UTERINE SURGERY.

INTRODUCTION.

I do not propose to write a complete monograph on Uterine Surgery, or on the treatment of sterility, but simply to interweave the two, while taking a glance at such surgical difficulties as seem ordinarily to interfere with conception. To make a work of this sort complete would be to write a book on all the diseases of women, and on some of those of the opposite sex. But this is not my object, and I shall confine myself to the consideration of such cases as ordinarily come under the observation of the practitioner.

An inquiry into the conditions favourable to conception would almost necessarily involve a consideration of those opposed to it; and this would lead very naturally to the investigation of the best means of overcoming such obstacles. This is the order in which I propose to consider the subject; but it is not the one by which my experience was gained. It came by a very different process.

In the course of treating the diseases of women, I, like others similarly engaged, found many cases of sterility accidentally cured simply by curing some uterine affection. After a while I discovered that they were as various and as varying as the diseases upon which they depended. Then, by a classification of all diseases of the

uterus just as they were encountered, I found sterility to be incident to many of them. These naturally arranged themselves into two classes; viz.,—1st. Those who had never conceived; and—2nd. Those who had; but who for some reason had ceased to do so for a time, say five years, or more. The first I called "Natural Sterility;" the second, "Acquired Sterility."

In looking over my note-books for a series of years, I was surprised to see how nearly equal these two classes were. Sometimes one and then the other would predominate; but they were so evenly balanced, that from 3 to 6 per cent. would cover the variation either way.

I mean that this is so, taking all cases of uterine disease as they are promiscuously presented. If we consider the cases of those only who come to consult us merely on the subject of sterility, without reference to disease or actual suffering, the first class will, of course, greatly predominate. But it is by a study of all, that we deduce the principles that are to guide our judgment in individual cases. It is by this that we are able to specify the conditions most opposed to conception; and, at the same time, those most favorable to it.

The trouble in one case may depend upon mere contraction of the os; in another upon malformation of the same—in another upon engorgement of the cervix—in another upon elongation—in another upon hypertrophy—in another upon simple induration—in another upon curvature of the canal of the cervix—in another upon polypus—in another upon a fibroid—in another upon malposition of the uterus—in another upon some anatomical anomaly or malformation of the vagina—in another upon vitiated secretions of the cervix—in another upon those of the vagina, the one generally acting mechanically, the other chemically—in another upon the

absence of spermatozoa; while others may be complicated with several of these anomalies all subjects of study and investigation.

And when we come to analyze these various causes and complications, they are resolved into one great general principle, embracing all manner of obstructions to the free passage of living spermatozoa into the cavity of the womb. In all curable cases ovulation must be perfect, and the faulty link must be found in defective fructification, or else all our efforts are in vain. If the woman has passed the period of ovulation, of course we can do nothing for her. If the ovum never passes into the fallopian tubes, a thing impossible to determine, it is equally beyond remedy. We may safely assume a normal menstruation as a sign of normal ovulation. This being our guide, we may hope, in the majority of cases, to find some of the troubles above enumerated, many of which are eventually curable.

It is self-evident that if we knew exactly all the conditions of the uterus and its appendages absolutely essential to fecundation, it would not be very difficult to determine, in any given case, in what particular it differed from the proper standard. And, on the other hand, if we knew exactly the conditions of the uterus and appendages absolutely opposed to fecundation, it would not be very difficult to determine at once the chances of cure.

This is but another way of saying that here, as in every other department of medicine, knowledge of both normal action and abnormal condition is essential to safe and sure methods of treatment.

A few years ago, the subject of conception was wrapped in the profoundest mystery; but now, thanks to the labours of Martin Barry, of Bischoff, of Coste, of

Pouchet, and other modern physiologists, its laws are much better understood.

As usual, pathology is here behind its great pioneer, physiology, and yet quite in advance of therapeutics; for until a comparatively recent period we had no rational views on the treatment of the sterile condition; and almost all that is now known has emanated from the Edinburgh school. Indeed, little or nothing has been added to the labours of McIntosh and of Simpson; and the English language presents us with but one complete monograph on the subject,—that by Dr. A. K. Gardner,* of New York.

Macintosh † discovered that most of his sterile patients had a contracted os and cervix; and he conceived the idea of dilating these by bougies, such as were used ordinarily for stricture of the urethra. His success was very remarkable, but none of his followers were able to attain equally good results. Simpson, seeing the uncertainty and even danger of dilatation, had the happy thought of incising the os and cervix to render their enlargement more thorough and more permanent. The results have not been all that were hoped for; but enough has been done to show that we are at last on the highway of improvement; and it seems to me that further advances must be made as heretofore, by means almost purely surgical.

From any point of view this subject is one of great importance; for the perpetuation of names and families, the descent of property, the happiness of individuals, and occasionally the welfare of the State, and even

* "On the Causes and Curative Treatment of Sterility," by A. K. Gardner, M.D., &c., New York. 1856.

† Macintosh's "Pathology and Practice of Physic."

the permanence of dynasties and governments, may depend upon it.

Without further preliminary remarks, let us then inquire, "What are the conditions essential to Conception?"

1.—It occurs only during menstrual life.
2.—Menstruation should be such as to show a healthy state of the uterine cavity.
3.—The os and cervix uteri should be sufficiently open to permit the free exit of the menstrual flow, and also to admit the ingress of the spermatozoa.
4.—The cervix should be of proper form, shape, size, and density.
5.—The uterus should be in a normal position, *i.e.*, neither ante-verted, nor retro-verted to any great degree.
6.—The vagina should be capable of receiving and of retaining the spermatic fluid.
7.—Semen, with living spermatozoa, should be deposited in the vagina at the proper time.
8.—The secretions of the cervix and vagina should not poison or kill the spermatozoa.

I lay these down as postulates, embracing the general principles or laws most favourable—indeed, essential to fecundation; and I propose to take them up seriatim, and to show, from clinical experience, wherein the sterile condition differs from the fecund, and to point out, so far as we know, the surest methods of relief.

But before entering upon this discussion, it will be well, perhaps, to say something

On the Method of Uterine Examination.—Almost

every physician accustomed to treat the diseases of women has educated himself to some peculiar method of examination. I propose here to give my own plan.

Every thorough uterine investigation is naturally divided into two stages, the first requiring the touch, the second the sight; the dorsal decubitus for the one, the left lateral for the other. For the touch alone, the patient may lie on a sofa or a bed; but the one is too low, and the other too soft and yielding, for a speculum examination. I therefore prefer a common table, two or three feet wide, and four or five feet long, covered with a wadded quilt, or blankets folded. This is a little more formidable, but it is better for both physician and patient. Indeed, it is essential, if we wish to make a very thorough examination. The table being properly prepared, the patient is requested to loosen all the fastenings of the dress and corsets, so that there may be nothing to constrict the waist or to compress the abdomen. While this is being done, the physician should bathe his hands in warm water, and wash them well. It may seem odd to insist upon this, but I do most earnestly; 1st, because it softens and warms the hands; 2nd, because it insures their cleanness; and 3rd, because it assures our patient against any dread of contamination by the touch, a thing by no means to be despised.

All being ready, the patient is now requested to sit on the edge of the table, and then to lie down on the back, with the head, but not the shoulders, supported by a pillow, while the feet rest momentarily on a chair.

Many practitioners allow the feet to hang down, each on a chair, but this is by no means the best plan for either physician or patient, nor is it the most delicate. As soon as the patient is laid comfortably back on the table, the surgeon will raise her feet from the chair, upon which he is now to sit down, and place them on the edge of the table, with the heels separated some ten or twelve inches, while the knees are a little wider apart. This flexure of the thighs and legs insures the relaxation of the abdominal walls. Some patients will at first, in spite of our entreaties, place the soles of the feet together, and let the knees fall widely apart, while others will unconsciously hold the knees closely together, and brace the feet firmly outwards, each condition being equally opposed to an easy exploration of the vagina.

The patient once on the back, with the extremities properly flexed and fixed, must be assured that there is to be neither pain nor exposure of person; this last being more dreaded than the most intense suffering.

Everything being ready, let the left index finger be well lubricated, not with sweet oil, which is often gummy and sticky, nor with grease, which is often rancid, but with warm water and Castile or other fine soap, which is a cleaner, cheaper, and better lubricant than any other. Pass the finger into the vagina—do it gently—if otherwise, we may jar the nervous system, and produce involuntary spasmodic action of the abdominal muscles. The patient may become agitated and alarmed, and we may perhaps be compelled to procrastinate a very minute examination to some future time. As the finger passes, let it ascertain if there is anything abnormal about the ostium vaginæ. Is it contracted, rigid? Is the hymen present or absent? Is it irritable or tender? Then as to the vagina: Does it dip down towards the coccyx? Does it run more in the direction of the axis of the pelvis? Is it of normal

temperature? Is it short? Is it deep? Is it narrow? Is it capacious? Does it contain any foreign body? If so, is it something inorganic, previously introduced? Or, is it something organic, growing on the walls of the vagina, on the os tincæ, or does it come from the cavity of the uterus? Is it benign or malignant? Then what of the womb? Is the os open or closed, large or small? Is the cervix too long, too pointed, too small, too large? Is it indurated or ulcerated? Is the body of the organ in its proper position? Is it ante-verted, retro-verted, or flexed in any direction? Is it larger or smaller than natural? Is it of proper form? Is it indurated? Is it fixed or movable? Is there any complication, ovarian or fibroid?

All of these conditions are ascertainable by the touch alone. We need no speculum to tell us of the volume, position, and relations of the uterus and its appendages.

But I should not omit to say that the mere touch by the vagina is not alone sufficient.

It is necessary to make pressure with the right hand on the abdomen in the hypogastric region at the same time that the left index is carried into the vagina. The two hands then act conjointly in ascertaining the condition and relations of the uterus.

Is it in its normal position? Then the os uteri will rest on the end of the left index finger, while the fundus will be distinctly felt by the other hand, in a line drawn from the os, in the direction of the umbilicus.

Is it ante-verted? Then the os will be very far back towards the hollow of the sacrum, while the fundus will be felt by the index just behind the symphysis pubis, pressing down upon and perhaps parallel with the anterior wall of the vagina.

But I repeat that the touch by the vagina is not

enough to determine this point positively, and it is essential always to make pressure at the same time with the other hand, just above the pubes. It will

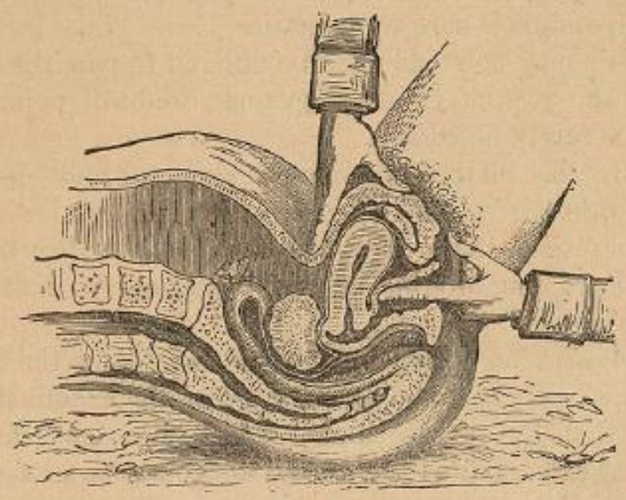

Fig. 1.

then be very easy to measure the size and shape of the body of the womb, for it will be held firmly between the fingers of the two hands, and its outline and irregularities will be ascertained with as much nicety as if it were outside of the body. Thus isolated, we determine its condition as easily as we would that of a pear wrapped up in a common towel or napkin.

The retro-uterine region, represented here as being occupied by a small tumour, is quite as easily explored by the touch alone. To do this, pass the left index finger to the posterior *cul de sac*, hook it up behind the cervix uteri, raise this upwards, draw it forwards, and at the same time press the outer hand in the direction of the point of the left index.

In a thin subject, where there is nothing abnormal,

the external fingers and the internal one can be brought very near together behind the cervix, without pain to the patient or inconvenience to the operator; and if there is anything abnormal, this manipulation is sure to detect it.

We may now and then be obliged to pass the finger into the rectum to clear up some doubtful point; but this is rarely necessary.

By this method, versions, flexions, fibroid offshoots, and other irregularities, are readily detected; and if at any time there is a doubt about the direction or depth of the uterine cavity, the sound will at once clear it up.

Having ascertained all these points by the touch, we are ready for the second stage of the examination—viz., that by the speculum. As before said, for the digital examination, the dorsal decubitus is preferable; but for the speculum, the left lateral semi-prone position is the best.

In 1845 I first used my speculum for vesico-vaginal fistula operations, placing the patient on the knees. I rarely resort to this method now, but as it may sometimes be necessary in a complicated case of vesico-vaginal fistula, or in some forms of malignant disease, I shall here quote the following from my first paper on this subject, published in the *American Journal of Medical Sciences*, January, 1852.

"In order to obtain a correct view of the vaginal canal, I place the patient on a table, about two and a half by four feet, on her knees, with the nates elevated and the head and shoulders depressed. The knees must be separated some six or eight inches, the thighs at about right angles with the table, and the clothing all thoroughly loosened, so that

there shall be no compression of the abdominal parietes. An assistant on each side lays a hand in the fold between the glutei muscles and the thigh, the ends of the fingers extending quite to the labia majora; then by simultaneously pulling the nates upwards and outwards, the os externum opens, the pelvic and abdominal viscera all gravitate towards the epigastric region, the atmosphere enters the vagina, and by its pressure, soon stretches this canal out to its utmost limits, affording an easy view of the os tincæ, fistula, &c. To facilitate the exhibition of the parts, the assistant on the right side of the patient introduces into the vagina the lever speculum, represented in fig. 2, and then, by lifting the perineum, stretching the sphincter, and raising up the recto-vaginal septum (fig. 3), it is as easy to view the whole vaginal canal as it is to examine the fauces, by turning a mouth widely open to a strong light.

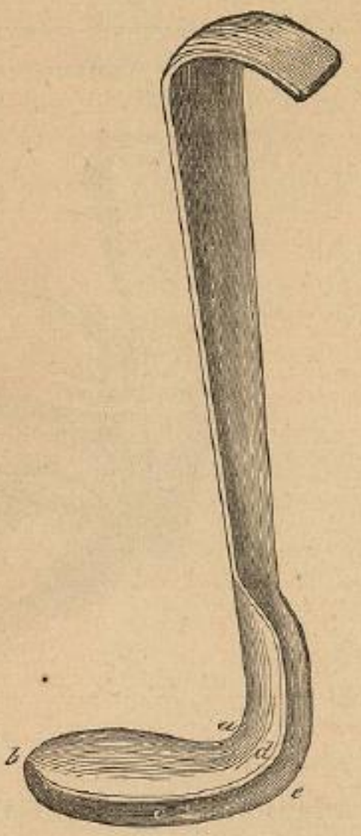

FIG. 2.

"This method of exhibiting the parts is not only useful in these cases, but in all affections of the os and cervix uteri requiring ocular inspection.

"The most painful organic diseases, such as corroding

ulcer, carcinoma, &c., may be thus exposed without inflicting the least pain, while any local treatment may be instituted without danger of injuring the healthy

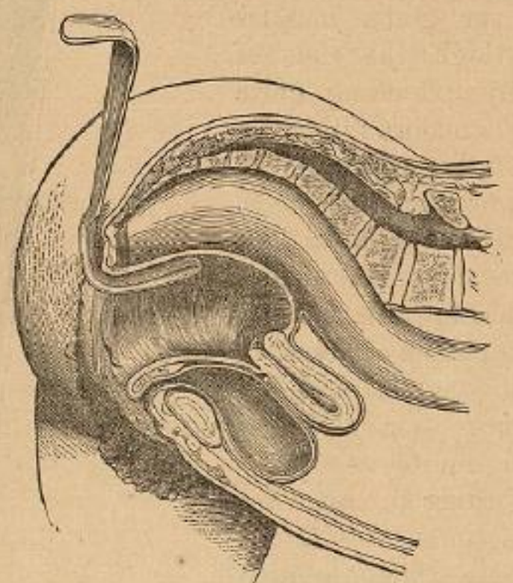

Fig. 3.

structures. By this method also a proper estimate, anatomically, can be had of the shape and capacity of the vagina; for where there is no organic change, no contraction, and no rigidity of it from sloughs, ulcers, or cicatrices, and where the uterus is movable, this canal immediately swells out to an enormous extent."

Thus I wrote in 1852; and I have introduced figs. 2 and 3, copied from the *American Journal of Medical Sciences* of that date, merely for the purpose of contrasting my past and present methods of vaginal exploration.

Many persons who have never witnessed the use of my speculum, doubt the correctness of my explanation of its rationale as given above. But let such experiment for themselves, and give us a rationale more in accordance with the laws of natural philosophy, if they have one. For a successful experiment certain conditions are requisite. At the risk of being tedious, I will reiterate them. Let the experimenter first loosen all the strings and fastenings of the dress and corsets, and then place the patient on a table on her knees, and bend her body forwards till the head is brought down to the plane of the table, where it may rest in the two hands, its weight supported on the left parietal bone, while the elbows are thrown widely out from the sides. The knees are to be separated eight or ten inches; the thighs are to be at about right angles

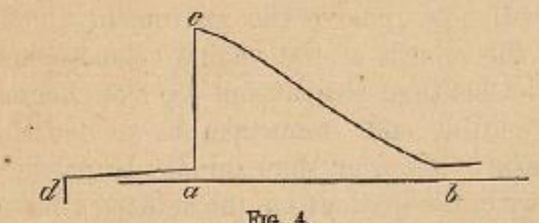

Fig. 4.

with the table; thus the plane of the table (*ab*), the axis of the thighs (*ac*), and that of the body (*cb*), would form a right-angled triangle, of which the thighs and table would make the right angle, and the body the hypothenuse. The patient must be taught to maintain unflinchingly this position; she must not pitch forwards and make the pelvian angle (*c*) obtuse, nor draw the knees up under the body, making it more acute; she must not arch the spine (*cb*) upwards, for this brings into forcible action the abdominal muscles, which should

be perfectly relaxed, with the spine rather curved downwards, as we see it in sway-backed animals. With these precautions fully impressed on her, she is to breathe easily, and relax the muscles of the abdomen. In consequence of this position quietly retained for a few moments, the movable abdominal and pelvic viscera necessarily gravitate towards the epigastrium. Now, if the surgeon will get immediately behind his patient and lay his hands on the nates, and push them gently upwards and backwards, taking care that her position is not changed, he will see the mouth of the vagina open, and at the same moment hear the air rush into it with a blowing or hissing sound; and then if he will, with even his finger, raise the perineum up towards the os coccygis, he will see the vagina distended like an inflated bladder. If, however, he will use my speculum instead of the finger, the cavity of the vagina will be more easily seen.

If he will now remove the instrument (or finger), and allow the mouth of the vagina to close, and then if he will let his tired patient fall over on her side, he will have audible and unmistakable evidence of the sudden escape of air from the vagina. In private practice, even with the patient on the side, this is such an unpleasant occurrence, and so mortifying to a sensitive person, that I generally keep a catheter by me, to be placed momentarily in the vagina, that the air may escape noiselessly. If we fail in the above experiment, it will be because we have omitted some of the conditions essential to success.

The object of this speculum (whether used with the patient on the knees or on the side) is to elevate the perineum and to partially support the posterior wall of the vagina; the pressure of the atmosphere with the gravitation of the viscera does the rest. All other

specula act directly on the walls of the vagina, which they mechanically distend. This one, as a rule, touches but a small portion of the posterior wall.

I was led to the invention of this speculum by a singular incident. As showing from what trifles important results sometimes spring, I venture to record here the circumstances. I feel the more justified in this because my speculum is by some in England, and by a few on the continent, called by the name of another man, who had nothing to do with it, except to hand it to the instrument-makers here to be copied, and who in their turn have been the unconscious agents of doing me a great wrong. In December, 1845, a lady was riding on a pony in the suburbs of the city of Montgomery, Alabama, where I then resided. It took fright and suddenly jumped from under her—she fell, striking her pelvis on the ground. I saw her soon afterwards; her sufferings were very severe. Besides the contusions from the fall, she complained of rectal and vesical tenesmus. On examination, I found a complete retroversion of the uterus. I had been taught by lectures and books that the best method of reducing a recent luxation of this organ was to place the patient on the knees, and then act on the uterus through the rectum and vagina. This lady, covered with a sheet, was so placed across her bed. I then introduced a finger into the vagina, but effected nothing by it. Not wishing to pass the finger into the rectum, which is always disagreeable, and to be avoided if possible, I introduced the middle and index fingers together into the vagina, and while I was making efforts to replace the uterus, all at once it happened that I could not touch the uterus, nor even the walls of the vagina, and my fingers were swept around in the pelvis without touching or being touched by anything except

just where they were grasped by the mouth of the vagina. While I was wondering what could be the cause of this anomaly, my patient said she was relieved from the symptoms of which she was complaining so seriously but a few moments before. As she was relieved, although I did not understand how it was done, my duties to her were of course at an end. She was large and heavy ; letting her go, I requested her to lie down. Being quite exhausted from pain and the unnatural position in which she had been placed, she threw herself quickly down on her side, when the sudden escape of air from the vagina gave a ready solution of my dilemma, as well as of the rationale of the reduction of the dislocated uterus, which was now found to be in its normal position. And what was its rationale? When the patient was in the position described, there being a natural tendency of the pelvic viscera to gravitate towards the epigastric region, it would require no great *vis a tergo* to produce the desired result in a recent case of this kind. One finger, however, was not long enough to throw the organ up, nor were the two ; but when they were both introduced, in my varying manipulations and strenuous efforts, the hand was accidentally turned with its palm downwards, which thus brought the broad dorsal surface of the two parallel fingers in contact with the vulvar commissure, thereby elevating the perineum and expanding the sphincter muscle, which allowed the air to rush into the vagina under the palmar surface of the fingers, where, by its mechanical pressure of fifteen pounds to the square inch, this canal was suddenly dilated like a balloon, and the uterus replaced by its pressure alone. Having at this time a patient with a vesico-vaginal fistula, which I could not understand, I placed her in the position above

described, and used the handle of a spoon, curved at right angles, to open the vagina, elevate the perineum, and allow the air to enter, which afforded me a complete view, not only of the fistula, but of the whole vagina ; whereupon this instrument (page 11, fig. 2) was a self-suggested affair.

During my residence in Alabama, up to 1853, I had no need of any better form of instrument, or any other position for its application than that above described ; but when I went to New York, a larger field of observation soon proved to me that it was essential to modify both instrument and position, if they were to be used in the every-day treatment of the ordinary affections of the uterus ; for while a patient afflicted with such a terrible infirmity as vesico-vaginal fistula is ready and willing to be placed in any position, however fatiguing, a moment's reflection will show that this kneeling posture would be quite out of the question in the treatment of the simple forms of uterine disease, as they occur in the higher grades of life.

With this necessity before me, I went to work to improve my speculum, and at the same time I discovered that it could be used as efficiently with the patient on the left side as on the knees. For nearly twenty years I have used no other speculum, and whenever, in these pages, I have occasion to speak of the speculum, let it be remembered that I allude always and only to this one (fig. 5), with the patient necessarily on the left side. It is the best speculum for any purpose, whether it be for the application of the simplest dressing, or for the execution of the most difficult operation.

I must of course make an exception in favour of the conical ivory speculum, whenever it is necessary to apply the hot iron, a thing rarely done in America.

The speculum is univalve or duck-billed, as some have called it. For the sake of convenience, two specula of unequal sizes are attached to the same handle, one

Fig. 5.

at each extremity. This handle may be slightly bent, as seen in fig. 5, or it may be perfectly straight, as I formerly used it (fig. 2). The only object in the slight curvature is to facilitate its leverage in prolonged operations. The assistant may become tired of holding on to the distal end, and then it is a great relief to grasp the shaft in the middle, where it is gently curved. The object of having two blades or specula to one shaft is merely to have them of different sizes so as to suit different vaginas; for there are no two vaginas exactly alike, any more than there are two faces precisely alike.

I have one with a blade six inches long, another but two inches, and another of the ordinary length, an inch and three quarters wide. But these sizes are very rarely needed. For ordinary purposes, two instruments, *i.e.* four blades, are all that we need.

The smallest I call the virgin speculum; for unhappily we are sometimes compelled to use a speculum on the unmarried, and then it is proper to have it of such a suitable size as not to give pain, and not to injure the hymen. Here one blade is a little less than three inches long, the other a fraction over; the first three-quarters of an inch wide, the other seven-eighths. But the speculum for ordinary use on the married has the smaller blade about three and a half inches long, by about one inch wide. This is the one that we need in nine cases out of ten.

The other, or larger one, is about four inches long by an inch and a quarter wide. This will be needed where the vagina is very large. As said before, they are made much wider; but they are then apt to produce pain, a thing always to be avoided.

In all vaginal examinations, it matters not for what purpose, a speculum should never be used till we have by the touch first and fully ascertained the condition of the uterus and its appendages.

This injunction is particularly imperative, and for the most obvious reasons. 1st, because the size of the speculum should be always adapted to the capacity of the vagina; a small speculum in a large vagina is comparatively useless; on the contrary, a large speculum in a small vagina is cruelly painful. 2nd, because it should be passed in the direction of the axis of the vagina, taking care not to strike it against the cervix uteri, particularly if this be the seat of granular erosion, of poly-

pus, of cauliflower excrescence, or other hæmorrhagic disease, all of which should be previously ascertained by the touch.

It has been objected to this speculum, that its use requires the assistance of a third person. Apart from its real value, there could be no stronger reason for its universal adoption. I insist that a third person should always be present on such occasions. Delicacy and propriety require it, and public opinion ought to demand it. I do not mean lay, but professional public opinion.

I am sure that I never made a vaginal examination, or used a speculum a dozen times in my life without the presence of a third person. I have never had a patient to object who was educated or sensible; but the silliest person would see the necessity of it when told that propriety required it, even if an assistant were not necessary. The few that have objected to the presence of another person in the room at the time of a speculum examination, have done so from the fear of personal exposure. We are too apt to disregard this innate feeling of delicacy when we have been much used to hospital practice; but we can never make a mistake if we always cultivate the same gentleness and kindness towards the poorest hospital patient that we would use towards the highest princess. I repeat, then, that we should never in our examinations allow any exposure of person, not even in hospital practice. When the touch is made, there can be none, of course, with the patient on the back, and covered with a sheet. When the speculum is used, we should see only the neck of the womb and the canal of the vagina.

I have said that for a speculum examination there is nothing better than a table covered with a quilt or

blankets folded, and this is literally true; but for the consultation-room I have a chair which has served such a good purpose that I introduce it here, that others may profit by it.

Some twelve or fifteen years ago, Mr. James Holmes, of Charleston, S.C., was driven to the necessity of inventing what he called an "Invalid Chair. The patient sitting in this chair (fig. 6), can with the greatest ease

FIG. 6.

and without an effort poise the body for any length of time, at any angle between the erect and horizontal postures. Mr. Holmes invented this chair especially for a near relative of his, who suffered from prolonged attacks of (I believe) gout or some other very painful affection. It is much used in America, and was even introduced on some lines of railway as a sleeping-chair. I am thus minute, because I do not wish to claim it as mine. To adapt it to my own practice I had it made 24 inches wide instead of 18, and 30 inches high instead

of 22. I have added legs or uprights, *a*, *a*, to support the lower part of the chair when it is extended in the form of an operating-table (fig. 7). There is also an elastic cord, *b*, to pull these uprights back under the chair when it is changed from a table to a mere chair again. For all practical purposes it is really no better,

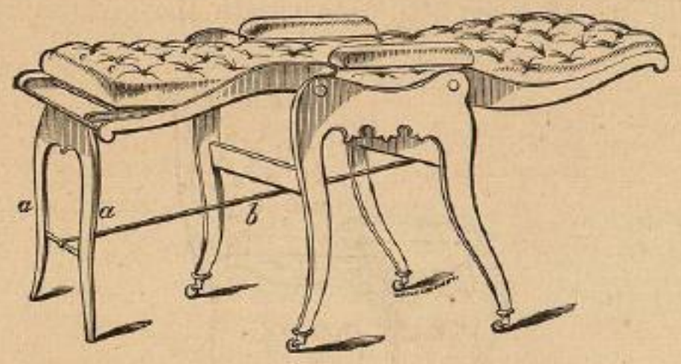

Fig. 7.

as before said, than a common table; but any patient would sit in the chair without nervous agitation, while some become greatly alarmed at being requested to mount a table. The patient once seated, is told that the chair is only a couch, and she is requested to lean back and extend it horizontally by her own weight, with perhaps a little assistance from the nurse who stands at the back of the chair. I am almost afraid to write these little things, but I do it only for my younger brethren, who may need to learn the importance of educating their patients to feel that everything is being done that delicacy and propriety require on an occasion so trying to a sensitive nature.

When the patient lies back and the chair is extended in the form of a table, it will be necessary to draw the

person down to the lower edge of it, *c c*, whether for a digital or speculum examination. Afterwards the patient moves again up on the centre or seat of the chair, the uprights, *a*, *a*, are drawn back, and the chair almost voluntarily assumes its proper form.

For a speculum examination the patient is to lie on the left side. The thighs are to be flexed at about right angles with the pelvis, the right being drawn up a little more than the left. The left arm is thrown behind across the back, and the chest rotated forwards, bringing the sternum very nearly in contact with the table, while the spine is fully extended, with the head resting on the left parietal bone. The head must not be flexed on the sternum nor the right shoulder elevated. Indeed, the position must simulate that on the knees as much as

Fig. 8.

possible, and for this reason the patient is rolled over on the front, making it a left lateral semiprone position. The nurse or assistant standing at her back pulls up the

right side of the nates with the left hand, when the surgeon introduces the speculum, elevates the perineum, and gives the instrument into the right hand of the assistant, who holds it firmly in the desired position.

The introduction of the speculum is a matter of some importance. It is done under cover, with the right index finger as a guide, as seen in fig. 8. The object of this is to prevent the point of the instrument from striking against the cervix uteri. The finger is not to be withdrawn till we are sure that the end of the speculum has passed beyond the cervix, or is well turned back towards the rectum. If the patient breathes easily, the vagina will be immediately distended by the pressure of the atmosphere, so as to bring the neck of the uterus, the posterior cul-de-sac, and the whole of the anterior wall of the vagina into view, without the least traction, pressure, or suffering. But if she is alarmed and breathes hurriedly, or bears down, it will be otherwise. If the uterus be retroverted, the os tincæ is easily seen. If it be in a normal position, there is no trouble in getting a good view of it; but if it be completely anteverted, with a narrow vagina, then it will be necessary to hook a small tenaculum into the anterior lip, and pull it gently forwards, as shown in fig. 14, where the manner of introducing the sponge-tent is illustrated. The tenaculum is to be slightly inserted into the mucous membrane. It gives no pain,

Fig. 9.

Fig. 10.

and produces no bleeding, unless there is great engorgement; but even then it amounts to nothing. Another plan of bringing the os tincæ into view is to draw the neck forwards by pressure in the anterior cul-de-sac with this instrument (fig. 10), which I call the uterine depressor.

I have never known any one accustomed to this method and these instruments who was willing to revert to the old plan.

The consideration of other means of exploration, such as the sound, tent, &c., I leave till we come to speak of treatment.