is the acetate of ammonia, freshly prepared. To this may usefully be added a sedative, as Battley's solution, and sometimes digitalis or aconite. At a later stage, hamamelys, ergot, quinine, mineral acids, and bark, in decoction, or the liquor cinchonæ may be given; and later still iron. The best preparations are the citrate, acetate, or chloroxide of iron, given in an effervescent form, or dialyzed iron. The doses at first should be small, so as to feel the way. Strict rest must be maintained, so as to economize to the utmost the feeble powers of the system. To promote this, sedatives to procure sleep are often of signal service. If opium can be borne, as it often is, it may be given with the saline, or separately, in the solid form, as the compound opium pill, in 5-grain doses, or as Dover's powder, in 10-grain doses. If it is not borne, we have a precious resource in chloral, which may be given in scruple doses. Since active hemorrhage may induce a severe degree of anæmia, with consequent tendency to thrombosis in the iliac, femoral, or subclavian veins, great care is necessary to avoid exposure to cold or other disturbing causes.

Alcohol in the form of wine, or spirits, will at times act as an efficient sedative, as well as a stimulant. But stimulation, or "keeping the patient up," is often overdone. Stimulants must be given watchfully, and with discretion. Taken largely, they disturb the balance of the stomach, provoke vomiting, excite the circulation unduly, and may even maintain or cause a return of the hemorrhage.

Light, easily assimilable nourishment should be given in small quantities, at short intervals.

THE SIGNIFICANCE OF NERVOUS PHENOMENA, INCLUDING THE VARIETIES OF PAIN.

It may be stated, as a general law, that pain referred to a particular part or organ is presumptive evidence of disorder, structural or functional, of that part or organ. Of course, in some cases, the disorder is only secondary or consequential upon disorder in some other part. Thus, one form of headache is the consequence of disordered stomach, and is cured by correcting the condition of the digestive organs. Pain in one part may be the reflex response to distress in another part. Of this we see repeated examples in the history of ovarian and uterine disease. Pain in the dorsal, lumbar, and sacral parts of the spine is a frequent phenomenon in connection with uterine disease. It is often the predominant symptom. The spinal pain may be so severe and enduring that it attracts the chief attention; and, unless the rule of interrogating all the functions be carefully followed, it is easy to fall into the snare of regarding the case as one of spinal irritation, vertebral disease, or simply hysteria. If this error be committed the patient will probably be doomed to a long course of mechanical or medicinal treatment, under which the general health may break down, the original disease pursuing its course all the while.

Attempts well deserving consideration have been made by observing the seat of the pains complained of, and interpreting by the knowledge of the sources and distribution of the nerves supplying the pelvic organs,

to diagnose with something like precision the nature and seat of the pelvic disease.

There are certain facts which are so frequent in their recurrence and association as to lend weight to this method of analysis. But, like all other methods of clinical research conducted upon one line, it is exceedingly apt to lead astray. It is useful as a means, but not as the only means. We want help from every quarter.

Pain, in association with ovarian and uterine disease, is referred, first, to the region of the ovary or uterus itself; secondly, chiefly to the sacral, or lumbar, or lumbo-sacral region; thirdly, to the hips, thighs, and down the legs. In many cases pains may be said to radiate from the pelvis as a centre in various directions, as to the back, abdomen, and thighs.

Pain in an organ, arising during or aggravated by the performance of its functions, is especially presumptive evidence of structural disorder of that organ. This is true of pain during menstruation, and of pain in the performance of the sexual act. This part of the subject will be discussed more particularly under the heads "Dysmenorrhœa" and "Dyspareunia."

Pain described as in one or other inguinal region or rather deeper, is often referred to the ovary, and is taken as evidence of ovaritis, or of ovarian irritation. But in the great majority of instances this presumed ovarian pain is the signal of sub-acute or chronic inflammation of the neck of the uterus. This has been insisted upon by Dr. Henry Bennet. I find this pain so frequent in connection with disease of the neck of the uterus, there being no perceptible concurrent disease of the ovary, that I hesitate in every case to regard it as due to ovarian disease until I have examined by touch the ovaries themselves, as well as the uterus. If under touch we make out that the ovaries are swollen, and exhibit increased tenderness, we get the required confirmation as to the implication of these organs. I have several times obtained experimental proof of pain in the ovary being due to uterine disease. Touching the os uteri has caused pain referred to the region of the ovary.

By those who do not examine at all either uterus or vagina, except by external palpation, this ovarian pain is often called "ovarian irritation," or "ovaritis;" and to subdue it leeches, blisters, or irritating ointments are resorted to. This so-called "ovarian irritation," however, does not deserve to be ranked as a morbid entity demanding special treatment. There may indeed be irritation of the ovary; but then there must be something to irritate it. It is this something we should search for. And this something, in the majority of cases, has its seat not in the ovary itself, but in the uterus. The pain is more frequent in the left ovary than in the right. Pain referred to the uterus itself, intensified under touch, is often attributed to "irritable uterus," and this vague expression is sometimes accepted as a satisfactory diagnosis. Now, as in the case of "ovarian irritation," logic and clinical observation compel to the conclusion that since the uterus shows signs of being irritated, there is an irritating cause, which it is our business to find out.

Another expression which is often adopted as a conventional substitute for precise diagnosis is "neuralgia of the uterus," or "hysteralgia." These terms really mean nothing more than "pain in the uterus."

The same remark applies to "mastodynia," "the irritable breast," or "neuralgia of the breast." Pain in the breast may, indeed, be the expression of disease in that organ, and therefore justify direct examination. But pain in the breast is a frequent attendant upon dysmenorrhœa. It may be simply reflex or sympathetic, pointing to functional or organic disease of the uterus or ovaries. And where examination detects no hardness or swelling in the breast, pain in it, "neuralgia," may be taken as an indication for exploring the pelvic organs.

If, then, we consent to retain the terms "irritable uterus" and "hysteralgia," "mastodynia," it must be because they have, by long prescription, established for themselves a kind of footing in nosology ; and not because they embody pathological entities.

Neuralgia of distant parts, as of the face or breast, is often, if not strictly symptomatic, certainly consequent upon uterine and ovarian disease. This dependence is often quite overlooked by physicians who devote special attention to neuropathy. Neuralgia, studied apart from its antecedents, is apt to assume much of the importance attached to an idiopathic or essential disease ; and being treated accordingly, it persists rebellious against all the artillery of the Pharmacopœia. The following is the chronological history of a large proportion of the cases of neuralgia in women. Uterine disease, attended by hemorrhagic and leucorrhœal discharges, saps the general strength, degrades the quality of the blood ; then all the organs, especially those concerned in digestion and assimilation, being badly nourished, perform their functions imperfectly. Concurrently with this general impairment of nutrition, the nervous centres suffer ; these centres become extremely susceptible to the exhausting influence of pain—and pain is constantly proceeding from the uterine disease. Thus the tone of the nervous centres is constantly being worn down, and preparation is made for every kind of irregular or aberrant nervous action. The nerves of the face, breast, and limbs become keenly sensitive to external impressions of cold, and to what are called the sympathetic impressions brought from internal organs. Neuralgia is the culmination of all this. To cure it we cannot depend upon quinine, morphia, actea, alteratives, the hot iron, or division of the nerve ; we must trace the disorder back to its source, and by curing the uterine disease, arrest the primary cause of the blood-degradation and nervous wear and tear. This done, constitutional correctives and tonics will act beneficially, and we may reasonably expect the neuralgia to disappear.

The history of a vast number of cases of "hysteria" is exactly the same. In short, hysteria is commonly one phase of aberrant nervous action, the result of nervous exhaustion from disease and mal-nutrition.

Pains referred to the uterus, and described as "expulsive," "bearing-down," likened to colic, generally indicate *retention* of fluid, or solid matter, in the uterine cavity. This explains the chief part of the pain of dysmenorrhœa, though, no doubt, the ovaries, by their direct participation in the trouble of menstruation, and by the reflected distress from the uterus, contribute to the suffering. "Bearing-down pains" are also significant of uterine prolapsus, or retroversion.

Pain referred to the uterine region, causing the patient to bend the body forward, is often found in connection with sub-acute metritis and

sub-involution of the uterus after labor. Pain in the lumbo-sacral region of a dull wearing character, attended with more or less impairment of the use of the legs, is frequently associated with retroversion and retroflexion of the uterus. The presumption that this displacement exists will be increased, if there is dyschezia and habitual constipation. The pain is probably not due so much to direct pressure of the body of the uterus, even when enlarged, upon the sacral nerves, as upon the indirect pressure occasioned by the accumulation of hardened fæces in the rectum.

Pains extending down the legs, especially if attended with sensation of numbness and a degree of motor paralysis, is presumptive evidence of pressure upon the sacral plexus and other nerves in the pelvis. This presumption acquires greater force if there be attendant œdema of the feet and legs, indicating pressure upon the pelvic and abdominal veins.

Pain and irritability of the bladder frequently attend anteversion of the uterus, or pressure from the uterus enlarged by fibroid, or the advance of cancer. It may also, of course, be the consequence of disease of the bladder or urethra.

Pains in either side of the pelvis, described as of a dragging character, and attended often with lumbo-sacral aching, is a frequent consequence of prolapsus. It is, in all probability, due to stretching of the uterine ligaments.

A pain, described as "throbbing," and attended with a sense of fulness, often precedes the onset of the menstrual flow, especially in women who, from the presence of tumors or other disease in the uterus, are subject to metrorrhagia.

A valuable presumptive test of the dependence of pain upon local diseases, especially inflammation or displacement, is the production or aggravation of it, after exertion and fatigue.

In some cases pain is relieved by walking or by the erect posture, and is aggravated by the sitting or recumbent postures. Where there is uterine disease, attended by inflammatory action or enlargement, the pain is usually aggravated in a remarkable degree by the kneeling posture.

Various reflex pains in distant parts are often associated with uterine and ovarian disease. The dorsal, lumbar, and sacral pains have been already referred to. Other instances are the occipital headache, the left hypochondriac stitch or pain, and pains in the breasts.

Pain, described as "pricking," "stabbing," "shooting," usually persistent, is commonly considered to be pathognomonic of cancer. In the advanced stages of malignant disease pain of this kind is not unusual. But it is by no means constant. Its presence cannot be accepted as proof of malignant disease, nor can its absence be accepted as proof of the absence of malignant disease. Physical examination alone can solve this question. Pain must be taken as an indication for examining.

Pains in one side of the body, attended with sensations of numbness and pricking, or tingling in the arm, and especially of the leg of the affected side, constituting what might be called pseudo-paralysis, are not uncommon at the climacteric age. They do not indicate ovarian or uterine disease, although the two conditions are frequently associated.

THE SIGNIFICANCE OF NEURALGIA; SPINAL IRRITATION; PARAPLEGIA; OTHER FORMS OF PARALYSIS; MENTAL DISORDER; VOMITING; CONVULSION; EPILEPSY; HYSTERIA.

Apart from pain, the significance of other nervous phenomena in relation to intra-pelvic disorder is often very great. These phenomena may be classed in this connection under the following heads. Signs of depression and exhaustion, mental or bodily, or commonly both, the result of continuing or recurrent pain, and changes of nutrition; nervous disorder, the evidence of toxæmia, resulting from the absorption or retention of noxious matter in the blood: sympathetic phenomena; reflex phenomena, mostly of a convulsive character, as vomiting, epilepsy, hysteria; central, as cerebral or spinal; irregular or aberrant nervous manifestations. The nervous phenomena, more especially associated with particular intra-pelvic conditions, will be described in their proper connections. In this place it will, however, be useful to point out concisely the chief indications furnished by the nervous accompaniments.

The significance of *Neuralgia* and *Spinal Irritation* has already been discussed.

Dr. Little, who has studied "spinal disease" in the broad clinical spirit, recognizes a class of cases in which the spinal affection is distinctly traced to disease of the uterus or of the rectum.

Paraplegia.—In some peculiar cases spinal irritation or weakness of the spine is associated with such loss of power over both legs that walking is all but impossible. Such a condition is chiefly observed after labor. We may conjecture that the first condition is one of shock or exhaustion of the nervous force attendant upon the labor; and undoubtedly there are cases where we fail to detect such persistent intra-pelvic disorder as could account for the nervous depression. But in the majority of cases, imperfect involution, catarrh, hemorrhages, and, most frequent of all, retroversion or retroflexion of the uterus will be found. When these are relieved, it is sometimes astonishing to see how quickly the paraplegia disappears.

The *reflex nervous phenomena, as vomiting, convulsion*, are amongst the most striking attendants upon some cases of ovario-uterine disease. The vomiting of early pregnancy, the eclampsia associated with albuminuria of advanced pregnancy, link the physiology to the pathology of menstruation. The conditions of menstruation present close analogy to those of pregnancy. They throw a strong light upon each other. When vomiting recurs every morning, dating from suspension of menstruation, the first conjecture is of course in favor of pregnancy. The diagnosis of pregnancy will be discussed in a subsequent chapter. Here, it may be pointed out, that in many cases of dysmenorrhœa, vomiting is a reflex symptom; that in other cases it is a sign of uterine disease or displacement. Sometimes vomiting is relieved by simply giving the uterus the support afforded by a Hodge-pessary. In other cases vomiting is the outcome of nervous exhaustion and degraded blood.

Epilepsy in numerous instances is associated with menstrual difficulty. When this dire disease occurs in young women, and especially if it has resisted ordinary means, the physical state of the ovaries and uterus should be investigated. The key to many nervous affections, more especially those of a convulsive character, will be found in the exalted nervous and vascular tension attending the menstrual nisus as well as pregnancy. It is a factor that must never be left out of account. I have discussed this with some care in my Lumleian Lectures.[1]

A remarkable feature of the neurotic affections of women is their *mimetic* aspect. This is most remarkable in the nervous phenomena of the climacteric stage of life. The term "pseudo" has been attached to some of the simulated conditions in order to express this, and also no doubt to evade the difficulty of giving a more accurate description. *Paralysis* in all its forms is often simulated, and sometimes so closely as to throw the physician off the true scent. Mental aberrations are common; and not seldom the patient dreads the issue in insanity. Sometimes, indeed, the transition is realized; the border-line is passed. But I am entitled to affirm from observation that a due and timely appreciation of the underlying associated conditions of the ovario-uterine system will often enable us to control these nervous aberrations within the limits of health; and in not a few cases to bring the subjects back within the line of reason which had been overstepped.

A similar argument will apply to that condition, or indefinite class of conditions, to which the vague term of *hysteria* is applied.

Much more might be said upon this theme. But these sections may be fitly closed with the two following clinical rules: 1. We must carefully bear in mind that any of the described nervous phenomena may depend upon or exist in association with disorders of the cerebro-spinal, thoracic, or abdominal organs.

2. That where they depend upon, or are influenced by, disorders of the ovaries and uterus, special symptoms of distress in these organs will rarely be wanting to furnish indications for local exploration, and to verify or to exclude this complication.

THE SIGNIFICANCE OF "DYSPAREUNIA," INCLUDING "VAGINISMUS."

I have ventured to introduce the term "dyspareunia" as a convenient and concise description of an affection which is often the immediate occasion of great physical and mental suffering, which is apt to entail the most serious disruptions of conjugal relations, and which is almost always a symptom of some morbid condition that admits of more or less successful treatment.

There is no disturbance of function, no subjective symptom which more imparatively dictates resort to physical exploration than difficulty or pain in the performance of the sexual function. In the great majority of cases dyspareunia depends upon some local imperfection or disease. In many instances it is not safe to neglect the warning which this symptom gives of something wrong; in many this neglect condemns the subject to the keenest agony—agony not the less hard to bear because affection or other motives too often induce her to conceal it.

[1] "On the Convulsive Diseases of Women," delivered before the Royal College of Physicians, 1875.

The causes of dyspareunia may be classed under the congenital and the acquired.

Under *congenital conditions are ranged* absence or imperfection of the vagina or vulva; a dense unyielding hymen; too short a vagina, the uterus being set too low in the pelvis, so that the os uteri is within an inch or a little more of the vulva; undue length of the vaginal portion, or its projection as a conical mass into the vagina. I amputated by the galvano-caustic wire, a redundant vaginal portion, the cause of intolerable dyspareunia, with complete relief. In the case of the uterus being set too low in the pelvis, the vagina being short and not easily distensible, dyspareunia results from the uterus not being able to rise or retreat under the impact of the male organ. Hence congestion and inflammation not uncommonly arise. In many cases a compensatory condition is established in time, by the gradual dilatation of the retro-cervical vaginal roof. This is developed into a considerable pouch. Although the dyspareunia may gradually subside, the subjects often remain sterile.

I have met with a form of dyspareunia which, in one case, gave rise to the question of seeking for a divorce. The pubic symphysis was unusually deep and continued so far back that the vulvar fissure was carried far behind the normal seat. In this case, as in many others where ineffectual or unsatisfactory attempts at intercourse have been continued for a long time, an extreme degree of mental irritability and local hyperæsthesia had been induced.

Acquired Causes of Dyspareunia.—Amongst these are found: Contraction or atresia of the vulva and vagina, the result of disease, injury, or cicatricial processes. Cases belonging to this order will be discussed under "Atresia."

Almost all the inflammatory affections of the pelvic organs entail dyspareunia. Congestion and inflammation are commonly attended with increase of nervous irritability. Structures which, in the ordinary state, evince little sensibility become, when congested or inflamed, intensely painful. This is markedly the case with the vaginal portion. Proof of this is obtained when the finger presses upon it; by the speculum when the blades are being expanded, and the ends chafe against the inflamed vaginal portion; when in adapting a Hodge pessary the posterior limb is being pushed back across the os; in some cases, when the patient is at stool the solid motion pressing upon the tender os. In all these cases pain is complained of; it is not surprising that coitus should also be painful.

When the body of the uterus is enlarged from hyperæmia or congestion, especially when complicated with retroflexion, dyspareunia is an almost certain result. In this case on making an examination, touching the vaginal portion may not evoke pain; but pressure by the finger upon the body of the uterus, through the roof of the vagina or through the rectum, is almost sure to do it.

Inflammation or congestion of one or other ovary is attended by the same result.

A frequent cause of dyspareunia is colpitis or inflammation of the vagina, no matter to what the inflammation may be due. Thus inflammation from blenorrhagia, or from injuries during labor, will frequently render sexual relations intolerable.

When colpitis exists there is often entailed a spasmodic contraction of the vagina, which greatly intensifies the suffering. This condition, for which Dr. Marion Sims proposed the name "Vaginismus," is exceedingly distressing. It may be likened to colitis or dysentery. The inflammation excites spasmodic contractions of the muscular coat, and especially of the vulvar sphincter. The friction of the inflamed mucous surfaces against each other under these morbid contractions is the immediate source of pain, and it increases the inflammation and spasm.

The cure of dyspareunia here depends upon the cure of the colpitis. This is to be accomplished by "rest" in the most comprehensive sense of the word. It is mainly by its efficacy in securing rest from the spasmodic contractions of the muscular coat, that Dr. Marion Sims's and my instruments for keeping the walls of the vagina apart, act so beneficially. Two or three weeks' use of one of these instruments during the daytime, and lead lotions on removing it at night, will often effect a cure.

Pelvic cellulitis and peritonitis, whether in the acute or chronic stage, almost constantly entail dyspareunia. This is due not only to the increased sensibility attendant upon inflammation, but also upon the loss of mobility of the uterus. Whenever the uterus is fixed at a definite low level in the pelvis, unable to retreat before the propulsion of the male organ, dyspareunia is an almost inevitable consequence.

Hence this condition is frequently observed in cancer of the uterus, and in fibroid tumors affecting the lower segment.

Various conditions of the vulva are peculiarly apt to cause dyspareunia. This is not surprising when it is remembered that the structures of this part are richly supplied with sensitive nerves, and that they have to encounter the chief force and irritation. All the varieties of inflammation of this part necessarily expose the patient to this form of suffering. I have known it depend upon vascular excrescence of the meatus urinarius, and upon fissure at the fourchette, and removed when these affections were cured.

It attends pruritus and the follicular inflammation.

But the most severe distress is often produced when the entire circumference of the vulva is involved in a peculiar inflammatory process which may in many cases be traced to violent or unskilful attempts at intercourse.

In some of these cases there may be observed a dark-red angry-looking ring of inflammation around the orifice, sometimes even abrasions or slight fissures which easily bleed on touch, and generally the carunculæ myrtiformes present the appearance of swollen inflamed excrescences. This local inflammation entails extreme sensitiveness or hyperæsthesia; the slightest touch is intolerable; the patient shrinks at the very thought of examination, and actual touch excites uncontrollable spasmodic constriction of the part. This constitutes one of the conditions which may be included under the general term "Vaginismus," although the vagina itself immediately beyond the vulva may be quite free from disease. In some cases of this kind it is almost certain that there has never been complete intercourse. Indeed, where this condition is developed at the

outset of married life, the dyspareunia and spasmodic contraction are so acute that complete intercourse is all but impossible. The distress, so long as the patient continues exposed to attempts at intercourse, is generally aggravated by time; health breaks down under the nervous exhaustion produced by repeated suffering, and what may be called the disappointment of Nature under an unfulfilled function. In some cases the irritability of the nervous centres become so great, the sensitiveness of the peripheral nerves at the vulva so acute, and reflex action thereby so intensified, that the attempt at intercourse will induce convulsion, or be followed by syncope. Exaggerated emotions, the conflict between affection and the dread of pain, may induce similar results.

Sometimes vaginismus is due to the presence of small fissures or sores on the edge of the perineum or vulva. These cases are analogous to those of spasmodic contraction of the anus from similar causes. Vaginismus and dyspareunia may also be occasioned by disease of the rectum, as fistula, or fissure, or inflamed piles. Indeed these reflected consequences are sometimes so much more extensive than is the direct distress at the seat of mischief, that the true origin of the pain is apt to be overlooked.

In some cases no lesion of surface, no inflammation can be discovered; and we are driven to the conclusion that the spasmodic irritability is due to hysteria or simple hyperæsthesia, or to emotional influences.

The *cure* of this painful affection obviously depends mainly upon a period of rest, that is, suspension of all attempts to renew sexual intercourse. The exhausted nervous system must have time and opportunity to recruit, the general health must be restored, and the local source of irritation must be relieved. To accomplish the last indication various measures are useful. In a first order of cases of minor severity, such as are not unfrequent during the first few days of married life, a few days' rest, fomentations with warm water, or tepid hip-baths, and the use of lotions or injections of subacetate of lead may be sufficient.

In a second order of cases of longer standing than the first, and including some cases where the difficulty has arisen after complete intercourse, and even after labor, the remedies mentioned may be most usefully supplemented by wearing for several hours during the day Dr. Marion Sims's dilator, or my "vaginal rest." The action of these contrivances is to keep the irritable surfaces apart, and thus, by avoiding the irritation of friction, to allow the inflammation to subside. They also further act beneficially by distending the vulvar orifice, stretching the muscular sphincter, thus wearing out spasmodic contraction, and using the parts to bear the presence of a foreign body. Vaginal pessaries, containing acetate of lead, belladonna, bismuth, borax, or zinc, and made up with glycerine, are useful adjuncts.

In the third and more serious order of cases surgical intervention will commonly be required. After subduing the acute inflammation by rest, fomentations, and lead lotions, it may be necessary, if the orifice of the vulva is found unusually small, to enlarge it by making two or three incisions through the skin on either side of the fourchette. The subcutaneous division of some of the fibres of the sphincter vaginæ has been recommended. This, if adopted, could be done by passing a tenotomy

knife under the mucous membrane, just where it merges into skin at the posterior edge of the vulva, near the perineum, and when the knife has penetrated flatwise about an inch by turning the edge on and cutting outwards towards, but not through, the skin. A period of rest should follow this operation.

If there are remains of hymen, or carunculæ myrtiformes, presenting an inflamed hypersensitive condition, there is no remedy so effectual as the removal of these parts by the scissors. The operation is performed by putting the patient in anæsthesia, placing her in the lithotomy or in the semiprone position, with the nates hanging well over the edge of the bed or operating table. Assistants aid in holding apart the labia vulvæ by fingers or retractors, whilst the operator, seizing a portion of the affected structures with tenaculum forceps, snips them away all round, removing, if need be, a complete ring. The incision should not be deep, the affected structure being generally quite superficial. Some bleeding usually attends. This may be controlled by ice and by pressure, or styptic colloid. Pressure should be applied by plugging the vagina with pledgets of lint soaked in carbolized oil. The plug may be removed and renewed next day. During the healing of the surface it is well to wear an elastic vaginal rest. At the end of three or four weeks a cure will generally be effected.

Disappointment is apt to follow this operation if the smallest caruncle or other affected portion be left. Almost as much irritation and suffering may be maintained by the presence of a small remnant of diseased structure as if the whole were allowed to remain. Hence the expediency of carefully removing the entire circle.

In some cases where the hymen is very dense and the fourchette is thick and unyielding, so as to contract excessively the vulva, enlargement of the opening by slight incisions is the least painful and the readiest proceeding.

Scanzoni, summing up his own very considerable experience of cases of which vaginismus was the urgent symptom, opposes the use of the knife. He has always succeeded in bringing relief by first subduing all inflammatory complications, and next by effecting gradual dilatation by means of graduated glass specula worn for short intervals at a time. Courty cured a case by forcible stretching by the fingers under chloroform. This is carried out, the patient being in the state of anæsthesia, by introducing the two thumbs, back to back, and then forcibly distending the vulva for five or six minutes.

I have cured many cases by methods similar to those used by Scanzoni and Courty; but I have met with cases where the knife or scissors gave, in my opinion, not only the quickest and most efficient relief, but also at the least cost of pain and other distress. Certainly the judicious use of these instruments is far less painful than forcible stretching.

It is needless to observe that inflammation of Bartholini's glands is a cause of dyspareunia and vaginismus. The swelling attending this condition often nearly closes the vulva, and the pain is so exquisite that the slightest touch is intolerable.

Dyspareunia may be the result of imperfect or disproportionate development. This is a form not unfrequently observed in girls who marry

too young. It may also be experienced by women who marry late in life. After the climacteric, especially in women who have not been accustomed to sexual relations, the uterus, vagina, and vulva undergo a kind of atrophic involution, in the course of which the vagina and vulva lose much of their glandular structure, and the tissues lose elasticity and distensibility. Sexual relations under these circumstances may be not only painful but even dangerous. There is a preparation in St. George's Museum of a vagina ruptured through the roof by the sexual act.

The condition called *coccygodynia* by Sir J. Simpson may also be a cause of dyspareunia.

It must be remembered that dyspareunia in women may in many cases be traced to the other sex. Imperfect, awkward intercourse induces a chronic, nervous irritability, which in turn renders approach intolerable. This is a not infrequent source of distress in couples ill-matched as to age and physical strength and disposition.

I think it important to insist that whenever a discharge of blood follows sexual intercourse, whether it be accompanied by pain or not, a local examination should be instituted. Bleeding excited in this manner is often the first indication obtained of the existence of organic disease of the uterus and vagina; and it is superfluous to say that the prospect of curing organic disease will in many cases depend greatly upon seizing the earliest indications.

THE SIGNIFICANCE OF STERILITY.

The discussion of the significance of sterility naturally follows upon that of the significance of dyspareunia. It may be stated, as an obvious general proposition, that dyspareunia entails sterility. Of course there are many exceptions; for although intercourse may be difficult and painful, still it may be accomplished; and numerous cases prove that complete intercourse is not necessary to impregnation. But these exceptions do not invalidate the general law that dyspareunia is an obstacle to fertility. This is further proved by the frequent occurrence of pregnancy when dyspareunia is cured. It is not simply because dyspareunia so frequently involves the suspension or incomplete performance of the sexual act that it entails sterility. Various conditions, as inflammation, displacement, which produce dyspareunia, are also often of themselves obstacles to impregnation. This is proved by the fact that in numerous instances these conditions entail sterility, although sterility is not complained of.

It is no part of the object of an essentially clinical work to dwell upon the moral or social aspects of this question. But it is strictly within the scope of medical discussion to observe that sterility is not a purely negative evil, that is, the history of sterility is not summed up by saying that it is simply the negation of fertility. Complete sexual life in woman implies the due succession of the functions of ovulation, of gestation, and of lactation. The ovaries, the uterus, and the breasts ought in the natural cycle or order to relieve each other. Where the ovaries alone act continuously under the excitation of married life, a sense of an unfulfilled function arises which in many organizations is likely to induce physical as well as mental disturbance. The familiar saying that women in

a certain condition of health would be well if they could have children is a popular mode of expressing this physiological fact.

Referring to the evils attending sterile marriage, Dr. West observes that chronic ovarian irritation and chronic congestion of the womb leading to hypertrophy and menorrhagia are apt to ensue. This is undoubtedly true; but I may remark that these cases would be less frequent, if the necessity of dilating the narrow os externum uteri were more generally recognized. When this is done, even although pregnancy do not follow, the injurious local affections are much less liable to arise. The significance of sterility, from a medical point of view, then, may be taken generally to be painful or imperfect sexual relations, some disease of the vulva, vagina, uterus, or ovaries, or disability on the part of the husband. Sterility is itself a symptom or condition that may call for medical investigation and treatment, apart from the pain or other symptoms which take their rise in concomitant diseases.

In discussing the subject it is necessary to bear in mind the distinction between sterility in a woman from conditions inherent in herself, and sterility with potential fertility. It would be convenient if we could differentiate these cases by the appropriation to each of definite terms. Thus we might say a woman was "sterile" whose inherent conditions precluded her from conceiving, and we might say a woman was "barren" who was in every respect apt to conceive, but who remained childless, because, first, the fertilizing element was wanting; or, secondly, because if she conceived, the ovum did not come to maturity. We should fall into grievous error, however, if we were to conclude that sterility always implied an abnormal condition of the sexual organs in either the man or the woman. Numerous instances prove that sterility may be relative only. Certain degrees of affinity seem to be unfavorable to fertility. Upon this subject Francis Galton has adduced many most interesting and valuable historical and statistical illustrations. Thus, he shows in his book on *Hereditary Genius* how evil is the influence of consanguineous marriages.

Mr. Galton also shows the bad influence of marriage with "heiresses." Heiresses are presumptively single children, the feeble fruit of worn-out stock. Many peerages have become extinct through this. One-fifth of the heiresses have no male children at all, a full third have not more than one child, three-fifths have not more than two. It has been the salvation of many families that the husband outlived the heiress whom he first married, and was able to have issue by a second wife. "I look," says Galton, "upon the peerage as a disastrous institution, owing to its destructive effects upon our valuable races."

The researches of Galton are confirmed by those of Sir J. Simpson on the fertility of the peerage. Thus Sir James found that out of 495 marriages in the British peerage 81 were without issue, giving 1 in 6.11 as the proportion of sterile marriages; whilst 675 marriages in the villages of Grangemouth and Bathgate, one being agricultural the other seafaring, gave 65 sterile, or about 1 in 10.

The available materials for estimating the proportion of sterile women are very scanty, so much so that no precise deductions can safely be drawn from them. Indeed, here, as in so many other cases where the phe-