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of the Uterus.*

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THE TREATMENT OF BACKWARD DISPLACEMENTS OF THE UTERUS.

BY HOWARD A. KELLY, M.D.,

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It has been the task of the present generation of gynecologists, and the special work in particular of Prof. B. S. Schultze, of Vienna, to demonstrate the fact that the normal uterus is not fixed, but occupies a variety of positions in the pelvis at different times, according as it is influenced by the movements of contiguous structures, and most of all by the bladder, empty, partially distended, or full. The position of the uterus we now know to be one of mobile equilibrium, in which, however, the fundal end remains directed anteriorly and the cervical end posteriorly; ante-positions, whether anteflexions or anteversions, are rarely pathological.

On the other hand, any persistent posterior position of the uterus in which the fundus is displaced back into the hollow of the sacrum, or is found lying in a plane posterior to the cervix, is abnormal. Backward displacements constitute one of the most important gynecological questions of the day for two reasons: in the first place, because of their extreme frequency; and, in the second place, because we are still in an evolutionary stage regarding their treatment.

As there can be no rational treatment without a consideration of the particular causes acting to produce the displacement in each case, I shall briefly enumerate those most frequently found:

1. Congenital causes, due to a short vagina or to an imperfect development of the uterus, in which the retroposition has existed from childhood.
2. Retropositions developed acutely by sudden or severe strain.
3. Retropositions caused by tumors in the uterus or adnexæ.
4. Retropositions, the sequelæ of pregnancies, due to subinvolution of the uterus, or to injury of the pelvic floor, or to both combined.

Just as it is important to bear in mind the cause of the retrodisplacement, so is it important to study carefully the symptomatology in each

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case, for, as the symptoms are mild or severe, more or less energetic plans of treatment will be required.

In many instances, including also the congenital forms, the discovery of the malposition is purely accidental and the patient, who suffers no inconvenience whatever, will require no treatment of any kind. In others both the local and the general symptoms are marked, the local symptoms being due to the flexion or version effecting a stasis in the circulation, a sense of dragging due to the associated descensus of the uterus, with pain in the back and legs. The interference with the blood-supply of the uterus naturally produces its most distressing symptoms at the time the congestion of the organ is greatest—at the menstrual period. Backache and dragging pain in the sides are due to the tugging on the broad ligaments arising from the tendency of the displacement to increase as it advances through the various stages of descensus and prolapsus. Locomotion may be difficult and painful, and the mechanical interference with the rectum or with the distention of the bladder by the misplaced fundus not infrequently seriously interferes with the special functions of these organs.

The general symptoms produced by retrodisplacements, while they are often called reflex, are in reality more frequently due to the disordered state of health produced by the local discomforts, keeping the patient house-ridden and interfering with her taking fresh air and exercise. We find, therefore, as we might expect, such products of malnutrition as anæmia, nausea and indigestion, constipation, headache, and hysteria.

TREATMENT. By taking up any one of the numerous text-books on gynecology written fifteen or more years ago, it will be seen that the treatment of retropositions, both flexions and versions, was then conducted by using curved uterine sounds or so-called “uterine repositors,” introduced into the cavity of the uterus and twisted or bent to force the fundus into an anterior position. These “repositions” were then followed by a vaginal pack or the use of a pessary. It is not without significance to note, too, that this was also the period of active treatment of anteversions and anteflexions in exactly the same way.

Now, we have absolutely given up the use of the sound or repositor or of instruments of any sort within the uterus, and find only a limited field of utility for the pessary. Instead, the most efficient plans of treatment at present, where treatment is required, are purely surgical, attacking the displacement either through the vagina or abdomen, or through both avenues at once.

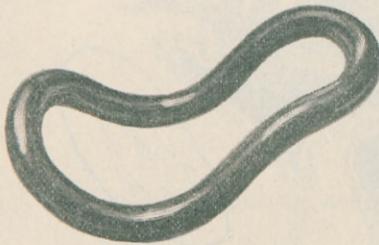
The correct method of dealing with any given case of retrodisplacement will fall under one of the following heads:

1. Cases in which no treatment is required.
2. The use of a pessary.

3. Manual reposition and massage.
4. Operation upon the vaginal outlet.
5. Operation on the uterus at the vaginal vault.
6. Shortening the round ligaments.
7. A suspensory abdominal operation, or ventrofixation.
8. An operation upon the vaginal outlet and a suspensory operation combined.

No treatment. As I have already said, where the discovery of the flexion is the accident of an examination, or where the patient's distress is purely mental, imagining that she cannot have good health with the uterus "out of place," the physician should quiet her mind by assuring her that she runs no risk, and should advise against any treatment whatever.

FIG. 1.



Smith-Hodge pessary with somewhat rounded anterior bar. This is the size most commonly used.

FIG. 2.

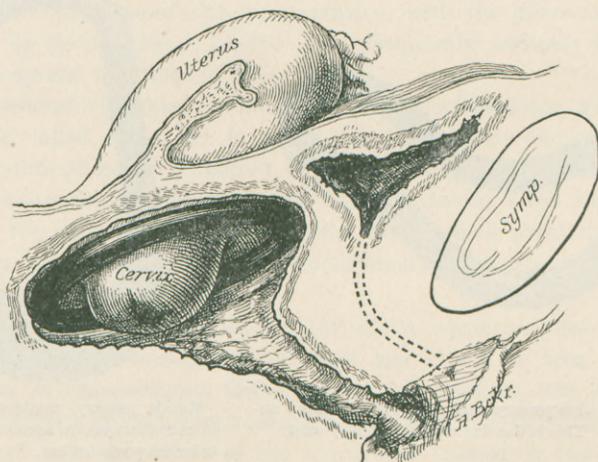


Mundé pessary, particularly useful in retroflexions, on account of the reinforced posterior bar.

Pessaries. A pessary is often useful in relieving the local symptoms of the displacement, and it does this, as a rule, not by correcting the displacement, but by checking the tendency to still greater displacement. In other words, many of these retrodisplacements are only the initial stages in the formation of a marked descensus or even a prolapsus of the uterus; and if the patient were to be examined some months later the descensus would be observed, and later the cervix would be found at the vaginal outlet, and at a still later date protruding from the vaginal orifice. The pessary obviates this tendency to extreme downward displacement, and, taking the tension off the broad ligaments, relieves the sensation of "dragging" and "falling out" so often complained of. I would insist that retroversions and retroflexions are but rarely cured by the use of the pessary, and this in spite of the numer-

ous statements to the contrary which might easily be adduced from earlier writers. The only pessaries I ever find use for are the Hodge pessary, with a flat nose; very rarely the Smith-Hodge pessary, with a pointed nose; quite frequently the Mundé pessary, like the Hodge, but with a thick posterior bar; and still more frequently a hard-rubber ring-pessary. In choosing a pessary for a particular case, one must be selected which fits the vagina nicely without making pressure upon any of its walls or stretching it in any direction. The large pessaries, "horse-pessaries," which draw the vaginal walls out tense in all directions in order to prevent the descensus, are to be absolutely rejected. They always in the end either increase the relaxed condition of the vagina or ulcerate through its walls. The smaller pessaries fit loosely, gently splint the vaginal walls, and so limit the excursive movements of the uterus.

FIG. 3.



Showing the mechanism of support by the simple hard-rubber ring-pessary.

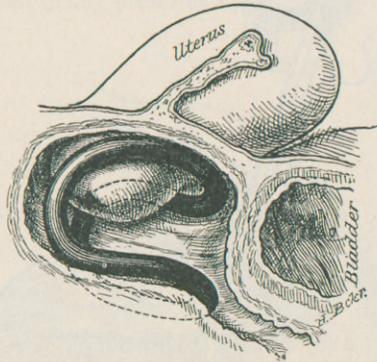
There should be room on all sides to insert the finger easily between the pessary and the walls embracing it. The soft-rubber ring-pessaries, although convenient to introduce, ought never to be used, as they soon become foul and produce irritating discharges. The patient with a simple retroflexion will often experience relief from the insertion of one of the hard-rubber rings or a Hodge pessary, when she may go home and need no further treatment. I can hardly give any definite rules for the use of any one of these particular forms of pessary, as the selection seems to be rather a matter of instinctive judgment. I find that the Hodge or the Hodge-Mundé does best in nulliparous women; in parous women, when the vaginal outlet is somewhat relaxed, the best

instrument, without doubt, and often the only one which will stay in, is the cradle-pessary.

The simple hard-rubber ring, although more painful to introduce, when once in is less apt than the others to press on tender points and is in consequence more easily worn.

Manual reposition and massage. When there is no lateral disease in the pelvis, and where the uterus is movable and the vaginal outlet is not broken down, the following plan of manual reposition may be used a few times, in the hope of effecting a cure by simple means :

FIG. 4.



Cradle-pessary in place, showing the absence of a posterior bar.

First, the cervix is caught by a pair of tenaculum-forceps and drawn down to the vaginal outlet; by pulling the uterus down in this way, although the displacement is increased, the angle of flexion is straightened out.

Second, with the index-finger in the rectum, the fundus of the displaced uterus is pushed forward.

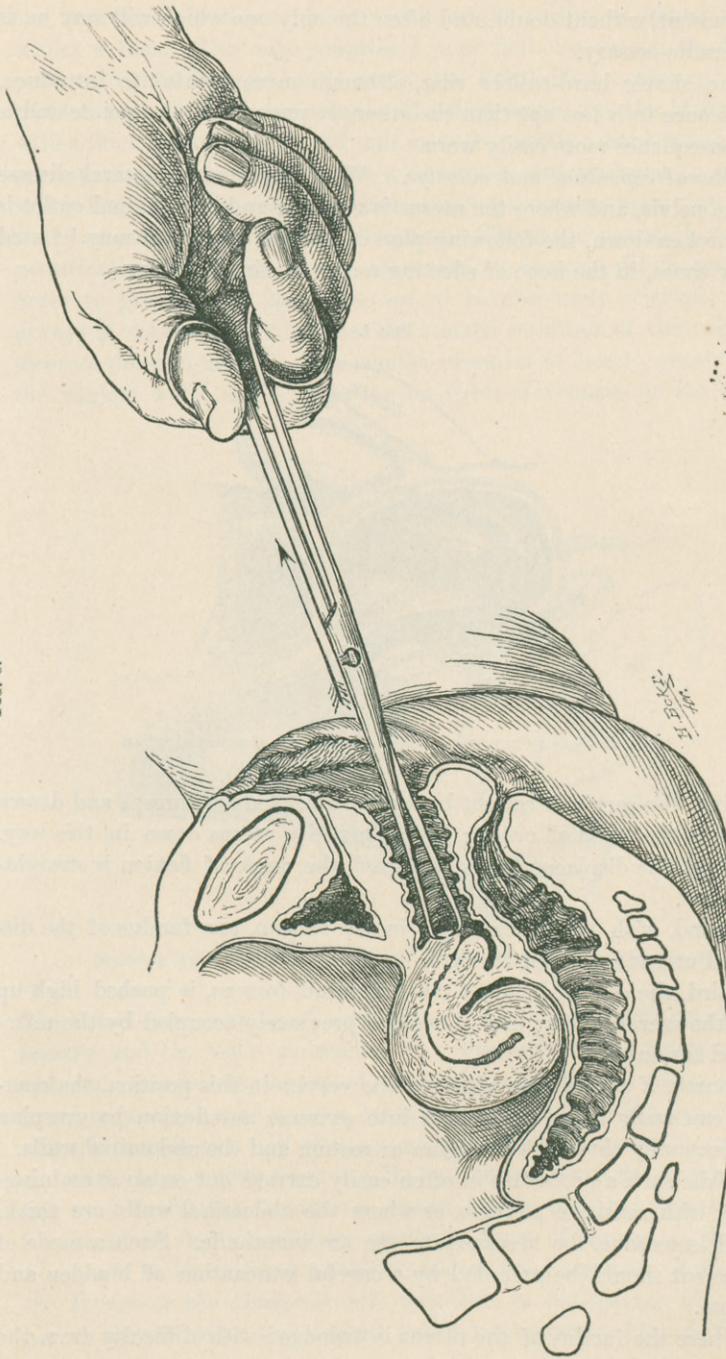
Third, the cervix, held by the tenaculum-forceps, is pushed high up into the sacral hollow, into the place previously occupied by the retroflexed fundus.

Fourth, if an assistant will hold the cervix in this position, the operator can easily bring the fundus into extreme ante flexion by grasping it bimanually through the vagina or rectum and the abdominal walls.

While such a procedure is often easily carried out on an examining-table, with sensitive patients, or where the abdominal walls are thick, it will sometimes be necessary to use an anæsthetic. Such a mode of treatment should be preceded by a careful evacuation of bladder and rectum.

Where the fundus of the uterus is dislodged with difficulty from the

FIG. 5.

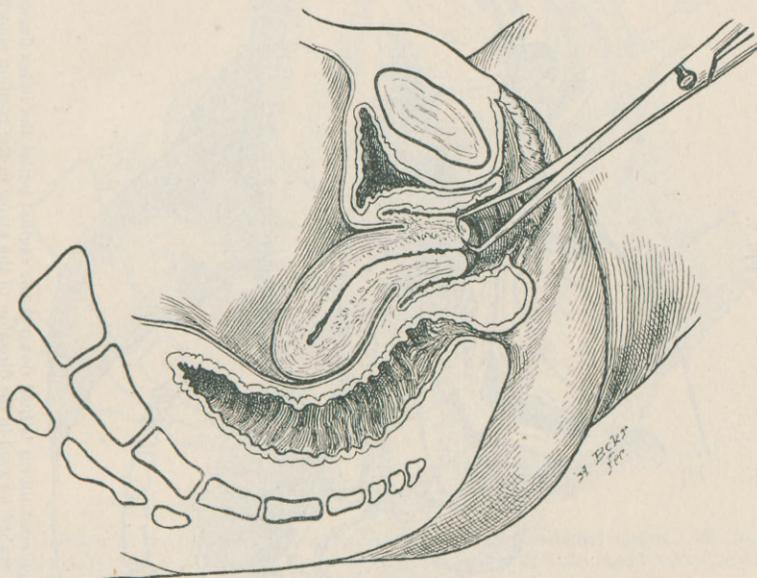


Reduction of retroflexion. The anterior cervical lip of the retroflexed uterus is caught with tenaculum-forceps, and traction is made in the direction indicated by the arrow; this straightens the uterus, as shown in the next figure.

utero-sacral hollow, it will often be of great assistance to put the patient in the knee-breast position, so as to inflate the rectum with air while pushing the fundus forward, and carrying the cervix back into the sacral hollow. Then placing her back into the dorsal posture the fundus will easily be brought into extreme anteflexion.

After replacing the uterus it must be held in its new position, until the next treatment is given, by pledgets of cotton saturated with boro-glyceride skilfully placed in the upper part of the vagina, and a wool-tampon below. The object of this pack is to give an elastic support to the cervix, holding it as far back as possible in the sacral hollow. To this end the packs should be applied in front of the cervix and no cotton should be placed in the posterior fornix.

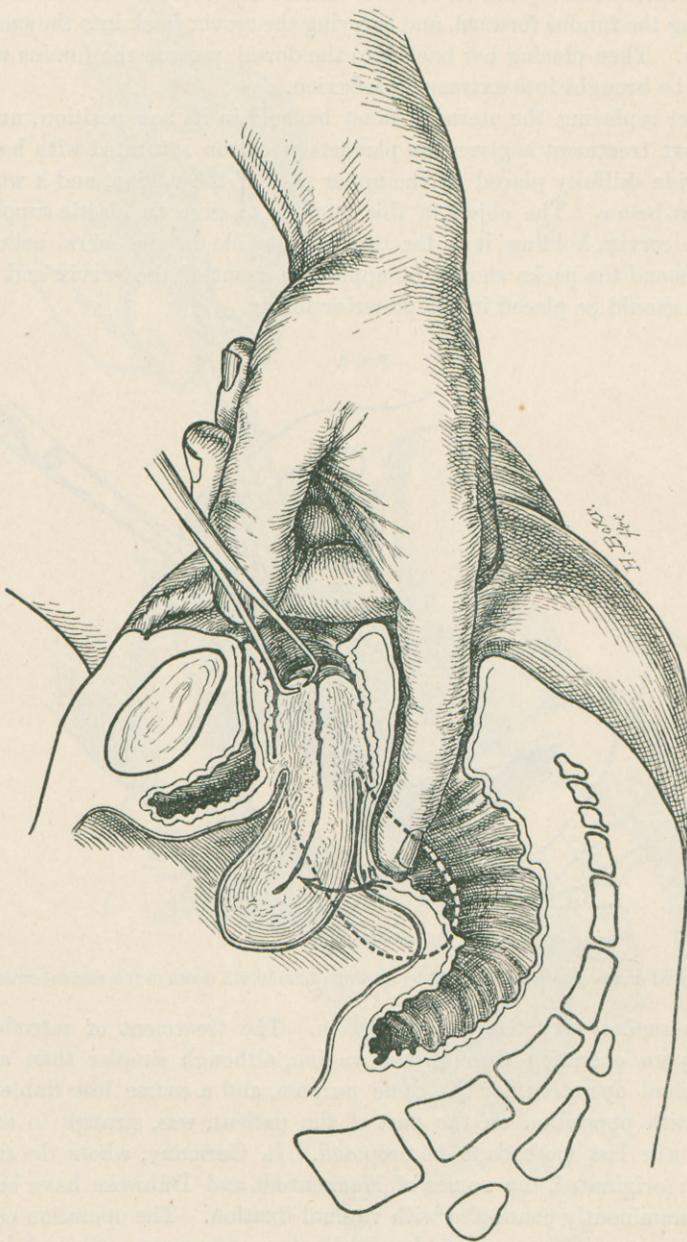
FIG. 6.



Retroflexed uterus shown straightened by traction of the cervix down to the vaginal outlet.

The vaginal operation for retroflexion. The treatment of retroflexions by an operation through the vagina, although simpler than any abdominal operation for the same purpose, and a course less liable to meet with opposition on the part of the patient, was, strange to say, one of the last methods to be proposed. In Germany, where the suggestion originated, the names of Mackenrodt and Dührssen have been most prominently connected with vaginal fixation. The operation consisted in an incision, either longitudinal or transverse, through the vagina in front of the cervix, for the purpose of detaching the bladder from the uterus, and then of bringing forward the fundus and fasten-

FIG. 7.

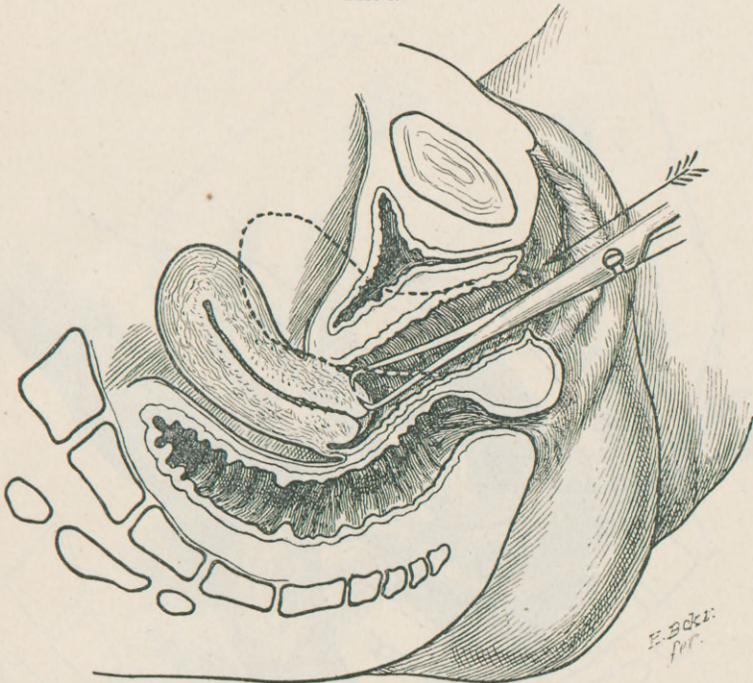


While the cervix of the straightened uterus is held down at the vaginal outlet the index-finger is introduced into the rectum and the fundus pushed forward in the direction of the arrow to the position shown in the drawing.

ing it in such a way as to secure a permanent ante flexion. The mechanical results of the operation were satisfactory, for the uterus remained permanently anteposed.

In America this way of treating ante flexion has never been more than sporadically practised, while in Germany it has now been almost completely given up on account of the serious difficulties encountered in case of pregnancy. The firm adhesions between the uterus and the

FIG. 8.



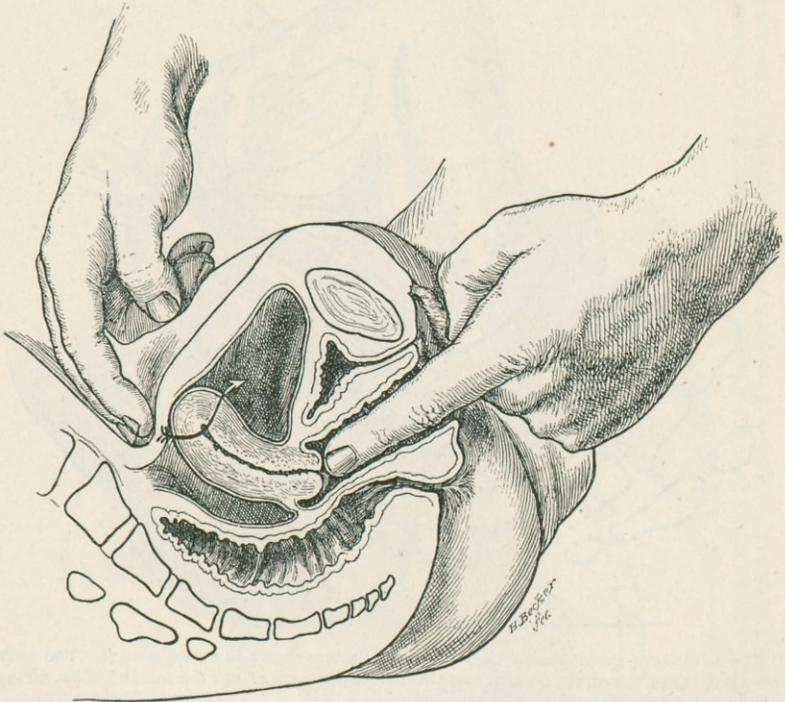
The position of the uterus in the last diagram is here shown in dotted outline. The next step is to thrust the cervix back in the direction of the arrow, into the sacral hollow, giving the uterus the position shown in the drawing.

anterior vaginal wall hindered the development of the pregnant uterus and produced such abnormalities in the position of the child as sometimes to necessitate severe operative procedures to effect delivery. A careful consideration of this subject has been undertaken by M. Graefe, of Halle, who presented his results to the Leipzig Obstetrical Society, October 21, 1895, reported in *Monatsschrift f. Geburtshülfe und Gynäkologie*. After reciting the difficulties he has encountered, Graefe announces that in future he will employ vaginal fixation only in women who have passed the climacteric.

An operation purely American is the method of Dr. W. R. Pryor, of

New York, described in the *Medical Record*, July 20, 1895, under the title "A New Method of Treating Adherent Retroposed Uteri." Dr. Pryor attacks the posterior cul-de-sac, incising it broadly and opening the peritoneum through the vagina. The fingers are introduced through this opening and any adhesions broken up. An iodoform-gauze pad is now inserted into the pelvis behind the cervix, with the patient in the Trendelenburg position. By this posture the small intestine is made to escape into the abdominal cavity and a second pad is inserted into

FIG. 9.

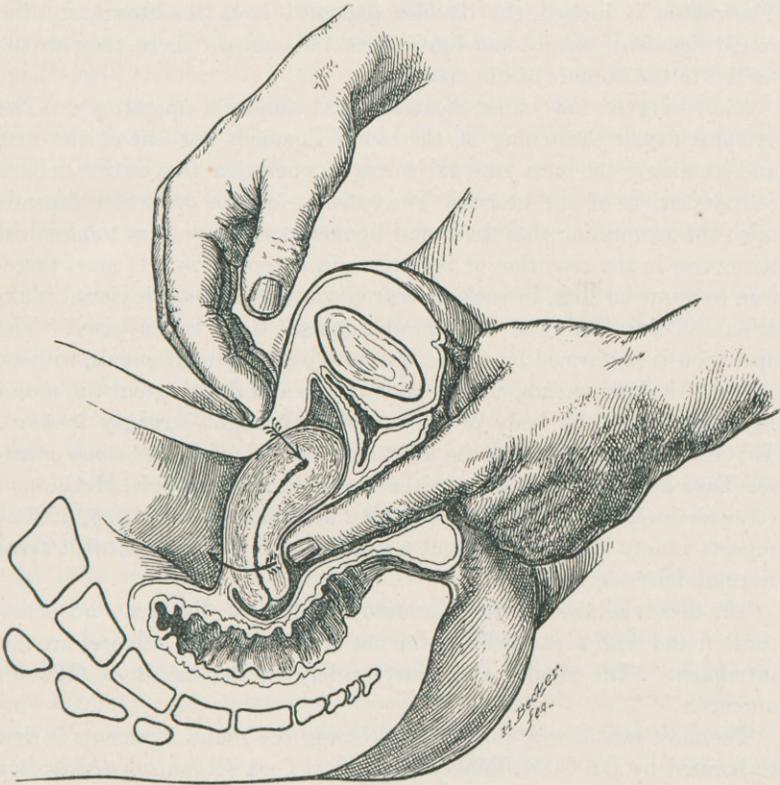


The fundus is now in a position to be caught easily bimanually. The forceps are removed, and while the index-finger of one hand continues to push the cervix back, the other hand takes hold of the fundus and scoops it over into ante-flexion, in the direction of the arrow.

the pelvic cavity, when the table is lowered to a horizontal position. The pads are now withdrawn from the pelvis and a wad of gauze inserted in the opening just within the cut edges. The uterus is now brought into ante-flexion bimanually, taking care not to displace the gauze. It is important that the cervix should be held high up throughout the convalescence, so that the intra-abdominal pressure will fall on the posterior surface of the uterus. The wad of gauze in the cul-de-sac is not disturbed for from seven to ten days, when it is carefully re-

moved and replaced, under chloroform, with the patient in the Sims's position. A week after the first dressing another is made, and in five days this, too, is changed; the vagina is kept packed for a month to support the uterus. The result in Dr. Pryor's method is to produce a dense mass of lymph about the utero-sacral ligaments, and the operation pulls the posterior pole of the uterus back, while it does not affect the mobility of the fundus, as all other operations do. This is in direct

FIG. 10.



The vaginal finger then pushes the cervix up toward the promontory, while the outside hand forces the fundus down into an exaggerated anteflexion.

line with some of the practical suggestions made by Sanger, of Leipzig, in the early history of the operative treatment of retroflexions. The subsequent histories of two of Dr. Pryor's cases, communicated by letter, show that such patients may go through a normal pregnancy afterward.

Dr. H. T. Byford, of Chicago (*Medical News*, October 31, 1896), advocates a plan of operating, used in ten cases, by which the adhesions of

the uterus to the bladder are less extensive than in the usual vaginofixation cases; he shortens the round ligament also through the vaginal incision. The reaction, however, of the profession against vaginal operations for retroflexion is now so strong that it is doubtful whether even such skilful operators as Dr. Pryor and Dr. Byford will be able to stem the tide turning in favor of direct methods of treatment from above through the abdomen.

The operation advocated by Wertheim (*Centralblatt f. Gynäkol.*, No. 10, 1896) also attacks the round ligaments through a vaginal incision. The vagina is incised, the bladder detached from the uterus, and the round ligaments caught and drawn into the vagina, where they are attached to the borders of the incision.

Shortening of the round ligaments (Alexander's operation). The extraperitoneal shortening of the round ligament was one of the first and seemingly the most rational forms of operation proposed to relieve retrodeviations of the uterus. The *rationale* of the operation depends upon the assumption that the round ligaments are important anatomical structures in the retention of the uterus in ante-position. It must therefore be assumed that, in cases of retrodeviations or retroflexions, relaxation and lengthening of the round ligament have taken place. The operation is performed by an incision into both inguinal canals, without opening the peritoneum, and so catching up and drawing out the round ligaments until the body of the uterus is brought strongly forward. This form of operation has the advantage of little risk, and some operators have handled a long series without a death; for example, McGannon (*American Gynecological and Obstetrical Journal*, August, 1896, p. 202) reports ninety-one cases without a death; four pregnancies, with three normal deliveries.

The disadvantages of the operation are that the ligaments are sometimes found with great difficulty or not at all, and that relapses are not infrequent. The results, also, vary widely in the hands of different operators.

The most satisfactory plan for shortening the round ligaments is that elaborated by Dr. G. M. Edebohls, of New York (*Annals of Gynecology and Pædiatrics*, October, 1896, p. 26), who proceeds in the following manner:

The whole length of the inguinal canal is opened up, and the ligament drawn out at the internal ring and shortened by stripping it out of its peritoneal investment as it is pulled outward. The wound is then closed after the manner of the Bassini operation for inguinal hernia.

Dr. Edebohls has operated on one hundred and sixteen cases in this way, with only four failures. Twelve of the cases became pregnant, with two abortions, six normal labors, and four not yet delivered.

Treatment of ventrofixation or suspension of the uterus. I conceived

the idea of attaching the retroflexed uterus directly to the anterior abdominal wall above the symphysis, operating through an abdominal incision, early in the year 1885, and carried it out in the case of Miss W., April 25, 1885. This was about the time when abdominal surgery began to make such strides in all directions, and I found while visiting Europe in the summer of 1886 that Prof. Sanger, of Leipzig, Prof. Werth, of Kiel, and Lawson Tait had already performed similar operations to correct a retroflexion found incidental to an abdominal operation for diseased appendages.

The first article on the subject of ventral operations in prolapse and retroversion, by Prof. R. Olshausen, appeared in the *Centralblatt f. Gynakologie*, October 23, 1886, twelve days before my own paper was read before the Philadelphia Obstetrical Society (*American Journal of Obstetrics*, January, 1887, pp. 33 and 67). Prof. Olshausen also quoted Prof. Koeberle, of Strasburg, who performed celiotomy for retroflexion, in the year 1877, in a case of persistent constipation endangering life, produced by the pressure of the retroflexed fundus upon te rectum.

The technique of all these early operations belongs to the crude experimental stage in the surgical treatment of retroflexions, which has now been carefully elaborated so as to leave little to be desired; for example, the first effort to hold the misplaced uterus forward was made by utilizing the stumps after the removal of one or both ovaries or tubes, attaching them either laterally to the incision, or fastening them in the incision itself. Olshausen made use of the round ligaments close to the uterus, bringing the anterior face of the uterus up against the abdominal wall.

In 1889 and 1890 I made an effort to simplify the technique of the operation and to avoid a peritoneal incision in the following manner: After emptying the bladder and bowels the retroflexed uterus was brought into anteflexion bimanually, and then by means of two or three fingers in the vagina was pushed up against the anterior abdominal wall just over the symphysis with enough force to make a decided elevation there. A large, curved needle threaded with silkworm-gut was then passed boldly through the skin, muscle, and peritoneum; then through the uterus, to be brought out again through peritoneum, muscle, and skin. The silkworm-gut suture, introduced in this way, caught the uterus on its posterior surface near the fundus, and held it well in anteflexion. The patient was then kept quiet in bed, and the suture held in place by means of shot clamped on each side close to the abdominal wall. The shot was kept from cutting through the skin by resting on a silver plate with slits in it to accommodate the silkworm-gut. After a week or ten days the suture was cut on one side and drawn out. I recall five cases in which this plan was tried, and in every one

of them the success was only temporary, and I was obliged later to open the abdomen and make a direct attachment of the uterus to the abdominal wall. (*Vide* J. W. Williams, *American Journal of Obstetrics*, 1890, p. 729.)

The method which I now employ and have tested in a long series of cases with the most satisfactory results is the following: In the first place, the case is carefully selected, avoiding patients who are simply hysterical and whose complaints are of a general nature in no way dependent upon the local lesion. I also refuse to operate upon cases in which the symptoms are not pronounced and in which the patient applies for treatment simply because she imagines that she cannot have good health as long as the retroflexion exists. Taking, then, the class of cases in which marked and persistent symptoms are produced by the local affection, and in which the simpler measures described fail to give relief, the operation is performed as follows:

The instruments needed are a needle-holder, curved needles, scalpel, silk suture, two pairs of artery-forceps, silver wire and catgut, and an elevator.

After due preparation of the patient and careful evacuation of the bowels and bladder, she is placed upon the operating-table with hips elevated. It is best to leave her in this position one or two minutes before opening the abdomen, in order to allow the intestines to gravitate toward the diaphragm. An incision 3 to 4 cm. long is then made just above the symphysis pubis, in cases in which the abdominal walls are thin or of medium thickness; a longer incision may be necessary in stout women. The length of the incision is less than that in any other abdominal operation except for the evacuation of ascitic fluid, and owing to its low position the scar is in time completely hidden, in the course of a year or two being scarcely visible.

The peritoneum is opened the full length of the skin-incision, and caught at once on both sides with forceps and drawn outward. One or two fingers are now introduced through the incision and the fundus of the uterus caught and raised into ante flexion.

I invariably use as a suture-material for suspending the uterus a medium-sized silk about a half millimetre in diameter; catgut absorbs too quickly to insure a permanent adhesion between the uterus and the anterior abdominal wall, and I have had no experience with silkworm-gut or silver wire because the silk is so much easier to handle and has given such perfect satisfaction.

The suture is passed in the following manner: one side of the incision is lifted up by two fingers so as to expose a portion of the anterior abdominal wall on its peritoneal surface. The movable peritoneum and subperitoneal tissues are then transfixed with a curved needle at a point 1 or 2 cm. away from the lower angle of the incision. The

amount of tissue taken in is about 1 cm. in width and 2 or 3 mm. in depth; the same suture is then passed through the posterior face of the uterus 1 or 2 cm. back of the fundus, and finally brought out through the peritoneum and subperitoneal tissue on the opposite side of the abdominal wall at a point corresponding to that of entrance. When this suture is tied it at once brings the uterus up snugly against the anterior abdominal wall in ante flexion.

One more suspensory suture is all that is needed to hold the uterus permanently in ante position. This is passed like the first, but about a centimetre higher up on the abdominal wall and a half-centimetre below it on the posterior surface of the uterus. This is tied, and the abdominal wound closed by sewing up the peritoneum with a continuous catgut suture, then drawing together the fascia above the muscle with one or two silver wire mattress-sutures, and finally closing the superficial fat and skin with continuous catgut sutures. Before completely closing the peritoneum the patient should be dropped to a horizontal position to let the air out from the peritoneal cavity.

Sometimes when the uterus is brought forward out of retro flexion the fundus lies so deep in the pelvis and is so completely covered by coils of intestine that it is exceedingly difficult to get at it to pass the first suture; in the average case the symphysis pubis forms a satisfactory point of counter-pressure to support the fundus pressed against it by two fingers, while the first suture is being passed; but in the class of cases referred to, when this simple manœuvre does not avail, the fundus may still be brought within easy reach by using an elevator, in the manner shown in Fig. 11, to form an artificial point of counter-pressure during the introduction of the suture.

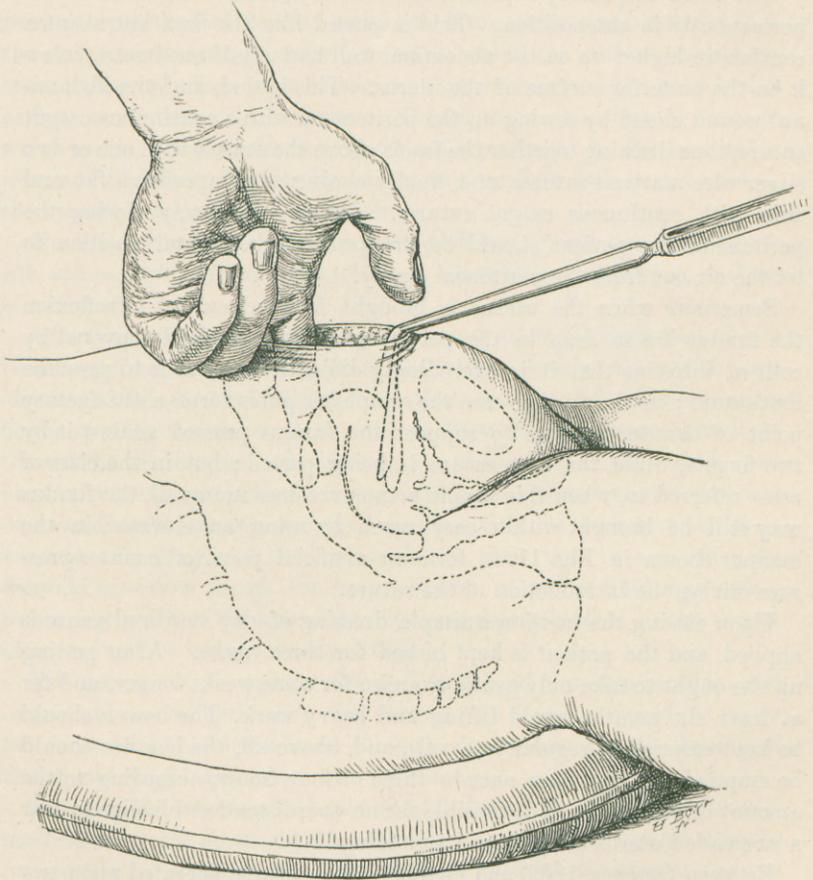
Upon closing the incision a simple dressing of dry sterilized gauze is applied, and the patient is kept in bed for three weeks. After getting up she ought to take only gentle exercise for some weeks longer, and for at least six months avoid lifting and heavy work. The bowels should be kept emptied at regular intervals, and, above all, the bladder should be emptied not less than once in three or four hours, according to the amount of excretion; it is possible for an overdistended bladder to tear a suspended uterus away from its moorings.

Between October, 1889, and October, 1896, I have operated upon two hundred cases of retro displacements in the Johns Hopkins Hospital, and upon nineteen in my private hospital. In addition to these there were some cases operated upon outside of these two institutions. In no case has there been a death in any way connected with the operation either during the convalescence or at a remoter period, and I know of no case in which there has been a hernia or any serious interference with any function of the bladder. In tracing the subsequent histories I have learned of pregnancy in fourteen cases, in but one of which was

there any difficulty attributed to the operation; that was one of the earliest cases, operated upon in 1889, in which a protracted suppuration in the wound brought about such dense adhesions between the fundus and the abdominal wall that the patient, at the termination of her labor some years later, was only delivered by the forceps.

I am not able to state with certainty the exact number of relapses

FIG. 11.



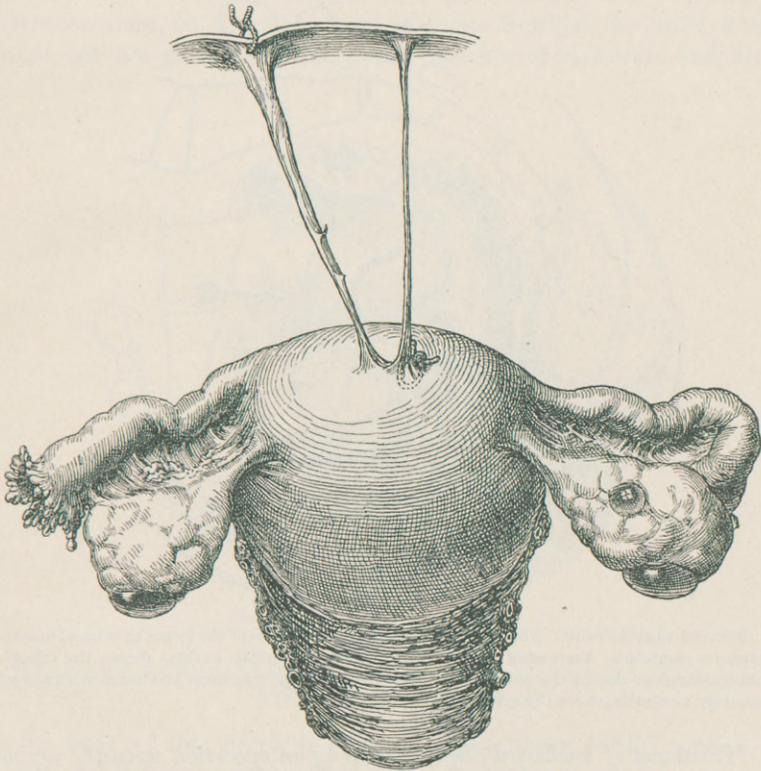
Elevator used as a *point d'appui* during the passage of the first suture through the uterus.

into retroflexion, as I find it impossible to secure the subsequent histories of all my cases; I have seen, however, but four failures.

The operation just described relieves the retroflexion by holding the uterus in a position of great mechanical advantage to meet the forces which tend to displace it. The intra-abdominal pressure now falls upon its posterior surface, and instead of tending to produce a retroflexion

actually increases the ante flexion. While the immediate effect of the operation is to fix the uterus to the anterior abdominal wall (ventrofixation, hysteropexy), this is not the final result obtained, which is a suspension of the uterus by its posterior surface, allowing it the full freedom of all its normal movements; if, for example, the patient is examined two or three months after the operation, the body of the uterus will then be found lying in easy ante flexion in contact with the

FIG. 12.

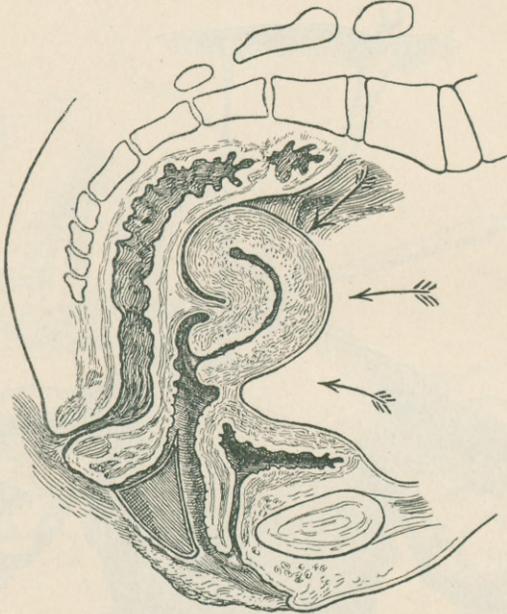


Fibrous suspension-cords attaching the posterior surface of the uterus to the anterior abdominal wall. The left sutures remain at the wall and the right at the uterus. Drawing from a specimen removed more than a year after the suspensory operation.

anterior abdominal wall; the examiner will also find that he is able to raise it without resistance and to push it backward or sidewise; one position, however, it will not take: he cannot throw it again into retroflexion. The explanation of this freedom of motion and this restriction is found upon opening the abdomen, as I have done in a number of instances at intervals of from one to several years, when the uterus is seen to be connected with the anterior abdominal wall by one or two bands of adhesions.

The accompanying illustration of suspended uterus, with adhesions, shows one of these cases, with two long bands of connective tissue running up from the posterior surface of the uterus to the abdominal wall on either side. These bands are broader at the ends and drawn out thin in the middle. One of the silk suspension-sutures appears on one side just under the abdominal wall, while the other is in contact with the uterus; both were encapsulated when the uterus was removed.

FIG. 13.

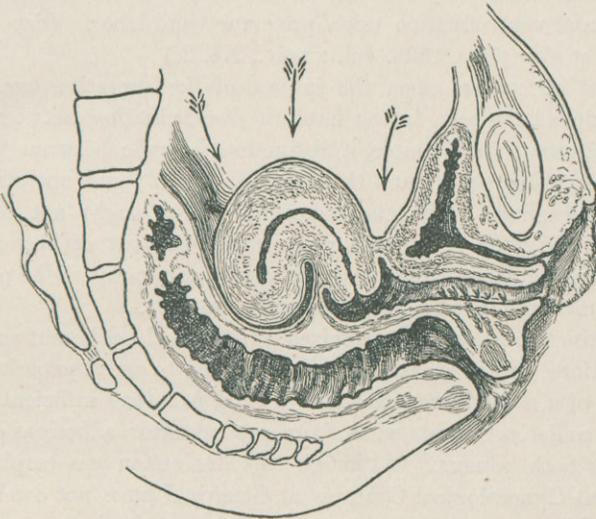


Relaxed vaginal outlet. The arrows represent the directions of the forces of intra-abdominal pressure constantly increasing the descensus. The triangular outline shows the effect of diminishing the size of the outlet by an operation. The picture must be viewed with the promontory vertically above the symphysis.

Treatment of backward displacements by an operation upon the vaginal outlet and a suspensory operation combined. In my operative cases of retrodisplacement the proportion between married and single women was about two to one, and most of the former were women who had borne children and in whom the displacement of the uterus was associated with a weakening of the pelvic floor and a gaping, relaxed vaginal orifice. In such cases it is best, if possible, to correct both affections at one sitting by suspending the uterus in the manner described, followed by a reparative operation upon the outlet, restoring its normal calibre and lifting it up under the pubic arch, and giving the vagina again its normal direction at right-angles to the line of pressure of the intra-abdominal forces.

In recapitulating the various ways of treating retrodisplacement I mentioned under 4 an operation upon the vaginal outlet alone, and I did this to call attention to the fact that if it were necessary to elect, in any given case, between the vaginal and a suspensory operation, I should always prefer the lower vaginal operation, as by lifting up the vaginal outlet under the pubic arch the uterus is supported very much as it is held up by a pessary, and so the tendency to further displacement is checked, and although the displacement persists the patient is often entirely relieved of her distress. The performance of a suspensory operation alone, on the other hand, in a case in which the outlet is relaxed, will not prove beneficial, as the tendency of the cervix, and with

FIG. 14.



The restored outlet, sutures seen inside. The intra-abdominal pressure no longer tends to produce further displacement.

it the body of the uterus, is always to drag down toward a relaxed outlet, and this descensus persisted in will in time rupture the suspensory adhesions of the most successful operation and so reproduce the retroflexion.

RECAPITULATION. The various operative methods cited for treating retroflexions resolve themselves into two classes: the direct methods, which attack the body of the uterus; and the indirect methods, which deal with the uterus mediately by the round ligaments, the broad ligaments, or the utero-sacral ligaments. Of the indirect methods, the two which promise the best results are that of Pryor, acting through the vagina on the cervical end of the uterus in order to produce enough scar-tissue about the utero-sacral ligaments to hold the cervix well back

in the pelvis; and that of Pagenstecher, which endeavors to accomplish the same thing by suturing and shortening the round ligaments. The other indirect method is that of Alexander, acting upon the opposite pole of the uterus by means of the round ligaments. I think the best elaborated technique of this procedure is that of Dr. Edebohls, of New York.

The direct methods are two: the vaginal fixation, and the abdominal fixation or suspension. The vaginal operation has been practically abandoned, and the only abdominal operation which has thus far stood the test of prolonged trial in a number of cases is my own, which I have for this reason carefully described. The student interested in this subject should not fail to consult a carefully prepared digest by Dr. C. P. Noble, of Philadelphia, who has admirably presented the effects of suspension and ventrofixation upon pregnancy and labor. (See *American Journal of Obstetrics*, 1896, vol. xxxiv., No. 2.)

Almost all writers upon the subject of the operative treatment of retroflexions have been in the habit of discriminating between various classes of cases; for example, a distinction is made between those past the childbearing period and those still within it; and operations such as vaginofixation, which experience has shown ought not to be performed during the childbearing period on account of the danger to patient and child in case of pregnancy, may very properly be performed in a woman who is not likely to become pregnant.

A distinction generally recognized is between the adherent and mobile retroflexions. Some operators, while unwilling to open the peritoneum in the case of a non-adherent movable uterus, feel that sufficient justification for cœliotomy exists when there are posterior adhesions or disease of one or both adnexæ. Although this distinction was emphasized at the recent Gynecological Congress at Geneva, I have not dwelt upon it here, as I have shown by my own statistics that the danger to life from a properly performed suspensory operation is no greater than in any other so-called simpler operations. In addition to this the peritoneal incision always affords an opportunity of inspecting the appendages and discovering diseases often unsuspected, such as hydrosalpinx and adhesions of less grade; in one instance I found a commencing papiloma of the right ovary, not larger than a split-pea in size.

My conclusion in the whole matter would be that operative measures are only to be resorted to for the relief of retroflexion in those cases in which there is good reason to believe that the displacement seriously interferes with the patient's health and comfort. Then, if the case is one calling for operation in a woman who has borne children, first always look well to the vaginal outlet, and restore it, if it is broken down. The Alexander operation, as performed by Edebohls, will yield excellent results; my personal preference is to deal directly with the retroflexed body of the uterus by a suspensory operation.

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