases; ovarian irritation being no longer relieved by an habitual menstrual flow. There is no fear of erring in partly attributing to ovarian agency the unexpected reawakening of passion, and the strange sufferings that I have described as ovario-uterine neuralgia. As for the effects of the atrophy of the ovaries, which gradually follows the ménopause, they are the subject-

matter of the present chapter, and have been considered in that relating to the physiology of women at the change of life.

Ovarian Tumours.—Like uterine polypi and fibrous tumours, ovarian cysts generally originate in the period of full sexual activity. Thus Lebert found, that out of fifty-nine chronic ovarian tumours,

15 began from 20 to 30 years.
12 „ 30 „ 40 „
13 „ 40 „ 50 „

From the Fifth Report of the Registrar-General, it appears that out of 100,000 deaths from all causes, there were 1,205 from ovarian dropsy, of which 362 occurred from forty to fifty, and out of forty-four deaths, occurring in London from this disease, in 1848, seventeen took place between forty and fifty; thus confirming the received notion, that ovarian tumours are most fatal at the change of life, although they often originate previously. Their march is often more rapid than that of uterine fibrous growths, and more speedily followed by a fatal termination: but as far as the menstrual flow is concerned, ovarian, are far less detrimental than fibrous tumours; for ovarian tumours, when developed many years before the average date of cessation, oftener diminish than augment the menstrual flow; which in other cases, proceeds uninterruptedly, and is sometimes altogether absent. It seems to me that cessation is rather brought on earlier, than retarded by the growth of ovarian tumours, at all events, they do not cause flooding. Cases of galloping ovarian tumours generally occur between twenty and forty; and when an ovarian tumour has remained quiescent for some time before the change of life, this will either give it increased activity, or make it stationary. There are many instances on record of women having lived to an advanced age, without their comforts being much interfered with by an ovarian tumour; but if it be voluminous or on the increase, it is far better the patient should run the risk of ovariotomy. Taking into consideration, that the internal exhibition of

medicines is almost useless to check the progress of ovarian tumours, that tapping is only the beginning of the end, and that other surgical measures are of little or no avail, except in very exceptional cases, a pathologist cannot find words too strong to express his admiration for the American surgeons who originated ovariotomy, and for the British surgeons by whom it has been perfected. To ascertain how far this mortality was modified by the patients' age, I have constructed the following table out of some of Mr. Spencer Wells's cases, in which the operation had been completed :—

TABLE XXIX.

Mortality of Ovariotomy.

Rates of Mortality.	Averages.	Cases.
General average of mortality at all ages . . .	28·33	300
Average mortality in women under 40. . . .	31·64	158
Average mortality from 40 to 62	28·35	134
Average mortality from 40 to 50 inclusive . .	28·39	81
Average mortality from 50 to 62	30·76	52

This table makes it clear that the change of life does not raise the mortality of ovariotomy, that it is attended with greater danger, when performed after fifty, and is still more fatal in women under forty years of age. The practitioner will therefore bear in mind, that when once ovariotomy has become desirable, it is not wise to defer it long.

Uterine Disease.—Suspended involution is the keystone of uterine pathology, at the change and after cessation. In my "Handbook of Uterine Therapeutics," I insisted on defective *puerperal* involution as a little-known, though frequent cause of uterine disease. I represented it, less as a disease, than as the enlargement of the area in which may spread whatever disease is inclined to arise, congestion, inflammation, papillary development into a roughened or mammillated surface or polypoid growths. Now, *puerperal* involution proceeds at a

slower rate, and is oftener defective, in women confined during the last decade of reproductive life. The womb cannot do its work as well at forty as at twenty; and so far as a man can believe what he has not seen, I believe defective involution to be the rule in women who are confined, or who miscarry from forty to fifty, hence a womb that has not been able to effect *puerperal* involution, is called upon to work out ultimate uterine involution of the change of life.

Uterine Disease at the Change.—With regard to uterine inflammation as it occurs from the beginning of menstrual irregularities until cessation, I point out, that from the thirty-fifth year to the forty-sixth year, when cessation occurs in most women, sexual life is less intense, the married have fewer children, and the unmarried think less of marriage. This diminution of sexual energy accounts for a corresponding decrease in the number and in the intensity of inflammatory uterine affections. Many women, nevertheless, begin the change of life with uterine diseases that have been undetected or imperfectly cured, and all such diseases are sure to be aggravated and brought to light by "the dodging time," for the ovaries still every month, draw blood to the womb, and the blood, finding an insufficient outlet, or none at all, from the internal uterine surface, congests whatever organic disease may be present in the sexual apparatus.

Disease of the Cervix, at the Change.—Beyond an aggravation of habitual symptoms, I have noted nothing peculiar to this epoch, in the march of diseases of the neck of the womb. Subacute cervical inflammation may wake up its usual troublesome symptoms. Failing general health, there is the usual tendency of the cervical mucous epithelium to exfoliate, when the subjacent uterine tissues are caco-plastic. Ulceration in and around the cervical canal may cause a purulent or a muco-purulent discharge. All such ailments should be cured or they will delay the ménopause. Sometimes treatment is eminently successful, as it was in a case already mentioned, in which one application of the acid nitrate of mercury, to an irritable ulcer dipping into the cervical canal,

checked a loss of blood, which had been going on for five years, in a lady aged forty-nine.

In some cases the cervix is hard and partially involuted, and ulceration does not heal without the application of potassa fusa c. calce; the occurrence of such cases has been noticed by Gardanne and by B. de Boismont. Hard hypertrophy sometimes lasts for years with slight or serious symptoms, but I have never seen it turn to cancer.

I have only twice met with soft hypertrophy or engorgement originating at the change of life, and it has been observed by Dr. Gunning Bedford and by Dr. Forget. In my cases the cervix was much enlarged, felt soft and boggy, and when examined through the speculum, the cervix presented a ragged wound which bled freely. In this form of disease, the repeated and abundant flooding principally comes from the cervix, and not from the cavity of the womb. My two cases had been taken for cancer, but the movability of the womb, the healthy appearance of the vagina, the absence of severe pain, and of characteristic smell, made me think it was not specific. Forget cured his case by repeated cauterization, and I mine by the alternate application of the solid nitrate of silver and its solution.

In a case recognized both by myself and by Dr. H. Bennet, as one of internal metritis with soft hypertrophy of the cervix, the patient was so little amenable to treatment, that I gave up the case, and when I was again asked to see her, many years afterwards, cessation had taken place, and I found a large encephaloid womb. This is the only case in which I have seen cancer originate in inflammation.

The Body of the Womb, at the Change.—The dodging time is often protracted to unusual length by the fact of the womb having remained considerably too large after the last pregnancy, without any other disease than hyperæmia of its internal surface, and not always that. I have been led to this conviction, by being sometimes puzzled to understand the protraction of the dodging time, to great length in patients I had occasionally attended, and in whom I had

found the cervix to be healthy and smaller than usual. These patients had no uterine symptoms, so that I could not suspect the body of the womb to be diseased, and they were so fat, that there was no other way to measure the size of the womb, except by actual measurement. I have often, in such cases, passed from 4 to 5 inches of a wax bougie into the womb, even when the cervix was shorter than usual. There was little pain, no loss of blood in some cases, but in others, a moderate loss, as in one of the following cases:—

Case 49.—Suspended Involution.—During the last twenty years I have occasionally attended a very healthy lady, now fifty-five, for cervical inflammation after confinements. When forty-six, she had her last child; she was supposed to have had a miscarriage when forty-eight, and a few weeks afterwards there was considerable flooding from an enlarged womb, which confined her to the house for three months. When forty-nine, menstruation began to be irregular, and there were pelvic pains and cervical congestion. They were more marked after the last menstrual period in December, 1878, but the cervix was healthy, and smaller than I had hitherto found. The abdominal walls were so fat that I could not feel the womb, and, on passing a wax bougie, it measured four inches and a-half. It gave little pain, and there was no subsequent loss of blood. In this case there is simple enlargement of a womb that never properly retracted after the miscarriage, and the enlargement being free from disease may be explained by the fact that the patient is a singularly healthy woman. This uterine enlargement has nevertheless delayed cessation for six years, and I was able to reduce it by giving twice a day, 3 grains of ergotine with half a grain of extract of nux vomica.

Case 50.—Suspended Involution.—I have attended, off and on, for the last ten years, a lady whose singularly severe attacks of gangliapathy, with extreme prostration, were greatly aggravated by chronic inflammation of a much enlarged womb. These attacks have occasionally returned at menstrual periods, indicating a relapse of uterine disease.

Early in 1873, seven years after cessation had been thought imminent, menstruation came at intervals of three, four, six, and thirteen months. After this last protracted interval, the menstrual flow returned on the 3rd of November, 1878, being moderate, and lasting three days. This was followed by a very bad attack of gangliapathy. I found that the cervix was healthy and smaller and shorter than hitherto; nevertheless pelvic pains pointed out the womb as the centre of pathological disturbance, and, as the abdomen was so coated with fat as to render impossible any other mode of measuring the womb, I introduced a wax bougie, and, to my surprise, it went in to a depth of four inches and a-half. There followed a little pain and a few drops of blood, but the following day, blood flow set in moderately, and continued so for ten days, accompanied and followed by a succession of the customary ganglionic attacks. In addition to the womb being morbidly large, as in the previous case, there was in this case an irritable hyperæmic lining of the womb, which pathological condition has occasionally brought back the attack, and has already delayed cessation for five years in a woman aged fifty-five.

In other women, in whom the womb is in a state of defective involution, at the beginning of the dodging time, flooding is the frequent symptom of acute hyperæmia, or of internal metritis, brought on, or aggravated, by the stoppage of an habitual outlet to pelvic congestion. This is not all: inflammation is just as much a bar to the ultimate involution of the womb at the change of life, as it is to the right progress of *puerperal* involution of the same organ; and when, at the dodging time, an enlarged womb becomes inflamed, there is little chance of its size decreasing till after cessation. This enlargement of the womb, as a not uncommon condition at this epoch, explains why some women have an outflow of serum, or muco-pus, at some stage of the intermenstrual period, generally inodorous, but sometimes offensive. Half a teacupful of pus, or bloody pus, may be also suddenly evacuated, and give the idea of an abscess, whereas the

occurrence clearly points to internal metritis. I have known patients to pass repeatedly matter, instead of blood at monthly periods, with considerable pain; and in one instance this was repeated at six successive menstrual periods. In all such cases there are symptoms of uterine irritation, and this imperfect menstruation is attended by considerable pain, on account of a progressive narrowing of the cervical canal, the result of the setting in of an attempt at cervical involution. It is evident such cases cannot be cured while pelvic circulation is in a disturbed state, and our best efforts should be directed to the diminishing uterine congestion, and to the maintaining of a free passage through the cervix for uterine secretions. By so doing we shall give such cases a fair prospect of being cured after cessation.

Uterine Disease after Cessation.—It used to be taught, that uterine inflammation was never met with in young unmarried women, nor after the ménopause. Unfortunately, acute and chronic uterine inflammation is occasionally met with, before twenty and after fifty, and I have known acute inflammation of the cervix to come on, for the first time, at fifty, some years after cessation, but the post-cessation period of the change of life is generally the residuary legatee of the pathological tendencies of previous periods of more active uterine energy, as in the following case:—

Case 51.—Mrs. H., was fifty in 1875, a tall, strongly-made woman, the mother of thirteen children, and the birth of the last was followed by twelve years of uterine disease, clearly indicated by the usual symptoms, and by an almost continuous vaginal discharge of blood or pus. She consulted several medical men, but was told that nothing should be done, as the change of life would set all right. At forty-four cessation occurred, but she went on suffering just as before for some years, and at last this long continuance of uncontrolled uterine disease, family cares, and the livelong dread of scenes with a passionate husband, had thoroughly shattered her nervous system, when Dr. Gregory, of Stroud, sent her to me. The womb measured five inches, the cervix

was hard and much enlarged, the os uteri was three-quarters of an inch wide, and internally ulcerated. The sound passed easily through the cervical canal, but there was occasionally spasmodic stricture of the os internum, for after some days of dull, central, pelvic pain, she suddenly had stabbing pains, and expelled at one gush from the vagina, about an ounce or more of pus. In this case the general symptoms gradually mended, first, under the influence of large doses of bromide of potassium, and then of quinine, opium suppositories being given by the rectum, whenever the womb was surgically treated. Nitrate of silver, and the acid nitrate of mercury, did little good in this case, but marked improvement followed the application of potassa fusa c. calce, to the whole of the cervical canal. The cervix gradually decreased in size, it became softer, and the spasmodic expulsion of matter ceased to occur, although no surgical application was made to internal surface of the body of the womb. This patient was wonderfully improved in every way, when she returned home after three months of treatment.

It is not surprising, that chronic uterine inflammation should be aggravated and brought to light by the ménopause, for ovarian involution is only half-concluded at cessation. A remnant of ovarian power still shows itself during the following year, by the more or less *periodical* occurrence of pelvic congestion, made apparent by a sense of abdominal heat and weight and fulness, or by leucorrhœa, congested liver, diarrhœa, or piles.

Disease of the Cervix after Cessation.—The womb may be diseased in its entirety, as in the case just related; but as through life, so after cessation, the cervix and the body of the womb may be separately diseased. Nothing exceptional need be noted when cervicitis occurs during the two or three years that follow the ménopause, except the utility of taking five or six ounces of blood from the arm, when the complaint is made worse by uterine congestion, unrelieved by any menstrual flow. I have applied leeches to the cervix

in such cases, but their repeated application prolongs the habit of pelvic congestion, which is more likely to be checked by bleeding. When the cervix is inflamed many years after cessation, I have found it smaller and harder than usual, and covered inside and out by a less vascular mucous membrane than previously. There has been more or less desquamation of the mucous membrane lining the cervix, and cotton wool comes back stained with blood or with pus, but there was little or no vaginal discharge, unless the vagina was also inflamed. In the course of long practice, I have occasionally been surprised to find a serious amount of cervical inflammation in women at the prime of life, without the mischief having been made apparent by the customary vaginal discharge, and I explain to myself the more frequent occurrence of this peculiarity in old age, by the diminished vascularity of the mucous membrane of the cervix. In the absence of vaginal discharge, practitioners are justified in hoping that somewhat obscure symptoms of pelvic disturbance may yield to rest and to appropriate remedies; and by so doing they generally succeed in curing the patient without putting her to the annoyance of an accurate examination. As a consulting practitioner, I have had to investigate similar cases, that had not yielded to good treatment, and finding symptoms pointing to the womb as to their cause, I have examined the patient, and I have found the morbid lesions just described, to be the unsuspected cause of a slight but habitual loss of blood, a fact proved by the cessation of the blood loss, on the application of nitric acid to the ulcerated surface. I have frequently noted, that vesical disturbance, and the very frequent desire to micturate, was caused or aggravated by cervical inflammation, and by directing my attention principally to this disease, I have cured cases of sciatica. I have repeatedly been consulted by women who could not walk, who had suffered severely from a variety of cerebral symptoms, and who had only been partially benefited by good medical treatment. Finding in these cases, that there

was habitual pelvic pain and heat, and occasional vesical distress, I have been led to examine, and have found cervicitis to explain why good medical treatment alone could not cure the nervous derangement. All that can be done in some of these cases by caustic applications, is to check blood flow or the secretion of pus. It is injudicious to seek to restore the uterine mucous membrane to a healthy condition, so long as its permanent redness is not attended by any bad symptoms. I have known such a condition to last for years without becoming worse, and not to be improved by persisting with caustic treatment. The agency of the stronger caustics must never be allowed to impair the permeability of the cervical canal, for the body of the womb may still remain too large, its lining membrane may secrete morbid fluids requiring an exit, and the denial of such an exit has been known to lead to serious accidents.

The Body of the Womb after Cessation.—I have only seen one case of acute internal metritis after the ménopause.

Case 52.—Internal Metritis.—Mrs. T., aged sixty-four, was sent to me in 1868, by Dr. Smith of Weymouth. She was very stout and florid, and it appears that she miscarried several times when twenty-five, and the late Dr. Lever told her, that if she did not take more care of herself she would suffer for it later in life. When forty-four, she consulted Dr. Smith, who kindly gave me the following report of the case :—

"I first saw Mrs. T. in 1847, for menorrhagia and hysteria. The womb was greatly congested, and I applied leeches to it several times, and sent her home apparently cured in Sept. 1847. She returned to me, however, in Sept. 1850, with similar symptoms, and was a month under my care, with no other treatment than saline aperients and astringent vaginal injections, and she went home, as before apparently well." Menstruation ceased at fifty without bad symptoms, but when fifty-four, she began to lose blood from the womb, and continued to do so more or less until the day of her death. As soon as menorrhagia set in, Mrs. T. saw Dr. Smith in Sept. 1867, when she complained of a sense of weight

in, and bearing down of the uterus, with occasional discharge of blood, often attended with exquisite pain, described as being either in the uterus, or in the bowels, back, and hips. The uterine sound passed three and a half inches into the uterus, and did not give more than ordinary pain. I failed to check the bleeding, though she was about seven weeks under my care, and I dilated the os with sponge tents and tangle to reach any morbid growth in the uterus, but found none. I came to the conclusion the case must be one of fibroid tumour in the uterine wall, since all the ordinary mediums to check hæmorrhage and allay pain has failed.

When I saw Mrs. T., in September, 1857, I found the womb about double its usual size, and painful when pressed; the cervix was much enlarged, and not at all ulcerated. I easily introduced three inches and a half of the uterine sound, and this gave great pain. If the flow of blood was checked for a limited time, a little pus would be passed in a gush and after great pain, leading me to believe that it had accumulated in the womb; but independently of the passing of blood or matter, Mrs. T. complained most of attacks of pelvic forcing pain, lasting from one to two hours. I saw her in one of these attacks, and nothing more resembled the pains of labour, as she lay on her back, with face injected, groaning or screaming, and tugging hard at a sheet tied to one of the bedposts. These pains increased, the paroxysms became longer, brought on vomiting, and at night they prevented sleep. The sickness was for a time relieved by effervescing draughts with prussic acid, but the various sedatives that I tried internally, externally, and by the hypodermic method, muddled the brain without easing the pain or inducing sleep. Sulphuric acid, tannin, and ergot of rye did not check the hæmorrhage, nor did various cold injections. I at last persuaded Mrs. T. to let me inject the cavity of the womb with a solution of perchloride of iron, injecting from 2 to 3 ounces of equal parts of the strong perchloride and water, which caused very great faintness, but no increase of pain and marked diminution of blood loss. I repeated a similar injection a week afterwards, causing great aggravation of

pain, which continued unceasingly; she gradually took less and less food, slept less and less, and died of exhaustion on the 17th of April, 1868. Neither Dr. Barnes, nor I could see reason to suppose that the blood loss and this fearful pain were due to a fibroid developed in the substance of the womb, the paroxysms of pain were like those of acute metritis, and the tablespoonful of pus that gushed from the womb, after increased pain could only have come from its internal cavity; but the relatives could not be prevailed on, to let the point be settled by a post-mortem examination. I cannot conclude the case without stating, that I believe it would have had a fortunate termination, if the inside of the womb had been swabbed with nitric acid at an earlier stage of the case.

I have never known uterine exfoliation to occur towards the ménopause, although singularly enough, in the first recorded case of the kind, Morgagni mentions exfoliation to have continued up to cessation, and Dusourd has met with similar cases.

Chronic Uterine Disease, after Cessation.—I have occasionally had patients who, long after cessation, suffer off and on from considerable pelvic discomfort, and then they passed about a teacupful of pus, after great forcing pain, or after lifting a heavy load, or merely from the act of stooping. Dr. Matthews Duncan has met with somewhat similar cases, and described them as uterine leucorrhœa of old women. In the only case in which Dr. M. Duncan had an opportunity of examining, he found "the walls of the uterus abnormally thin and soft, and the mucous membrane of the uterine cavity had an irregular and almost ragged surface, the depressions being apparently seats of ulceration." The sudden passing of blood and pus sometimes occurs in cases of fungoid mucous membrane of the womb, which is most common at, and after the change, for out of eleven cases of this disease, found in the dead room by Dr. Kœberlé,* of Strasbourg, eight referred

* "Des Fongosités de la Cavité Utérine." Goldschmidt Thèse. Strasbourg: 1859.

to women passed forty-five, the ages being thirty-two, thirty-eight, forty, forty-five, forty-eight, fifty-two, sixty-two, sixty-two, sixty-five, sixty-five, and seventy-six. Dr. H. F. Campbell* has reported two interesting cases similar to some of mine, in which the filling of the womb with a milky fetid fluid was unattended by inflammatory symptoms. Since the publication of my last edition, I am more and more convinced of the importance of suspended involution in uterine pathology at the change, and subsequently. I have already mentioned, that suspended involution of the body of the womb aggravates its morbid tendencies, and prevents their cure, but further mischief depends on the fact, that uterine involution does not always progress *pari passu*, in the body and in the cervix, that the body of the womb may be still large and distended by secretions, which find a difficult egress through the strictured canal of an involuted cervix. The cervical canal is sometimes completely obliterated, so that the accumulated fluid cannot escape. In such cases the patient may suffer little or not at all, except at intervals of a few months, or longer; she then has a bearing-down sensation of fulness above the pubis, the womb is sometimes felt to be greatly enlarged, and it is the chief seat of pain. The forcing pains may at last succeed in ejecting mucus or a red serous fluid, and in one of Dr. Campbell's cases, although he removed eight ounces of a thick milky fetid fluid, there still remained more of it in the womb. I stated in my last edition, that it was obviously the surgeon's duty in such cases to cut short the patient's sufferings by sounding the womb, and that it might be necessary to keep the cervix distended by sponge tents, until the walls of the uterus have contracted sufficiently to prevent a fresh accumulation, and by following this advice, Dr. Campbell completely cured a married lady, aged fifty-eight.

It is then evident, that although the obliteration of the cervical canal frequently occurs after the ménopause, without the slightest impairment of health, it may coincide with a diseased state of an enlarged uterine mucous membrane, in

* "American Gynæcological Transactions," vol. iv. 1880.

which case its secretions will accumulate, the womb may then swell, and decrease, to enlarge again, after a few months, with more or less pelvic pain, nausea, and disturbance of the general health. In some of these cases I have not felt justified in re-establishing the permeability of the cervical canal, and under the influence of rest, purgatives, and liniments to the hypogastric region, the fluid collected in the womb was absorbed, and the patients have passed many years without presenting signs of any similar recurrence. Dr. Bennet never adopted any other plan of treatment in such cases, and the extent to which uterine secretion may be absorbed is shown in a patient of Scanzoni, aged fifty-seven, whose uterus rose two inches above the pubis, and subsided to the level of the pubis, after the application of nitrate of silver to the cervix, and the use of astringent vaginal injections. I think, however, this plan led to a fatal termination in a lady who consulted me when about sixty. I had to remove from the os uteri, two small polypi, and as there was ulceration, on an hypertrophied cervix, I applied potassa fusa cum calce. The ménopause had long passed, so I did not think it worth while to take steps to prevent the closure of the os uteri. The patient enjoyed fair health for many years, after which she suffered in the way I have described, about every six months. When seventy-four, and fourteen years after the little operation, she was seized with acute pelvic peritonitis, with great pain and sickness, and died in a few days. There was no post-mortem examination, and as there was no intestinal disturbance, I cannot help thinking there was a rupture of the womb and effusion of the uterine contents into the peritoneum, as in a case related by Duparque, in which, ten years after the ménopause, a patient died in the midst of severe pain, and on opening the body, a large quantity of blood was found in the peritoneum, which had evidently come from the distended womb, for there was a rent in the fundus, while the cervix was cartilaginous, and its canal obliterated. In other instances, the obliteration of the cervical canal has been observed in connection with an enlarged womb containing a caseous-looking fluid, and some of the cases described as hydrometra have no other origin.

From all this it is clear to me, that it will be right in a similar case, to follow Dr. Campbell's example. Finding an enlarged womb and an obliterated cervical canal, in a maiden lady of fifty-five, he boldly cut through the centre of the cervix, by means of a small tenotomy knife, till he gave issue to eight ounces of fetid milky fluid; and he kept the passage open by tents; worn out however by previous suffering,the patient died of fever and exhaustion.

Dr. Matthews Duncan treated his cases, by injecting into the womb a solution of nitrate of silver, through a hollow probe, or a double current syringe, but I have not obtained good results by so doing, and supposing life to be endangered by excessive purulent discharge, which I have never observed, I would rather fully dilate the cervix, bring down the womb, and swab its internal surface with fuming nitric acid. The same treatment is the best for the rare cases of dangerous flooding in old women, which cannot be checked by the intra-uterine injection of tincture of iodine, or by a solution of the tincture of subsulphate of iron. When the womb is found to be much too large after the ménopause, attempts should be made to reduce it, for even if it be free from disease, it is a standing menace to the future health of a woman, particularly for some years subsequent to the ménopause, during which the womb is still more or less subject to congestion, without efficient means of relief, and it may be useful in such a case to take from the arm eight or ten ounces of blood. Some say that bromide of potash cures defective involution, but I have repeatedly detected this condition, in women to whom I had given large doses of this salt for a long time. Astringent vaginal injections have seemed to me of service; also the alternate exhibition of iron and strychnia in combination with ergotine.

The previous cases enable us to understand the transformation of the womb into a calcareous shell. In nine out of the eighteen cases collected by the elder Louis,* cessation had

* "Mémoires de l'Académie de Chirurgie," published before the first French Revolution.

taken place, and the age of the others was not mentioned. His 14th case relates to a woman who was very subject to violent hysterical fits when forty, and their subsidence coincided with the discovery of a hard tumour behind the pubis, which never gave rise to any untoward symptoms. After cessation, she was troubled, for twenty years, with hæmorrhoids, which sometimes bled, and she died at last of consumption. The womb had become a calcareous sack, containing an inodorous, caseous looking fluid; its shell was four lines thick, and so hard that a hammer was required to break it.

Uterine Deviations.—My position is, that uterine deviations are, as a rule, only troublesome on account of the ovarian and uterine irritation or inflammation by which they are caused and accompanied. Now cessation often extinguishes or abates ever recurring ovarian irritation and a more or less permanent state of uterine congestion, so patients suffer less, or not at all, from uterine versions and flections, although they remain the same as before for some years after cessation. This is an experiment on a large scale made by Nature to show the absurdity of making uterine malposition the keystone of uterine pathology. I have detected many well-marked cases of anteversion and retroversion after cessation, which did not in the least inconvenience the patients; and, on the other hand, I have many patients who, for many years before the ménopause, suffered much from the displaced womb being diseased, and who are now leading a very active life, although the uterine displacement is as great as ever it was. Uterine prolapsus is, however, not uncommon, and may be aggravated by a fact, insisted on by Kiwisch, that the womb is less powerfully supported by a weaker and shorter vagina, and is no longer padded by the fat, which, in youth, abundantly lines the pudenda, a state of the parts which accounts for the occasional coincidence of prolapsus of both the womb and the rectum in old women.

I have seen procidentia uteri occur for the first time at the age of forty-nine, in a single lady living in affluence, which could only be ascribed to forcing pains, frequent though by

no means severe, occurring during the dodging time. A dispensary patient, aged sixty-five, suffered as much from prolapsed womb after, as before cessation, which occurred at forty-eight; she consulted me for flooding, the consequence of a contusion of the prolapsed womb on being knocked down in Holborn. A Mrs. M. has had several children and miscarriages, but never uterine prolapsus till the sixty-ninth year of her age, when it was brought on by a severe attack of diarrhœa. Uterine prolapsus must not be assumed without a digital examination.

Case 53.—Vaginal Prolapse.—The wife of a clergyman, who never had children, and who had suffered a good deal, some ten years previous, from chronic uterine inflammation, and a constitutional liability to relaxed mucous membranes, the bowels sometimes coming down, was about fifty, and after the ménopause, she wrote to say she suffered much from the womb coming down. I sent her a moderate size oval boxwood pessary, but she could not bear it, and astringent injections did not relieve the great pain and distress she felt in walking. When she was able to come to town, I found the womb high up and the vagina rather capacious, and nothing to explain the symptoms complained of. I then told her to come to me after having walked, and when she felt at her worst, and I found a fold of the vagina descending half an inch below the labia. A perinæal pad, attached to a firm hypogastric belt, has enabled this lady to get about very comfortably, for the last nine years, and she takes off the bandage when dressing for dinner, after a hard day's parish work. About twelve years afterwards, there was vaginitis, pelvic distress, and bearing-down pain, and without examining the patient, a medical man introduced a ring pessary, which greatly aggravated her sufferings. He was going to introduce a Zwanke pessary if, on examination, I had not found the womb high placed and quite involuted .There was rectocele, and internal piles to account for abdominal neuralgia, but the vagina was not in the least involuted, although there had been no menstruation for ten years.

Uterine Polypi.—They obscure the limitations of the

menstrual period, retard cessation, complicate its diagnosis, and are as frequent at the change of life, as in previous periods. This will be shown by the following table, which embodies Dupuytren's experience, and likewise proves the little frequency of polypi after cessation. A uterine polypus was first noticed in:—

1	woman	from the age of	15 to 20
10	„	„	20 „ 29
19	„	„	30 „ 39
23	„	„	40 „ 49
3	„	„	50 „ 59
1	„	„	60 and above.
57			

Uterine Fibrous Tumours.—Braun, Chiari, Malgaigne, Sir James Paget, and Dr. West, establish the fact that between forty and fifty, uterine fibrous tumours are generally fatal; and I believe that most of these fibrous tumours originated from thirty to forty, though they may have only become apparent at the change of life. Fibrous tumours retard cessation, and render the occurrence of flooding more frequent. A patient, now fifty-four, in whom a large fibrous tumour began at thirty-three; has ever since, had regular menstrual periods, though extremely painful, and she then passes a large quantity of blood, looking like treacle. After cessation the tumour may diminish, provided the change of life has not given it increased impetus. S. A., tall, thin, with dark hair, aged fifty-one. The menstrual flow came at twelve, being quite regular but scanty, and she married at twenty-one, but never conceived. The menstrual flow continued regular until forty-three, when a fright brought on flooding; the abdomen then swelled, and she was thought pregnant. Flooding continued more or less for eight years, but it never interfered with her appetite, and only lately with her strength. The os uteri was enlarged, being otherwise healthy, while a large, flattened, fibrous tumour was easily detected lying across the abdomen. It may be well to

mention, that Dr. Bernutz has seen two cases of hæmatocele at the change of life, which were mistaken for fibrous tumours, and in a case of my own, what I took to be hæmatocele, turned out to be a fibroid coming down very low. At the Salpétrière, fibrous bodies of the womb are frequently found covered with cretaceous deposits, and fibroids are sometimes found changed into calcareous concretions, which can be enucleated from the uterine walls. I have twice seen a marked diminution of fibrous tumours to coincide with the internal exhibition of syrup of iodide of iron and iodide of potassium, in drachm doses, twice a day, while the iodide of potassium ointment was used externally. I was younger then, and would now rather seek relief in peritoneal surgery, or meet symptoms as they arise.

Fibroid Degenerescence of the Womb.—Of the five cases related in my "Handbook of Uterine Therapeutics," in one, cessation took place seven years ago, and the womb, which used to be larger than an ostrich egg, is now decidedly smaller, and is unattended by any pelvic symptom whatever, which may depend on the lady being healthy, and having a large pelvis well lined by fat.

Uterine Hydatids.—I have only seen one case at forty-eight, which simulated cessation; but Dr. Ashley and Dr. More Madden think the complaint most frequent at the change of life.

Fatty Degeneration of the Womb.—Two cases have been lately recorded in which the muscular tissue of the womb was in a state of fatty degeneration, at fifty and fifty-three years of age.

Cancer of the Womb.—From forty to fifty is the "cancerous age" of woman's life, for the Registrar-General's Report shows, that previous to thirty years of age, cancer is uncommon, both sexes being then equally liable to it; that between thirty and sixty cancer is very common, chiefly among women, and that the relative number of deaths from it, in women and men is—

From 30 to 40 as 19 to 6; from 40 to 50 as 51 to 6; from 50 to 60 as 5 to 1.

Out of 1,200 cases extracted by Dr. Walshe from the Registrar-General's returns, 321 referred to males, 879 to females, and only fifty out of the 1,200 occurred before thirty years of age. Leroy d'Etiolles found, that out of 2,781 cases of cancer, collected from French authors, the disease occurred 1,227 times in women above forty years of age, and 1,061 times in those who had passed sixty. The womb was affected with cancer in 30 per cent. of these cases, and the breast in 24 per cent. The statistics of Bayle, Boivin, and Lever, confirm the general belief that the cancer of the womb is most frequent from forty to fifty; and Dr. West has lately shown that out of 426 cases recently collected by Lebert, Kiwisch, Scanzoni, Chiari, and himself, 178 occurred from forty to fifty, and 122 from thirty to forty. The same fact results from the following table, published by Tanchou, *Gaz. des Hôp.*, 1838.

TABLE XXX.

Age of 2,568 *Women dying from Disease of the Sexual Organs in the Département de la Seine, from* 1830 *to* 1835.

Age.	Disease of Sexual Organ.	Cancer.	Remarks.
Before 20	25		
From 20 to 30	442	86	Maximum of inflammatory affections.
„ 30 „ 40	279	212	
„ 40 „ 50	137	402	Maximum of cancer.
„ 50 „ 60	70	363	
„ 60 „ 70	60	242	
„ 70 „ 80	42	147	
„ 80 „ 90	13	58	

The influence of cessation on the march of cancer of the womb is evident, sometimes cessation coincides with the first manifestation of uterine cancer, as in six out of Lebert's

eighteen cases, and in twenty-seven out of fifty-three of my own. More frequently it gives activity to cancer of the womb that had previously remained undetected, and it is most common then for cancer to progress insidiously and to remain undiscovered until its work of destruction is far advanced, so Duparque and Saucerotte were right in saying, that however frequent cancer may be at the change of life, it often originated before. If the average duration of uterine cancer be about sixteen months, as stated by Lebert and Dr. West, and if, as I have shown, the average duration of the dodging time is three years, then the coincidence between the change of life and the development of cancer becomes obvious. Sir C. M. Clarke considered the corroding ulcer of the womb peculiar to the change of life. With regard to treatment, I cannot enter into its consideration, and I can only say, that it may be better to narcotize a patient by means of the hypodermic injection of a solution of morphia, than to leave her a prey to agonizing pains. When the womb, rectum, and bladder, are united into a foul cloaca, cold water irrigations promote cleanliness, assuage pain, and sometimes induce sleep.

Mammary Irritation and Swelling.—This is only noted in fourteen out of my 500 cases, though no doubt it was much more frequent. The breasts are swollen and painful, the nipples sore, and sometimes distil a milky or a glutinous fluid. Friction, pressure, or moving the arm, increases the sufferings, which may be appeased by constitutional treatment, by an atropia liniment, and by cotton-wool applied to the breasts. Spontaneous ecchymosis sometimes marks the breasts at this period, and Dr. Semple has published a case in which a bloody discharge from the nipples continued, every month, for five years after cessation. I attend a lady who for more than a year after the change of life had a painless exudation of a considerable quantity of red serum, lasting for several days, every three weeks. Velpeau thought neuralgia of the breast, as well as its neuromatic tumours, were most frequent at the change of life. Some liniment

or ointment containing sulphate of atropia is the best application in such cases.

Non-malignant Mammary Tumours.—Velpeau attributed them to diseased menstruation at puberty, and to the change of life, or to pregnancy, and diseases of the womb; and says truly that, after cessation, they cease to increase and often diminish, so their extirpation should not be determined upon too soon. Gardanne relates two cases in which the mammary tumour appeared at cessation, and was cured by leeches. My two cases yielded in a few weeks to leeches and applications of iodide of lead ointment. Mr. Erichsen finds unilocular cysts of the breast to be most frequent from forty-five to fifty.

Velpeau united in the following table 281 cases of hypertrophy, cysts, small interlobular fibroids, and adenoid tumours of the breast, and found that they were said to have originated at the following ages:—

Up to 30	76
30 „ 40	64
40 „ 50	80
50 „ 60	19
60 „ 80	31
Age not noted	11
	281

Cancer.—Galen noticed, that cancer of the breast was frequent at the change of life, Sir James Paget has shown, that it occurs most frequently from forty-five to fifty years of age, and Dr. Gross observes that during the change of life, when the lacteal glands are disappearing, and the connective and adipose tissues are becoming abundant, myxoma and all kinds of cancer make their appearance. According to this distinguished surgeon, the differential diagnosis of the varieties of carcinoma may be determined by attention to their contrasts and affinities, as are set forth in the subjoined table:—

TABLE XXXI.

Mammary Tumours compared.

	Scirrhous.	Medullary.	Colloid.	Atrophying.
Average age . . .	48 years	50 years	45 years	47 years
Consistence . .	Never soft	Soft in 66 p.c.	Partly soft in 7·69 p.c.	Never soft
Veins prominent .	2·08 p.c.	9·09 „	23·07 p.c.	0 p.c.
Nipple retracted .	52 „	33·33 „	30·72 „	100 „
„ discharging	9 „	0 „	15·38 „	0 „
Glands infected .	64·23 „	59·02 „	23·07 „	52·94 „
Skin adherent . .	34·54 „	52·92 „	23·07 „	58·82 „
Nodules in skin .	10·61 „	5·88 „	7·69 „	17·64 „
Ulceration . . .	23·77 „	18·18 „	15·38 „	41·17 „
Fixation to chest .	21·58 „	29·41 „	15·38 „	35·29 „
Nodules in pectoral muscle	7·06 „	11·76 „	15·38 „	57·14 „
Both mammæ . .	3·65 „	9·09 „	15·38 „	5·88 „

Diseases of the Kidneys.—The forty-nine cases in which women were, for a few months, habitually subject to an increased amount of the urinary salts, are rather to be considered as instances of a critical evacuation from the blood than as proofs of diseased action, and the same applies to *Hæmaturia*, a rare disease, which has been observed by Chouffe, Menville, and Dusourd.

The following case of inflammation of the pelvis and calices of the kidneys is instructive :—

Case 54.—Pyelitis.—The wife of a physician, who was born, and had passed the first fifteen years of her life in India, enjoyed excellent health until the change of life, which unfortunately coincided with the sudden loss of a sister and an unusually cold spring. The result of which was a sluggish liver, dyspepsia, pains in the bladder, dysuria, and abundant deposits in the urine. As this condition did not abate, the husband consulted an eminent surgeon, who tested the urine by nitric acid, and said the patient was suffering from albuminuria. This diagnosis was unfortunately told her, for she knew that albuminuria meant confirmed ill-health, so she

made her will, settled the distribution of her trinkets, and kept her husband without sleep for two nights. This suggested to him the advisability of consulting Dr. Owen Rees, who examined the urine with the microscope, and found there was pus in the urine, which he attributed to a renal calculus. Two months of careful dieting, Vals water, and rest, removed pus from the urine, as well as all symptoms of disease, and as there never was either persistent pain or paroxysms of pain in the region of the kidneys; as there was no bloody urine, and as no calculus was ever passed, may be there was merely inflammation of the pelvis and calices of the kidneys. Towards the following autumn the patient had a relapse, and derived benefit from passing the winter, in the south of France.

Tumour of the Meatus Urinarius.—I have met with seven cases of erectile tumour of the meatus urinarius, at the change of life, and out of Mr. B. Norman's fifteen cases, eleven occurred in women during, or after that time of life. Four of my seven cases came under treatment after the ménopause, and in a case that I attended with Dr. Bennet, the tumour, successfully treated by him several years before the change, returned after the ménopause, and was so very hard that we thought it preferable to cut it away. At the time of the operation there was very little bleeding; but when, the next morning, it became necessary to draw off the urine I found it largely mixed with blood, and as this continued to occur during the following days, I came to the conclusion that the blood had all the while been oozing from the wounded urethra into the bladder. At all events, one application of the undiluted perchloride of iron, to the cut surface, prevented any subsequent mixture of blood with urine. Diseases of the bladder and urethra so much more frequently afflict men, from the fortieth to the sixtieth year, than they do women of the same age, that this may be viewed as compensating favourably for the many other diseases to which women are specially liable.

Vesical and Urinary Disturbance.—Nothing is so

common as pain or difficulty in passing urine, as a symptom of something wrong with the pelvic organs, and sometimes no cause can be found for very distressing disturbance; but the cause was plain in the following cases.

Case 55.—Trifold Spasm.—I was lately consulted by a tall, stout, florid, and nervous lady of forty-eight. Menstruation came at thirteen, was not regularized by marriage at twenty-three, and she often flooded but never conceived. There was much nursing and worry at forty-five, and since then she is seldom without either a red or an inoffensive watery discharge. About every three months during the last two years, the womb is said to become the seat of pain, that no remedies can quell. This pain contracts the cervix so as to prevent the menstrual flow, contracts also the neck of the bladder and causes obstinate constipation. After a time, comes flooding and then the water passes, the bowels are moved, and the patient soon recovers the loss of blood. There had been frequent flushes for the last few weeks, and health was good. My finger could just reach and circumscribe the small rounded body of the womb, behind the pubis, and the speculum revealed a small healthy virgin cervix. I considered the case as one of internal metritis, with just the kind of periodical aggravations to be expected, in a nervous woman at the change of life. The patient was leaving town, so I did not use the uterine bougie, and I ordered astringent injections and mineral acids, and on the coming of the attack, large linseed-meal poultices sprinkled with laudanum to the abdomen, belladonna suppositories, either in the rectum or in the vagina, and an hypodermic injection of morphia, if that was not sufficient to solve the spasm. Extract of henbane in pills is the best internal remedy for dysuria, but whenever the pains of micturition are very severe, it is best to resort to the rapid dilatation of the urethra, which has been found useful, even when cancer was attended by this distressing symptom.

Case 56.—Cystitis and Vaginitis.—A maiden lady, aged forty-nine, lately consulted me. She had been suffering for

seven years from abdominal pain, and micturition had been difficult and frequent, and as during the same time, the menstrual flow had been irregular and scanty, the troubles were accounted for by the change of life, and the case had not been examined into. Her general health was good, although sleep was much interfered with, by her having to get up ten or twelve times a night. The pain came repeatedly in the course of the twenty-four hours, was referred to the bladder, and after lasting some time, it was always followed by forcing pains, and then she passed with difficulty with the urine, mucus, pus, and bladder epithelium, like bits of soddened leather. With the idea of diminishing the quantity of urine and the pain of passing it, this patient had refrained from drinking, thereby concentrating the urine and making it more irritating, so I insisted on her taking two tumblers of Vals water as well as two of linseed tea. I found a corrugated state of the labia which soon yielded to a zinc lotion, the whole of the vaginal tract was inflamed, the discharge therefrom abundant, and the womb congested, but all this soon yielded to cooling injections. There was also occasional diarrhœa with much mucus. The cystitis gradually abated by means of prolonged hip baths, and large hot linseed-meal poultices sprinkled with laudanum morning and night, and large doses of sesquicarbonate of iron. A month after beginning this treatment she had only to get up three times in the night, she was soon able to leave town, and by continuing the treatment she gradually recovered her health.

CHAPTER X.

DISEASES OF THE GASTRO-INTESTINAL ORGANS.

TABLE XXXII.

Liability to Diseases of the Gastro-intestinal Organs in 500 *Women.*

Monthly toothache and swollen gums	1
Water-brash	5
Hæmatemesis	4
Repeated vomiting of mucus	31
Jaundice	6
Confirmed biliousness, induced or increased	55
Dyspepsia	37
Monthly dyspepsia	1
Obstinate constipation	23
Frequent diarrhœa	45
Monthly diarrhœa	5
Entorrhagia	20
Monthly entorrhagia for six months	2
Inflammation of the rectum	6
Blind piles	62
Bleeding piles	24
Piles bleeding every month	1
Abdomen enlarged by fat and flatus	26
Total	354

This table means, that 354 kinds of gastro-intestinal suffering were noted at the change of life, in 500 women, many of the 354, presenting several kinds of gastro-intestinal disturbance, and the practical bearing of the table is the great liability to biliousness, dyspepsia, diarrhœa, and piles. Later

in life the tendency diminishes, and digestion improves, there is also less tendency to lose blood by the bowels; piles cease to bleed, and generally subside in advanced life.

Biliary and Dyspeptic Affections.—The liability to derangements of the biliary apparatus at this period, has been noted by Burns, Gendrin, Meissner, Otterburg, and Aran; by Sir C. Mansfield Clarke, Sir J. Simpson, and Dr. Evory Kennedy. Hepatitis and jaundice have been observed by Gardanne, and Sir H. Halford mentions having seen abscess of the liver at cessation. The late Dr. B. Lane's observations on the coincidence of the derangement of the functions of the liver with the change of life, are true to Nature:—"Nothing can be more common than to find severe biliary derangement occurring at, or about the period of menstrual cessation; and, looking at the great physiological change which then takes place in connection with hepatic development, it is naturally to be expected. A woman will complain of being bilious—there may be a bitter taste in the mouth, a burning in the throat, frontal headache, nausea, and even vomiting, the urine high-coloured, the bile abounding in the alvine dejections, and perhaps causing heat and a stinging sensation in the rectum, the tongue furred, a biliary tinge pervading the cutaneous surface."

The worst cases of disease at the change of life for which I am consulted, have been ascribed to a torpid condition of the liver by other medical men; and though the preceding table shows clearly how liable women are to sickness, dyspepsia, and biliousness at this epoch, it gives no idea of the obstinacy of the biliary symptoms in many of these cases. Thus, P. K. was a strongly-built woman, of a sanguine temperament, in whom the menstrual flow had been irregular for the previous eight months; till then she had enjoyed good health, but ever since I found it difficult to set right the gastro-intestinal functions by purgatives, alteratives, and tonics, nor could I improve the appearance of the tongue, which was permanently coated with a yellow fur. A tall, stout, florid-looking lady, ceased to menstruate at forty-five, and for the

following three years, she had frequent attacks of biliousness, always accompanied by a stinging of the skin, which was "*pointillé*," with red dots, but presented no rash.

Case 57.—Jaundice.—Mrs. W. is a tall, stout lady, with dark hair, forty-nine years of age, and the mother of thirteen children. The menstrual flow appeared at twelve, and continued regular until it ceased suddenly at forty-seven. Six weeks afterwards the skin became yellow, and she suffered considerably in the region of the liver. She was soon cured, but there was a return of jaundice every three or four months. This lady is habitually low-spirited, and so drowsy that she can neither read nor work during the day, and is restless at night. She has often flushes and chills, but no perspirations. After diminishing the size of the engorged liver, and curing the actual attack of jaundice by blue pill and alkalies, the question was, how to prevent that congestion of the liver which had returned with a certain kind of periodicity, since the sudden cessation of menstruation. I gave blue pill and alkalies for a week every month, and I established a free determination of blood to the skin, so that it might diminish the congestion of the internal organs, by warm baths, prolonged for two hours every other day, and daily scruple doses of the comp. sulphur powder. I advised 6 oz. of blood to be taken from the arm every third or fourth month, as might be otherwise indicated. Gentle perspirations soon showed that the blood currents were steadily setting in a right direction, health returned, and there was no jaundice for the following three years. The same plan of treatment succeeded equally well in the following case:—

Case 58.—Repeated Jaundice at Cessation.—Mrs. H., a robust lady, with a bilious look, consulted me in June, 1854, being then fifty-five. The menstrual flow came at fifteen, and continued regular until she was forty-eight, when it ceased suddenly. She was then troubled for six months with piles, which bled freely every six or eight weeks. When the piles ceased bleeding, her skin became yellow, and the liver was found extending several inches below the edge of

the false ribs. She has had several slight fits of jaundice, and her motions are often black, offensive, and "burn" the passage, and it should be observed, that neither this nor the previous patient had ever been habitually bilious before cessation. The cause of long-continued biliousness at the change of life, is the congestion of the portal system, no longer relieved by the menstrual flow, so that the liver is overworked. I have even seen jaundice occur in young women, from the sudden suppression of the menstrual flow, and have then noticed a persistent loss of appetite for months, notwithstanding the administration of alteratives and tonics. It must also be noted that when uterine diseases occur at the change of life, they are more frequently attended by biliary derangement, and sometimes by the secretion of an enormous quantity of bile.

Treatment.—If women are plethoric, and if the menstrual flow had been abundant, and its cessation sudden, eight ounces of blood should be taken from the arm, to diminish the plethora of the portal system, which partly causes the greater intestinal derangement of this period. The frequency and tenacity of biliary and dyspeptic affections, explain why purgatives have been considered the principal medicines then required; but they should be given systematically. There has been an attempt to prove that mercury does not promote the flow of bile, but I submit, that experiments made on healthy dogs, do not apply to diseased men and women. It is a matter of daily experiment to find, that while various purgatives repeatedly taken, bring away no bile, one dose of calomel will cause yellow, burning bile to pass in the motions, and I find calomel and blue pill to be indispensable for the treatment of diseases of the liver at the change of life. It often happens, that the free action of the bowels cannot be obtained, without giving the pill at night and a black draught in the morning, according to good old English fashion. The only tonics that should be given while the liver is engorged, are the diluted mineral acids, taken alone, or in some slightly bitter infusion, three times

a day, before meals, and immediately after them, fifteen drops of liq. potassæ, in a wineglass of water, and one or two effervescing draughts, with citric acid and carbonate of soda and potash, should be also taken during the day. They may be flavoured with syrup of ginger, or syrup of orange-peel, or by ten to fifteen drops of chloric ether. Instead of porter and port wine, Vichy, Vals, or Seltzer water should be given, with a small quantity of light wine, if this be advisable. Prolonged tepid baths are useful, and it should be carefully explained to the patient, that the best treatment will be ineffectual, if she continues to eat and to drink as much as she can. The late Dr. Wright attributed great efficacy to hydrochlorate of ammonia, which he gave in a mixture with hydrochloric acid. I have seen cases which resisted all treatment cured by a course of mineral waters at Vichy, or at Homburg, or Kissingen; the action of the waters being admirably assisted by early hours, plain diet, and the complete change of all the associations of life.

Vomiting.—This is very uncommon after the ménopause, but I have known it as a troublesome accompaniment of the menstrual periods, during the change. This symptom generally yields to morphia, a twelfth or a sixth of a grain of the acetate being given in an effervescing draught, and repeated until sleep be induced. A patient, who for years had suffered from vomiting at the menstrual periods, was always relieved by less than half a grain of the acetate, while two grains taken in the twenty-four hours, did not always quell the vomiting of another. One patient had no other symptom at cessation than water-brash, which recurred every month for eight months. Hufeland and Menville note the liability of women to hæmatemesis, which occurred in four of my cases.

Diarrhœa.—It has been noted as habitual at this period, by Gendrin, B. de Boismont, and Chambon. It may constitute the only symptom of cessation, and should always be considered a critical discharge, and Portal saw anasarca brought on by its suppression by active remedies. The advan-

tages and dangers of diarrhœa at the change of life are well shown in the following cases.

Case 59.—Chronic Diarrhœa.—A tall, stout, and florid lady, aged fifty-seven, showed an hæmorrhagic tendency by an abundant menstrual flow, a liability to dysentery, and by numerous confinements having always been accompanied by flooding. When fifty, this lady met with family misfortunes, flooding ensued, the menstrual flow ceased to be regular, occurring, as a mere show, after any nervous excitement. Soon after fifty, she suffered from erysipelas in the head; and owing to this, to cessation, and to mental shock, she remained long in a very nervous state. Ever since the ménopause, for the last four years, this patient has had three or four motions, every day, without pain or any debilitating effects, the appetite and digestion continuing excellent. The increased mucous flow from the intestines sufficiently relieved the constitution, for the health remained good, and it would have been wrong to have restrained this state of relaxation.

Case 60.—Diarrhœa aggravated by Cessation.—Sarah C. is a thin, nervous, chlorotic-looking single woman, of forty-seven. The menstrual flow appeared at fourteen, and continued regular until six months back, when it became very irregular. Flushes, perspirations, nervousness, and irritability were then troublesome, and twice during this period she has had to leave her place on account of diarrhœa. She states, that ever since the menstrual flow first appeared, she has always had three motions a day, and always more at menstrual periods. Until lately, however, this state of the bowels never interfered with her health or appetite, but six motions a day completely incapacitated her for work, although they were unattended by pain. After moderating the diarrhœa by blue pill and chalk mixture, I prescribed my usual remedies with success.

Dr. Cockerton, of Montgomery, consulted me respecting a lady, aged fifty-three, who, during the dodging time, suffered from dysentery, then flooding, and, on its subsidence, from great relaxation of the bowels, with racking pains in the

lower part of the abdomen, which occurred regularly every morning, and were evidently connected with uterine disease. I have met with women who, in advanced age, had several semi-fluid motions in the course of the day, without suffering in the least, and Dr. Day has met with similar cases. On the other hand, Chambon has seen the constitution thoroughly shattered by diarrhœa at the change of life.

Case 61.—Periodical Entorrhagia.—Miss M., thin, nervous, and chlorotic, consulted me in 1853; being then forty-eight. The menstrual flow appeared at fifteen, and was usually regular. After varying in quantity for a year, the flow suddenly ceased two years ago, after a succession of frights, which thoroughly shook her nervous system. Health, good until cessation, has been bad ever since, and she is often troubled with cough, leucorrhœa, and loss of power in the lower limbs. She has become unusually nervous, feels, at times, as if she were going into fits, has strange sensations in the head, as "if she had taken something to make her silly." This nervous state is peculiarly marked every three months, when she menstruates by the bowels for about six days. Several times a day she feels great pain at the lower part of the abdomen, anal tenesmus, and then she passes a small quantity of blood and mucus. This has occurred for the last two years, during which there have been no flushes nor perspirations. In this case, Nature actually did for two years, what I sometimes recommend, which is to take a small quantity of blood from the system. I gave her the comp. camphor mixture before meals, and the carbonate of soda after, 3 grs. of blue pill, with 2 of ext. of hyoscyamus, on alternate nights, and a warm bath for an hour, every other day. This quieted the nervous symptoms, and a week before the time for the passing of blood by the bowels, I had 4 oz. of blood taken from the arm, which prevented intestinal hæmorrhage. I then advised the mixture and carb. of soda to be taken as before, and so much of sulphur and borax as would ensure a comfortable action of the bowels. In a few weeks gentle perspirations had become habitual, and afforded great relief. I had another 4 oz. of

blood taken from this patient, she also took the syrup of citrate of quinia and iron for two months, and became comparatively strong.

Case 62.—Repeated Entorrhagia and Hæmoptysis.—Miss G., aged forty-nine, a tall, delicate-looking lady, consulted me in 1852. The menstrual flow appeared at sixteen, and it had given no trouble until two years ago, when it sometimes missed for two or three months, was sometimes scanty, at others amounted to a flooding. After shivering and griping pains, this patient has occasionally passed considerable quantities of blood and mucus from the bowels, and once a large quantity of blood came from the lungs. For the last year since cessation, the passing of blood from the bowels has been the same, and notwithstanding continuous flushes and perspirations, she is very nervous, feels as if some one were sitting at the pit of the stomach, has choking sensations never before experienced, is very low-spirited, has crying fits, and though sleeping pretty well at night, could sleep all day. What, however, the patient most complains of is, frequent recurrence of pain at the lower part of the abdomen, and for the last few nights the legs, the pudenda, and the seat, are much swollen. This led me to anticipate a recurrence of the entorrhagia, so I ordered a hot linseed poultice to the lower part of the abdomen at night, and an ounce of castor oil to be taken in the morning. She passed "blood and corruption," that day, and continued to do so, with a great deal of griping for five days, after which all the abdominal suffering vanished. This patient had never less than three motions a day all through her life, the menstrual periods always ending with five or six motions a day; this being the case, it is easy to understand, that after cessation, the system should seek relief by the intestinal surface. With a view of remedying this state, I ordered the co. camphor mixture before, and the carbonate of soda after meals, 3 grs. of blue pill, 1 of ext. of gentian, and 1 of ext. of hyoscyamus, every other night; 10 grs. of Dover's powder every other night; a belladonna plaster to be applied every week to the pit of the stomach, and warm baths to be taken for an hour

on the alternate nights. This treatment was continued with considerable advantage for a month, when the baths and plasters were omitted, and the pills were only taken occasionally. Two months after I first saw the patient, I had 4 oz. of blood taken from the arm, and this was repeated three months later. Some years after, when I saw her, she was well, and neither the hæmorrhage nor the menstrual flow had returned.

Constipation.—This was observed in twenty-three cases, and yielded to the continued use of mild but varied purgatives. In some cases the patients suffered severely from colics, as was the case with Mrs. T., aged forty-seven; the menstrual flow coming at fifteen, had left gradually at forty-five. Ever since cessation she has been constipated, instead of relaxed, as before; and during the last year she has been troubled every two or three weeks with colic, flatulence, and she sometimes vomited. These symptoms coming on every night with great severity, I prescribed pills containing 1 grain of ext. of opium and 2 of comp. ext. of colocynth. Two pills every night were at first required to lull the pain, and then one sufficed. This plan of treatment was effectual, and the bowels were afterwards kept moderately open by the habitual use of sulphur.

Hæmorrhoids.—Gardanne has mentioned the case of a lady, in whom cessation occurred at forty-eight; she lost every month a large quantity of blood from piles until she was seventy-five; and suffered from evident signs of plethora until the evacuation took place. Stahl has seen similar cases, and Menville gives one, in which, for ten years after cessation, hæmorrhoids occurred monthly. Gendrin and B. de Boismont have likewise noticed continuous or intermittent hæmorrhoidal fluxes at cessation, and the table which heads this chapter shows the frequency of piles. The hæmorrhoidal discharges, the diarrhœa, the biliary affections of the change of life, all arise from one common cause, the unrelieved plethora of the portal system; and when we bear in mind, that the organs of reproduction, as well as the

intestines, are principally innervated by ganglionic nerves, that the spinal nerves of the womb and the intestines arise from the same part of the spinal cord, that the veins of the uterus communicate mediately with the portal system, and that the last portions of both canals are contiguous, it is not surprising, that when the uterine discharge is arrested, the nervous energy and the sanguineous current which used thereby to find vent, should flow to the intestinal surface.

Treatment.—Although critical, the hæmorrhoidal flow does not effectually relieve, and is so disagreeable, that it should not be permitted to endure longer than can be helped, and in most cases it can be remedied by following my general rules of treatment. The occasional removal of 6 oz. of blood from the arm is clearly indicated, so is the compound sulphur powder, so useful in hæmorrhoidal affections, and rectal sedative injections to allay the local irritation, which continually draws the blood within its morbid circle of attraction. Cooling and astringent lotions and ointments to the hæmorrhoidal tumours are most useful, and it is best to wash after every evacuation.

Inflammation of the Rectum.—Women sometimes feel great heat, weight, and tenesmus in the rectum, even when there be no internal piles, nor ulceration nor fissure. There may be a difficulty of passing water, and a sensation as if a foreign body were in the vagina. With repose and cooling lotions, these symptoms generally abate; though intractable cases will sometimes occur like the following, which is a remarkable instance of severe suffering caused by the change of life.

Case 63.—Inflammation of the Rectum.—Charlotte O., aged forty-four, the wife of a plumber in good circumstances, is a short, average-sized woman, with brown hair, flushed, puffy, and damp face, downcast eyes, and looks drowsy, as if she had been drinking, although it was not so. The menstrual flow appeared at eighteen; and soon after its appearance, she suddenly felt something shoot through the ears, and her neck became stiff. She has never since been

able to turn her head freely; and when she tries to do so, she feels something crack. The menstrual flow came regularly, but a fright would cause it to appear at any time. She married at twenty-three, and seven months afterwards, she flooded, losing much blood for three months; since then the catamenia often lasted for three weeks, and were accompanied by a difficulty of passing water. She never conceived, and has had no serious illness until lately. Although happily married she has become more nervous, more excitable, without ever having had any hysterical attacks. For the last seven years she has been frequently troubled by uneasy sensations "of fulness and rawness" at the pit of the stomach, the weight of the bedclothes annoying her. The menstrual flow has been irregular for the last eight months, coming every two or three months, and twice she has flooded. Since then, she has been more subject to headaches, and to pain at the nape of the neck. She is often light-headed, giddy, forgetful; and so drowsy, that she is obliged to lie down, to doze a little. She is more sensitive to all stimuli, starts at the least noise, sometimes gets out of bed to stop the ticking of the clock, and cannot bear the sound of conversation. Her nights are bad; and of late, three or four times a week, she is awoke suddenly as if by the ringing of a bell in her ears, then she faints off, and it often takes her husband half an hour to bring her to her senses. When the menstrual flow stopped a year ago, the epigastric sensations, the flushes, and the sweats were very frequent. There was pain on micturition, and passing stools, and always more or less leucorrhœa, with bearing-down pains. I found a healthy womb, there was no fistula or fissure or piles, but the sphincter and rectum were hot, painful, and contracted. The case was a tedious one, but she gradually recovered after ceasing to menstruate at forty-seven. What best relieved the rectum, was a full injection with hot water every morning for a fortnight, followed by the injection of 2 drachms of tincture of henbane, with 2 grains of acetate of lead in 2 ounces of water.

Treatment.—When women complain of heat in the rectum, with the habitual oozing of a little mucus, or pus, or blood, the frequent fomenting of the anus with very hot water, warm hip-baths, and rest should be tried for a few weeks; but if these measures give little relief, the patient should be put on her left side, the left limb fully extended, the right flexed, with the knee as near as possible to the patient's chin. The mucous membrane can then be everted, while the patient strains, and some ulcer or fissure may be brought to view, or internal piles. I repeat, that in such cases alvine evacuations should be followed by washing, and there should be a pot of vaseline in the water-closet.

Permanently Swelled Abdomen.—This condition, at the change of life, is generally to be accounted for by an increased deposit of fat in the omentum and in the abdominal walls, a physiological condition treated of at page 66. Sometimes the swelling is principally caused by distressing flatulent distension of the bowels, without diarrhœa or constipation. I have known this to recur every month for several years after cessation, lasting two or three days, and yielding to carminatives, tonics, to such measures as insured the gentle action of the bowels, and to the wearing of a well-made belt.

CHAPTER XI.

DISEASES OF THE SKIN AT THE CHANGE OF LIFE.

TABLE XXXIII.

Morbid Liabilities of the Skin at the Change of Life in 500 *Women.*

Flushes	287
Dry flushes	14
Legs and feet burning, and very painful	2
Hands painfully hot	3
Distressing aching under the finger nails	2
Peeling off of the nails	4
Falling off of all the finger nails	1
Perspirations	201
Monthly ditto	2
Cold ditto	13
Sweats	89
Undetermined cutaneous eruptions	18
Nettle-rash	5
Erysipelas	4
Eczema brought on by the change	3
„ increased	2
Ecchymosis	3
Shingles	1
Herpes circinatus	1
Prurigo	3
Pruritus, or itching without apparent lesion	5
Carried forward	663

Brought forward	663
Œdematous face	3
Œdematous legs	16
Monthly swelling of legs, for three days, during a year	1
Inflammation of legs, and painful distension of their superficial veins	3
Varicose veins induced	1
„ „ aggravated	1
Ulcerated leg	7
Boils in seat, and in the pudenda	3
Abscess in fingers	2
„ armpits	2
„ neck	2
„ groin	1
Total	705

Thus, 500 women divided 705 modes of slight or severe cutaneous suffering at this epoch, many suffering in various ways at the same time. The liability to cutaneous disease passes off in after-life; and though flushes and perspirations may occasionally occur long after cessation, they are no longer a source of great annoyance. Prurigo and eczema may continue to be troublesome to women in advanced age.

The affections under consideration, may be registered under three heads, flushes, sweats, and cutaneous affections. I shall be brief on the last, but I shall devote a few lines to the pathological import of the flushes and sweats of the change of life, referring the reader to p. 58 for further details.

Flushes.—This is the popular name, and I adopt it, because it is short and expressive. "Hot blooms," is another expression, which faithfully indicates what really occurs. Flushes are mentioned by nosologists under the name of *ardor volaticus*, or *fugax*. Romberg classes them among the cutaneous hyperæsthesiæ, and notices their greatest frequency at the change of life. Flushes are increased to a painful extent by emotion, nervous shock, external heat, over-

clothing, hot rooms, hot drinks, and over-feeding, by the checking of diarrhœa or of leucorrhœa. Many feel so faint under their influence, that they must have air, or they would swoon. M. C. could drop down from weakness, when the flushes came on.

Dry heats are morbid flushes, and they torment a patient without the subsequent relief of perspiration. The cheeks are not the only parts susceptible of burning sensations, for some patients complain most of the burning of the legs and feet; warm water applications were more useful than cold to abate the annoyance, and at night, they slept with their feet out of bed. Three others complained of similar sufferings in their hands, and of aching under the finger nails. The flushes are sometimes preceded by chilly sensations, and some women tremble with cold, and remain, for many months, habitually chilly, notwithstanding the flushing of the face. One patient continued in this state for seven years; she had slight flushes without perspiration, was very nervous, and often fainted. Others feel so cold that they approach the fire, then reaction soon comes on, and they fly to the window. In such cases, the perspirations will be cold and clammy, denoting debility, and congestion of internal organs. When the flushes are anomalous, they are often preceded by ganglionic dysæsthesia; strange sensations, which have been said to resemble "pulses, like a live animal throbbing in the stomach," or "the fluttering of a bird;" sensations which diminish on the appearance of perspiration. Some women are living furnaces, they insist on all doors and windows being left open in winter, and woe betide delicate women doomed to live with them.

Sweats.—Perspiration was carried to a morbid extent in seventy-nine out of 500 women, who often complained of heavy perspirations. They were constantly wiping the sweat off the face, their hair was often wet, they were obliged to change their linen twice a day, and although slightly covered, their bedclothes were soaked. Gardanne, Chambon, and B. de Boismont, notice the occurrence of sweats at this

period, but the little importance attached to them is shown by the fact, that in an elaborate article, with a host of references, on idiopathic sweating, J. Frank merely quoted Tissot's having observed it at the change of life. It would seem that sweating ought to be more beneficial than perspiration, but Sanctorius wisely remarks—"That perspiration which is beneficial, and most clears the body of superfluous matter, is not what pours off as sweat, but that insensible steam or vapour which in winter exhales to about the quantity of fifty ounces in the space of one natural day." "Sweat is always from some violent cause; and it hinders the insensible exhalation of the digested perspirable matter." The intensity of the force which impels the sweat from the skin is shown, not only by the length of time it may last, but by its often resisting all the attempts made by women to diminish or suppress it. Some wear less clothing, take cold drinks, place themselves in draughts, but still the impulse is stronger than their efforts, they cannot check perspiration, although they may bring on rheumatism. In general, it is some internal focus of active congestion which checks perspiration, or renders it cold and clammy. When this occurs, great debility is felt, with an increase of epigastric pain or of pseudo-narcotism; which, as Dusourd remarks, is often relieved by perspiration. It is very strange that these sweats are sometimes prolonged for months, without weakening women, or preventing their becoming fat, though flabby. Nervous and chlorotic women are liable to cold clammy perspiration, like that coming from the blanched skin of those who vomit or are in syncope; a passive permeability of the skin, determined by loss of nervous power. Some describe with energy their sufferings in winter nights, when bathed in perspiration, they are afraid of turning, lest they should be chilled by the damp cold, and have given me their warmest thanks for suggesting that a long, thin flannel dress be worn over the night-gown, and that they should lie on a horse-hair or a spring mattress, instead of a feather bed. Local perspirations are not uncommon in very nervous women.

One patient for two years after cessation, had drenching sweats from the thorax, and she also had a frequent discharge of clear mucus from the nipples. After that, she was much troubled for six years, by flushes and perspiration from face and head on the slightest flurry, but now she suffers little in this way. Sweating from the epigastric region is the most common of localized sweats, and I have observed two cases of sweating from one side of the face only. The patients resemble the animals in whom Bernhard severed the sympathetic on one side of the neck only, and the patients under whose skin Straus injected pilocarpin on one side of the face only. These experiments and my cases go far to prove that there are local nervous centres of sudation. Blood is the fuel of interstitial and molecular combustion which keeps alive the continuous heat of the body. The superabundance of blood is sometimes the cause of the superabundant heat, and therefore of the perspirations, as shown by the case related by J. Frank, of a man who became subject to excessive perspirations after the suppression of an abundant hæmorrhoidal discharge. Diminish the mass of blood by taking three or four ounces from the arm at three to four months' interval, and the sweats diminish. The irritability of the nervous system, upon which they likewise depend, should be relieved by the sedative preparations already recommended. Tepid baths are very useful, prolonged for an hour at least, and Tissot recommends them highly. The saline matters, which are otherwise removed by perspiration, must be directed to the kidneys, by giving the salines, as already indicated, the acidulated and effervescing drinks, with small doses of nitrate or acetate of potash. I cannot too strongly recommend mineral acids for those who suffer much from heats and sweating, for they tone the nerves as well as cool the blood. Testimony runs in favour of sulphuric acid, thus Pereira bears witness to the sedative action of sulphuric acid in distressing tingling of the skin; Hufeland gave Haller's acid elixir, which is a mixture of one part of sulphuric acid in volume, with three parts of spirits of wine; Germans also give Mynsicht's elixir

in which sulphuric acid and alcohol are associated with aromatics. I order from 10 to 20 drops of the diluted acid, to be taken in a wineglassful of cold water, three times a day, or else the acidum sulphuricum aromaticum of the British Pharmacopœia, but these remedies require time, and a patient whose cheeks burn repeatedly in the course of the day, wants something to give immediate relief. Then a lotion of 1 ounce of cherry-laurel to 5 of elder-flower water, may be tried, or water in which camphor has been allowed to float, or vinegar and water, or water containing 1 or 2 ounces of camphorated vinegar to the pint. Chomel advised treating hot flushed cheeks by a kind of steam douche, and I have found it useful to do so, two or three times a day; in the same way, burning feet and hands are soothed by soaking them in hot water. Rubbing the hands with belladonna liniment has been recommended to abate their sweating. Some patients have derived great benefit from using, as a powder puff, one of the following powders :—

Flush Powder, No. 1.		Flush Powder, No. 2.	
Carmine . . .	½ gr. or less.	Carmine . . .	½ gr. or less.
Nitrate of bismuth .	℥j.	Camphor	℥ss.
Camphor.	℥ss.	Oxide of zinc . . .	℥j.
Oil of bitter almonds .	gtt. ij.	Otto of roses . . .	gtt. j.
Starch	℥ij.	Starch	℥ij

For the drenching sweats of phthisis and rheumatic fever, Dr. Bouveret thinks best to give sulphate of atropia in pills, beginning with one 150th of a grain, in each pill; he gives two of these pills at two hours' interval, and continues this dose for six days, and he states the only inconvenience felt by the patient to be slight dryness of the throat. The same plan can be tried when the sweats are too abundant at the change. On the other hand, I have often noticed a marked abatement of nervous symptoms on the spontaneous breaking out of perspiration, and I have successfully imitated Nature, sometimes by letting the patient sit, wrapped in a blanket, on a common cane-chair, under which a lighted

spirit-lamp is placed, when in ten or fifteen minutes, the skin perspires profusely, oftener by giving liquor ammoniæ acetatis and ether in large doses. I have often succeeded in keeping up gentle action of the skin by small doses of sulphur. Now we appear to have a most powerful sudorific in pilocarpin, for Straus has brought on general sweating by the subcutaneous injection of pilocarpin in the epigastric region, but I have no personal experience of what promises to be of good service.

Cutaneous Affections.—Out of 500 women, forty-one had some form of cutaneous disease, but I have certainly found eczema much more frequent than this represents, and the same remark applies to prurigo, which is often very troublesome at this epoch. Dusourd and B. de Boismont say that lupus is frequent, but it has not occurred in my practice. Herpetic affections, long forgotten, may then reappear, thus B. de Boismont, Gendrin, Gardanne, and myself have witnessed the recurrence of erysipelas at this period, and a case is cited by Tissot of erysipelas of the face occurring fifteen times, during the first two years after cessation, less frequently in the two following years, and only once during the fifth year. Sir Erasmus Wilson and Dr. Lieving inform me, that they do not consider women more liable to cutaneous diseases at the change, than at any other time; they admit, however, that when such diseases do arise, they are peculiarly obstinate, prurigo and eczema being the most frequent. On the other hand, Dr. Balmanno Squire, operating on 5,000 cases of cutaneous diseases, found skin disease to be much more common at puberty and at the change. Harvey has frequently seen eczematous eruption of the auricle, and behind the ear, begin at the change of life, last for many years, and resist all treatment, until at last it disappeared by a spontaneous effort of Nature, and this has occurred several times in my own practice. Hunt found the change of life to be often followed by acne rosacea, lichen in the face or elsewhere, prurigo, and especially prurigo pudendi. He thought, that chronic, scaly affections of the

skin, such as lepra and psoriasis, which had commenced before this critical period, were unaffected by it, and that cutaneous affections seldom disappeared spontaneously at this epoch. A patient of mine had never had the slightest rash before the ménopause, whereas nettle-rash appeared four times in the year which followed cessation. M. B., aged fifty, first menstruated between her eighteenth and nineteenth years, with little previous disturbance, and continued regular until twenty, when she married. She had nine children, the last when forty-four. At forty-eight, she had several floodings, but without much increase of pains in the head. The catamenia ceased at forty-nine; this was followed by no disturbance of health, except three months after, by a severe attack of nettle-rash, on the chest and body, which disappeared on the proper medicines being administered. It recurred twice at irregular periods, and she consulted me about a fourth, well-marked attack of the disease, on the lower part of the body and the thighs. Alibert observed some cutaneous eruptions to appear twice only in life, once before first menstruation, and again at its cessation, and like Gardanne, I have twice known both epochs to be preceded by an abundant eruption of boils. That form of lupus which attacks the vulva, and was confounded with cancer, until clearly distinguished by Huguier, comes on as frequently at the change of life as at any other period, but not after cessation. Amongst the poor, ulceration of the leg is a frequent complaint at this epoch. Œdematous legs I have frequently noticed, and I have had two cases of varicose veins occurring then for the first time. For the local treatment of prurigo, eczema, and other cutaneous affections of the pudenda, I refer to p. 235. I again bear witness to the admirable effects produced upon cutaneous affections by the external and internal exhibition of the mineral waters of Harrogate, Aix-en-Savoie, Aix-la-Chapelle.

CHAPTER XII.

OTHER AFFECTIONS OCCURRING AT THE CHANGE OF LIFE.

TABLE XXXIV.

Liability of 500 Women to other Affections at the Change of Life.

Gout	3
Rheumatic fever	3
Rheumatic joints	7
Hypertrophy of the heart	1
Subacute peritonitis	1
Ascites	1
Consumption, aggravated	3
Bronchitis, aggravated	4
Asthma, aggravated	1
Hæmoptysis	6
Ruptured varicose veins	3
Epistaxis	9
Chronic otorrhœa	1
Total	43

Gout.—According to Hippocrates, women are not subject to gout until after cessation; but he alluded to Grecian women living in retirement. When women lead the life of men, they become liable to their disorders; and therefore Seneca was justified in saying of the women of a corrupt age, that they were liable to gout "ob varii generis debachationes." As far as my experience goes, women are little subject to gout, but like Chomel and Ferrus I have observed it once at puberty, seldom when menstruation was fully established, in three cases during the dodging time, and most frequently after the ménopause, when it often assumes an

anomalous form, as noticed by Dr. Gairdner. It has been already stated, that gout sometimes keeps up vaginitis.

The following table, from the Registrar-General's Reports, throws light on this subject:—

TABLE XXXV.

Relative Mortality from Gout in both Sexes at successive Periods.

Ages.	Males.	Females.	Ages.	Males.	Females.
5	...	11	30 to 40	541	121
5 to 10			40 „ 50	732	291
10 „ 15	...	212	50 „ 60	1148	152
15 „ 20	67		60 „ 70	458	103
20 „ 30	168	56	70 „ 80	186	
			Total	3300	946

This shows that women are most liable to gout at puberty and at the change of life; but before the menstrual flow is regularly established, gout assumes an anomalous character, being accompanied by singular nervous symptoms, of which I have seen a remarkable instance. At the change of life, and after cessation, this disease may follow its usual course, and Trousseau has observed that hysterical symptoms may be cut short by an attack of gout. It is curious to note that up to fifteen, no seeds of gout have been evolved in the male sex, whereas many had grown up in the female, and that while in man, the liability to gout goes on increasing from fifteen to sixty, in women, puberty sweeps away the tendency, for there is no gout from fifteen to twenty, though after that age, when the body has attained its full size, gout becomes most frequent beween forty and fifty, and out of the 946 cases, 667 occured from thirty to seventy.

On the first sign of gout, after cessation, wine should be left off, and meat be only taken once a day. Rich living is sure to bring on gout, and marrying at that time has been known to aggravate the complaint.

Rheumatism.—I have never seen a case of acute articular rheumatism, after cessation, and Fuller only met with seven such cases, after fifty, out of 289 cases, and Macleod one only,

after fifty-five, out of 199 cases of that disease in women. Chronic rheumatic affections of the joints are very frequent, partly caused by the habitual dampness of skin so often mentioned, and by the sense of heat, that prompts to the removal of clothes and to exposure to cold. This may account for the fact, that in the bills of mortality, many more women than men are said to die of chronic rheumatism from fifty to sixty.

Pr. Charcot claims to have shown that *le rhumatisme nerveux* is less common among men than women, and that it is most frequent from twenty to thirty, as well as from forty to sixty. The rheumatic swelling of the little joints to which Heberden drew attention has been noticed after cessation.

Ascites.—I have seen only two cases of this affection at the change of life, but I have very frequently observed the pitting, on pressure, of both the lower limbs at this period. On referring to the Registrar-General's Reports, I find that more women, than men, die of dropsy from forty to fifty, in the proportion of nine to five; and from fifty to sixty, in the proportion of fourteen to six. Portal and Gardanne have stated, that women were subject to dropsical effusions of an obstinate nature at the change of life. Breschet, relates the case of a lady in whom menstruation came at thirteen, and ceased at forty-eight, though the characteristic phenomena of cessation only appeared at fifty-four; such as debility, flushes, vertigo, headache. At fifty-five, after a fit of anger, the whole body swelled considerably, except the arms. There was fever, furred tongue, headache, oppression, and sediments in the urine. Twelve days after this, eighteen leeches were applied to the anus, and the swelling diminished; on the eighteenth day an emetic was given, and on the twenty-eighth all signs of effusion had disappeared. This case brings to my recollection, that of a gentleman, aged twenty-five, a man of habitual good health, who was standing at the altar, about to be married, when some one stepped forward to forbid the ceremony. On his return home his legs swelled, and ascites appeared, the urine was found albuminous, and in a few months the patient died.

Consumption.—On consulting those who can speak authoritatively on pulmonary disorders, I find them of my opinion, that the morbid influence of the change of life on consumption is slight. If consumption is fatal at this period, it has previously existed under a latent form, as in the only three cases, in which I have seen the disease aggravated by the ménopause. Dubois also mentions that two ladies, who were saved from phthisis, by the regular establishment of the menstrual flow, fell victims to the complaint, at the change of life, without any other apparent cause. B. de Boismont says, that in ten cases, he has been spectator of the rapid progress, at this epoch, of cases of consumption, which had long been stationary. More recently, Dr. Emmett, of New York, has stated that dysmenorrhœa, by causing the early cessation of menstruation, is a frequent cause of phthisis in comparatively young women; but this assertion does not accord with my own observation.

Bronchitis.—In four of my cases, habitual bronchitis dated from the change of life, and seemed to have been caused by it; and Bordeu has noted similar cases.

Hæmoptysis.—This occurred to eight patients, and was evidently the result of the change of life arresting an habitual hæmorrhage. Bordeu has also observed cessation to be followed by monthly attacks of congestion of the lungs, and by more or less spitting of blood.

Heart-disease.—My experience coincides with that of Dr. Quain, for out of my 500 cases, there was only one instance of hypertrophy with morbid sounds in a woman, aged sixty, and she presented the only instance of *arcus senilis*. I have, however, met with many cases of fatty degeneration of the heart during the last ten years, and rupture of the heart was the cause of death in one case.

Epistaxis.—This critical effort of Nature has been known to proceed to an alarming extent; I have seen women subject to it for, from three to five years after cessation, but never to any great extent. Menville gives a case wherein slight epistaxis occurred repeatedly until the dodging time, when it became very abundant until the ménopause.

Ruptured Varicose Veins.—Stahl has observed this to occur at cessation. I have seen it in three instances, and I have repeatedly been told, that after cessation the legs had swelled and were frequently hard, hot, and red, that the veins of the thigh and leg had enlarged, and that the capillaries of the skin had become greatly injected.

Hypertrophy of the Thyroid Gland.—In three patients, during the last few years, I have seen cessation followed by an increase of the thyroid gland, to about treble its usual size. All three patients had long suffered from chronic uterine disease; two got well under the influence of iodine externally applied and taken internally.

Otorrhœa.—I have noticed this complaint to come on periodically at menstrual periods, and the fact did not escape Mr. Harvey's notice. M. S., aged fifty-two, suffered much from otorrhœa, for two years previous to the first menstrual flow, very little from it while menstruation continued regular, but it returned with renewed pertinacity some months before cessation.

Spinal Deviation.—B. de Boismont has related two cases in which very extensive deviation immediately followed the change of life, but in all probability a certain amount of deviation had occurred at puberty, and had remained stationary until the ménopause; for I have known this to happen as the result of acute internal metritis which caused so much pelvic pain, that the patient could not lie flat, and slept in a sitting posture for many weeks.

Ptyalism.—Abundant and long-continued salivation has been mentioned by Bouchut as a symptom of cessation, but I have only noticed it to occur at that time, as a symptom of very severe attacks of cerebral neuralgia.

Myxœdema.—A singular state of the subcutaneous cellular tissue, due to an overgrowth of the mucine that holds together the white fibrils of the skin, has been thus called by Dr. Ord, and cretinoid condition of the skin, by Sir W. Gull. The disease seems to be most frequently met with from forty to sixty, but it is so rare that I have never observed it.

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OPINIONS OF THE PRESS.

"Le livre du Dr. Tilt a son originalité, et devrait être signalé à ceux qui ne considèrent pas la pathologie des âges comme un hors-d'œuvre à l'usage des médecins littérateurs. Le traité *l'âge critique* est rempli de données intéressantes; l'auteur, qui s'est spécialement occupé des maladies des femmes, et qui a publié sur ce sujet des travaux estimés, y apportait une solide expérience; il avait le mérite de parler d'après sa pratique et de ne pas seulement rajeunir par une phraséologie nouvelle des citations d'un autre temps. En somme, on aurait peine à trouver sur le même sujet une monographie qui valut celle sur laquelle nous venons d'appeler l'attention. Une preuve entre autres que le livre est d'un vrai mérite c'est qu'il éveille dans le lecteur le désir de le reprendre en sous-œuvre, de vérifier ce qui parait juste, de contrôler par une nouvelle étude ce qui semble moins admissible, et surtout de tenir meilleur compte des phénomènes de *l'âge critique* dans l'observation de tous les jours."—*Archives Générales de Médecine*, October, 1858.

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