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HENRY T. BYFORD, M.D.,

PHYSICIAN AND SURGEON TO THE WOMAN'S HOSPITAL OF CHICAGO.

Read before the Chicago Medical Society, July 6, 1886.

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MECHANICAL TREATMENT OF RETROVERSION OF THE UTERUS.

Retroversion of a fully developed uterus, in which there is no flexion, presupposes a displacement of the os and lower end of the cervix forward. Causes of retroversion act by either weakening the natural supports or bringing an abnormal or unusual strain to bear upon them. The mechanical treatment, or that which corrects the displacement while a cure is being accomplished, or attempted, should avoid weakening or interfering with the natural supports.

We may divide the more directly mechanical means usually adopted for correction of such deformity into four kinds.

1. Those which permanently fix the fundus in front of the pelvic axis.

2. Those which draw or fix the os or cervix back of the pelvic axis.

3. Those which place a barrier or obstacle to the forward displacement of the os and cervix.

4. A combination of two or more of these methods.

The fixation of the fundus forward has been done in four principal ways:

1. By the Alexander operation, in shortening the round ligaments. It was suggested by Alquié, recommended by Aran, experimented upon on the cadaver by W. A. Freund, and successfully performed and established as a therapeutic measure by W. Alexander.

2. The stitching of one (or both) round ligaments to the abdominal walls, as has been done by William H. Byford while performing laparotomy for another purpose. An examination after two menstrual periods had passed showed that the uterus was still held up by its new attachment.

3. Stitching a broad ligament to the abdominal wall, as has been successfully done by Kœberlé and Schrœder during laparotomy for another pathological condition. The uterus in Kœberlé's case was found upon examination by Carl Braun, after ten years, to have retained its new position.

4. The stitching of the uterus to the abdominal wall, as recommended by Mueller and Lawson Tait, and performed by Skene Keith, Heywood Smith and probably others by an especial laparotomy.[1]

These operations have the common disadvantage of an unnatural fixation of the fundus forwards.

Drawing or holding of the cervix back has been accomplished by the hazardous expedient of cauterizing the vagina for the purpose of producing cicatrical contraction behind the cervix, as by Amussat and others, or of causing adhesive inflammation in the posterior cervical and vaginal walls; or by the safer plan of denuding these apposed surfaces and stitching them together, as recommended by W. Lœwenthal and performed by Hunter, of New York, O. E. Herrick, of Michigan, and others.

The objection to such procedure, besides the danger of peritonitis, lies in the fact that either the cervix must be held back rigidly, or the posterior vaginal attachments must become loosened. Emmett thinks that the consequent traction upon the bladder must be a serious objection.

But the most common and available method is by pessaries of the Hodge class, such as the Albert Smith, Thomas, Emmett, Hewitt, Hanks, Nœgerath, Schrœder, Gehrung, etc., which press backwards and upwards behind the cervix, and thus draw it back and drop the fundus forwards. They hang up the cervix, and thus supplement or supplant the posterior suspensory or sacro-uterine ligaments of the uterus.

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[1] The methods of these operators, I have not for want of time and opportunity been able to determine.

But in doing this they are apt to hold the uterus in a state of forced anteflexion, and weaken or irritate these ligaments; and by stretching the vagina longitudinally to loosen its attachments.

The pessaries with external supports such as Priestly's, Lazarewitsch's, Cutter's, Thomas', Scott's, can often be introduced by the patient, and thus sometimes serve a better purpose than those just mentioned. I have never used a pessary with more satisfaction than occasionally Scott's in case of relaxed vaginal outlet.

H. Marion Sims has recently[2] presented a retroversion stem pessary in which the cervix is pulled back by the intra-uterine stem instead of a post-cervical bar. The bar of a Hodge pessary practically passes under the cervix and affords a hinge-like support to the stem. There are undoubtedly atrophic or imperfectly developed uteri with retroversion for which this instrument will be found preferable to others.

In some cases of small vagina and cervix, the elastic ring of Peaslee, Mayer, or Dumont-Pallier, or an inflated rubber bag or ring, or a hard rubber round or oval ring, may be made to distend the vagina and thus draw the cervix into a less abnormal position. But the majority of them are relics that belong more to history than to practice, which we take out oftener than we introduce, yet which occasionally do some good where others cannot be used. They remind us that no form of pessary can be used for all cases, and reproach us for having no suitable pessary for many cases.

The method of keeping the cervix and os back by placing an obstacle in front of it, acts upon a rational principle, and does not labor under the disadvantage of supplanting natural supports, and thus favoring their atrophy, irritating or pressing upon tender and inflamed tissues behind the cervix, of greatly stretching the vagina, of drawing open lateral lacerations of the

[2] New York Obstetrical Society, April 6, 1886.

cervix, or of holding the uterus in a state of harmful immobility. This may be accomplished by a pessary or by a plastic operation.

Pessaries of this class should keep the cervix so far back that the abdominal pressure will force the fundus forward or, in case the ligaments are utterly relaxed and useless, should hold the cervix so near the hollow of the sacrum that the fundus will, for want of space, be unable to fall back into a permanent state of retroversion. The simplest and least objectionable form is the cotton plug, which is made into a shape resembling a small spool of thread, saturated with glycerine or some other disinfected lubricant, placed transversely in front of the retroposited cervix, and changed every day. After a time the patient may take the plug out at night and have it introduced in the morning. Some patients learn to use them themselves.

A rectal tampon which was recommended by Huguier in 1865, might be made to act efficiently in this way in exceptional cases in which nothing can be retained or tolerated in the vagina, especially if the weakened perineal body were supported at the same time by a perineal pad. A flattened globe of glass, hard rubber or hollow metal of appropriate size, might for want of something better be occasionally used by the patient with comparative comfort and benefit.

Courty's pessary consists of two bars which rest on the pelvic floor, and are joined by a cross bar in front where they rest against the pubes or vaginal entrance. Behind, the bars curve up in front of the cervix, and form a more or less rigid barrier to its forward movement.

Gehrung's[1] instrument has the shape of a very small excessively curved Albert Smith pessary, with the cross bar in front of the cervix. The chief objections to it are that the pressure against the cervix must be

[1] The *anteversion* pessary, called "Gehrung's pessary," is not the one referred to.

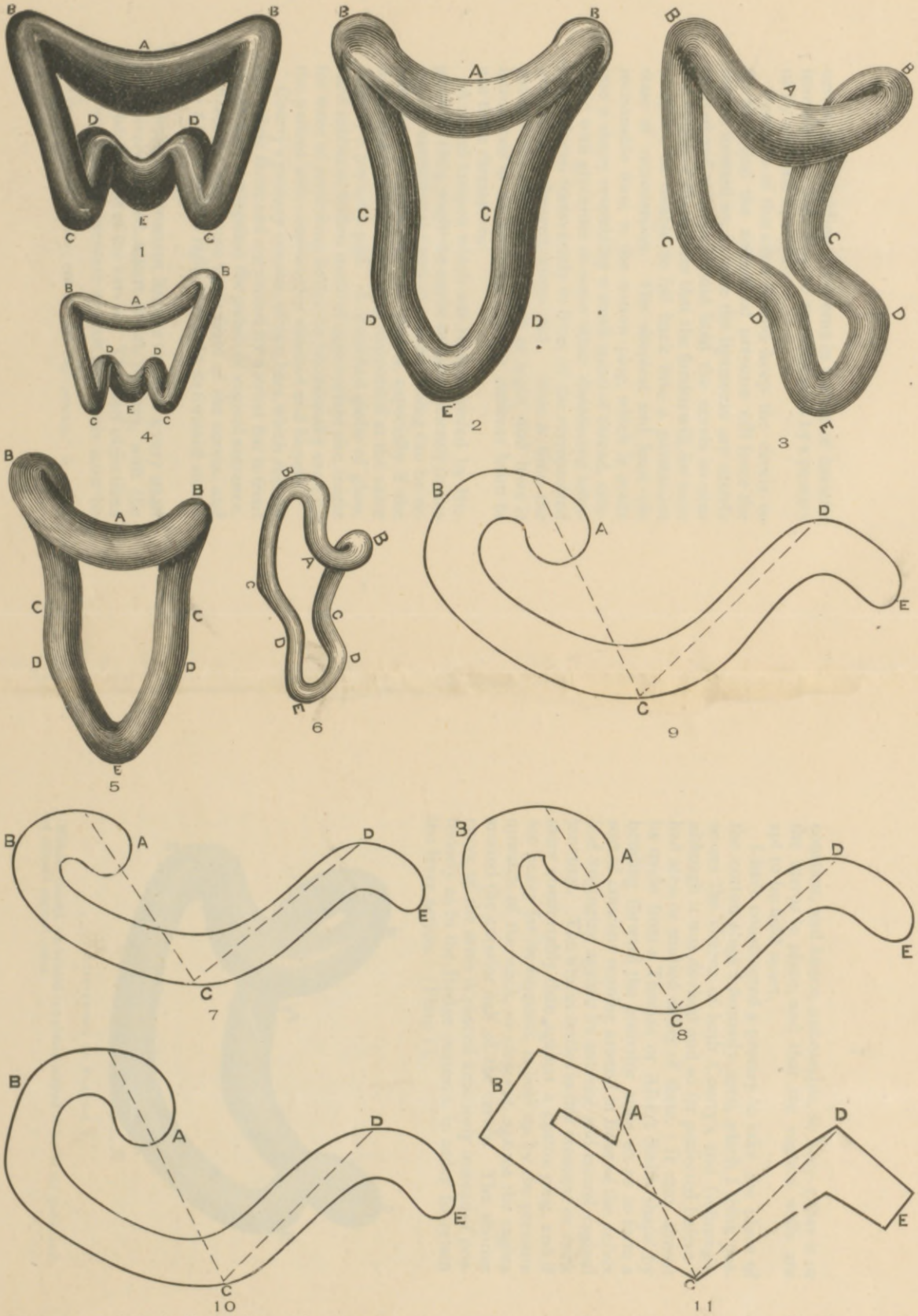
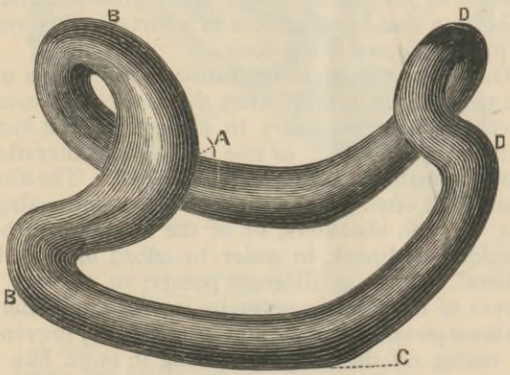


PLATE I.—a, neck; b, shoulder; c, elbow; d, handle; e, free end; 1, 2, 3, different views of same instrument; 4, 5, 6, modified for lateral displacements; 7, for small vagina (profile); 8, ordinary form; 9, for lax vagina and outlet; 10, for raising heavy uterus from relaxed pelvic floor; 11, schematic.

constant, and hence, unbearable, to keep either it or the uterus in place, and that the vaginal walls are apt to be held apart.

I have constructed a pessary to take the place of the cotton plugs I formerly used, which I think possesses the virtues of both Courty's and Gehrung's, although it was devised and so far perfected before I had seen or studied either of them. It may almost be made from a Thomas' or Albert Smith shape by bending forward the posterior arms so as to form a sort of crescent running around in front of the cervix and impinging against its anterior and lateral vaginal junction. The uterus settles in this crescent or neck more comfortably than against a cotton plug, and if too heavy for its supports, is held up by the pressure upwards of the neck, or crescent against the vagina around the anterior half of the cervix. The shorter curve of the arms is placed anteriorly instead of posteriorly as in the Hodge patterns, in order to retain the lever action. (Plate 1).



SUPPLEMENT TO PLATE 1.

Handle curved up behind symphisis instead of under the pubic arch. For relaxed vaginal outlet.

The parts of the instrument are a neck *a*, two shoulders *b*,*b*, two elbows *c*,*c*, two arms *b*,*c*,*d*, a handle *d*,*d*, and the tongue, or, free end, *e*, The uterus impinging against its neck at *a* makes a lever of it, whose arms are represented by lines passing from *a* to *c* and *c* to *d*, and which, during ordinary abdominal pressure forces the handle *dd* up behind the symphisis pubis instead of through the vulva. The elbows or fulcrum *c*,*c*, rest on the posterior wall of the vagina or on the pelvic floor, at either side of the rectum. The longer the arm of the lever *a c* in comparison with *c d* the greater the upward pressure of the handles and the less their liability to escape externally. If during heavy lifting, defecation, or abdominal pressure while in a stooping position, the depressed anterior vaginal wall forces the handle down until it appears under the pubes, the patient has only to push it back; or if (as seldom happens with a properly adjusted pessary) it does not slip into proper place, she has but to assume the knee chest position. This descent of the handle under great pressure, instead of being a disadvantage acts as a sort of safety valve, to prevent injury being done.

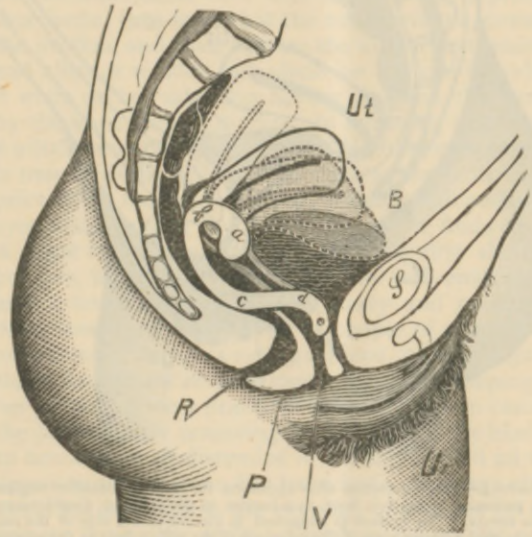
On account of slight relaxation of the vagina or of the pelvic floor, it may, when the uterus is unusually heavy, become necessary to change the first instrument for a larger size, or else make some alterations. Later a smaller one may again be used. The alterations most often required are raising or depressing of one or both shoulders, or of the neck, or of both shoulders and neck, in order to afford more or less general support at different points; or to vary the curves of the arms in order to increase or diminish the lever power. Escape may be effectually prevented by taking off the tongue, making it more like the Courty or like a reversed sleigh pessary. It may then be used for retroflexion and prolapse.

A very small instrument with gentle curves is required for the virgin and congenitally sterile woman,

while a very large one with abrupt anterior curves and broad handle may be required for the child-bearing woman with relaxed vagina and pelvic floor. The shoulders must also be higher in proportion to the centre of the neck when the upper vagina is relaxed, so that they may get a vaginal bearing on either side of the cervix. (Plate 2).

PESSARY IN PLACE.

PLATE 2.—Dotted and interrupted lines show possible temporary positions of the uterus allowed by the pessary.



Explanation Plates 2 and 4.—R, rectum; P, perineal body; Ur, Urethra; V, vaginal entrance; S, symphisis; B, bladder; a, b, c, d, e, pessary; Ut, uterus; L, lines indicating places for uniting cervix or anterior vaginal walls with posterior vaginal walls.

I have made the pessary fulfil, in its own class of cases, the following six requirements:

1. To place the uterus in a normal, or nearly normal, position.

2. Not to interfere with the natural supports.

3. To support the uterus in a natural manner; *i.e.*, to afford an elastic or yielding support.

4. Not to interfere with the use of a speculum.

5. Not to interfere with the marital relations.

6. The patient shall be able to both introduce and remove it.

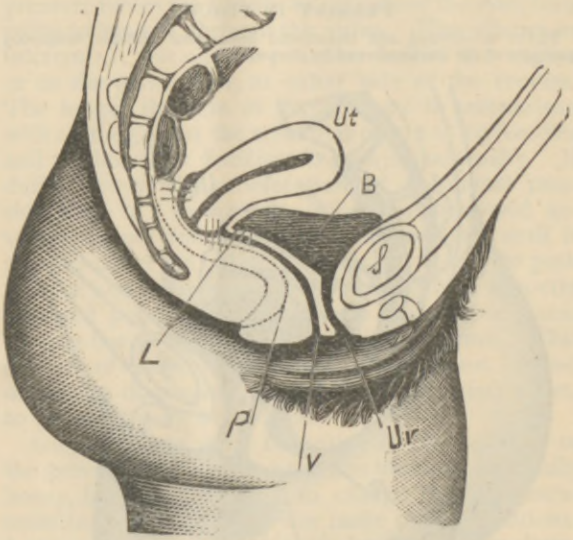


PLATE 4.—Median section after operation for raising posterior vaginal wall, perineum and pelvic floor, as a barrier to the forward displacement o the cervix. The section is supposed to swerve to one side of the rectufm, to give a better view of the relations of the pelvic floor to the uterus. Rectum indicated by dotted lines. Places for uniting vaginal or cervical and vaginal walls indicated by lines.

The ordinary Hodge pessary and its modifications are generally faulty in requirements one, two and six. This pessary allows the vagina to collapse, and practically presses against no supports, except the posterior vaginal wall or pelvic floor. Its neck is firmly

pressed upon by the cervix uteri only a part of the time, viz., during the action of influences tending to retrovert the uterus; the coustant pressure is distributed half-way around the cervix and is against the vaginal junction. All other instruments of this class fail because they exert constant pressure on the cervix in front and are thus unscientific and intolerable. But perhaps its most valuable characteristic is that it can be properly introduced by the patient. She has but to slip first one of its shoulders under the symphisis, and then the other over and beyond the depressed fourchette, turn it so that the neck will be towards the urethra, and then assume the knee chest position and allow it to slide into place, or she can introduce it while on her side after having replaced the uterus by the knee chest position. In removing it she turns it a little more than a quarter circle, so that one shoulder is toward the symphisis, and then, as she pulls it out, pries either the upper or lower shoulder out under the symphisis, or over the fourchette, as she finds easier. A slight twist or rotary motion as the first shoulder escapes, so as to miss the urethra will enable her, after a few trials, to remove it easily and painlessly. After wearing it steadily for a couple of months she may remove it nights and introduce it mornings for three, four or six months longer, avoiding sleeping on her back. A very practical point here is to caution the patient after removing it not to allow the bladder to become much distended in the night until all tendency to retroversion has been lost. She may either avoid taking fluids in the evening, or else get up and urinate during the night. Carelessness on this point in the treatment of retroversions often delays, and sometimes prevents, a cure.

The pessary may usually be introduced by the physician, in the lithotomy position by following it into the vagina with the finger under the handle, and pressing down, or back, the cervix while the other hand pushes the instrument and uterus into place, or

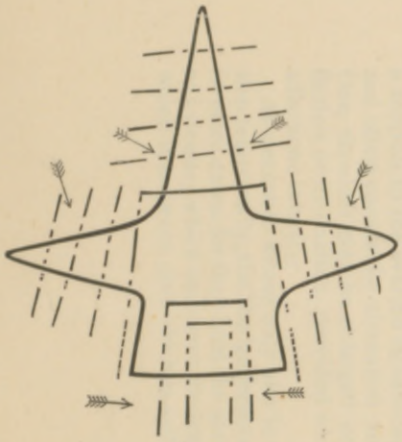
if unsuccessful by putting her into the knee chest position, and displacing the fundus from the hollow of the sacrum by the finger, when the instrument need only be allowed to follow into place.

Especial contra-indications to this form of pessary are: Tenderness or induration in the vesico-cervical region, decided *retroflexion*, an insufficient projection of the cervix into the vagina, and an unusually short vagina, more particularly the anterior wall. Irritation on either side of the urethra or pressure upon the deep dorsalis clitoridis nerves and vessels are not contra-indications, but call for a greater approximation, separation or downward curving of the arms anteriorly at the handle. All pessaries require some skill in preventing irritations.

Especial indications are: Retroversion with subinvolution after abortion or labor, or with bilateral laceration of the cervix in which the traction of the other forms acts hurtfully, a lax vagina, post cervical tenderness. It it useful after the uterus has been held anteverted by the Hodge instruments for some time and we wish a less rigid support, and one that the patient can use, and gradually lay aside. I find the uterus less apt to retrovert after its prolonged use than after any of the Hodge class.

In preparing a subinvoluted uterus with bilateral laceration and eversion, but without retroversion, it is also exceedingly useful in lifting the cervix from the pelvic floor. When properly adjusted it acts as a support to the everted labia us well as to the uterus, and often causes the ulceration to quickly fade out. One shoulder may be enlarged or raised for lateral flexion or inclination, provided no rigid ligaments or adhesions interfere.

As pessaries whose only aim is to relieve retroversion temporarily, the Hodge forms will perhaps answer in more cases, for they hold the uterus anteverted, but as a pessary which interferes the least in most cases for which it answers, and which is suited to its own class



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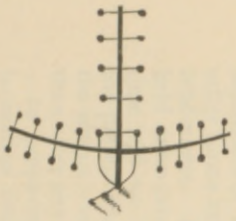

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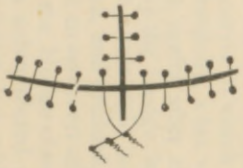

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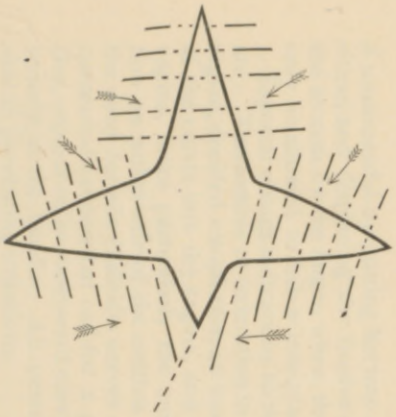

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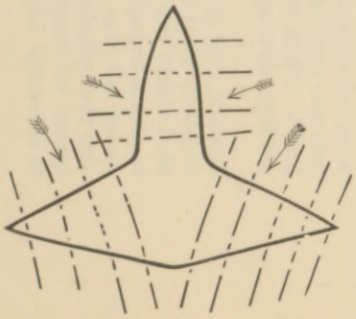

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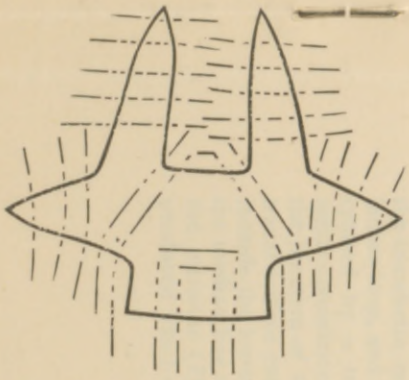

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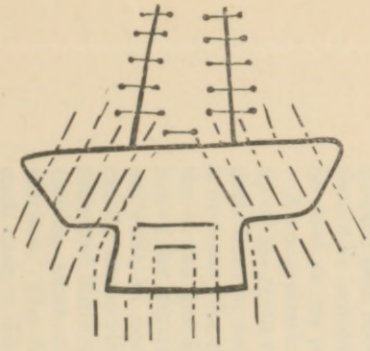

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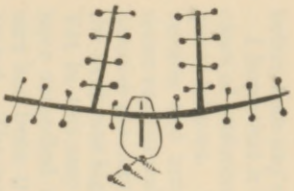

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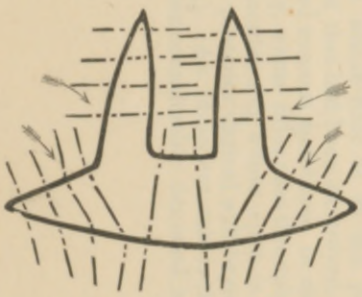

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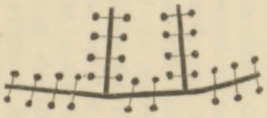

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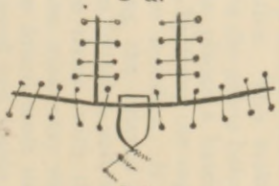

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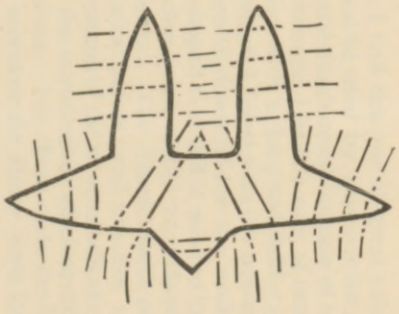

6.

PLATE 3.—1. Complete figure, with central triangle. 1 a. United. 2. With small triangle in vulva, for raising fourchette. 2 a. United. 3. Without narrowing vulvu. 3 a. United, 4. Complete figure, with lateral strips posteriorly. 4 a. Posterior strips united. 4 b. United. 5. Without narrowing the vulva. 5 a. United. 6. Triangular notch for raising the fourchette, added. 6 a. United. Arrows show the main directions of muscular fibres. Dotted lines show where the stitches dip into the tissues.

better than any other, I find this one of great value.

I hope that it will not be tried by any one for all cases of retroversion, and condemned because of frequent failures. For instance, I have a case of retroversion and anteflexion with a long and flabby anterior vaginal wall, in which I failed with this pessary, because the cervix slipped down under the neck if the neck was high, or slipped over it if it was too low. Yet in this case a thicker neck would undoubtedly have remedied the defect. The Albert Smith pessary had been tried twice before, and was not tolerated. The most common of the contra-indications which I have met are the retroflexions which so often co-exist with retroversions. For these cases the bar should be behind the uterus or the Harry Sims form be used, or my pessary without the tongue.

Among plastic operations I have found the raising up of the recto-vaginal promontory and perineum of great benefit, and sometimes curative. This makes it necessary for the womb to rise in the pelvis before the os can get forward, and thus places a barrier before the cervix, and also tends, by fixing the vaginal walls, to correct its excessive mobility. It is chiefly accomplished by shortening the relaxed or retracted fibres of the levator ani muscles, and including some of the connective tissue with the stitches. The form of denudation must vary with each case. That which I have found most successful is a transverse strip removed just inside of the fourchette or carunculæ, between one and two inches long, and from one quarter to an inch wide, crossed by a triangle whose base is at the posterior commissure, or, if that had been destroyed, at the junction of skin and mucous membrane or cicatricial surface externally, whose sides pass through or include the lower carunculæ, and whose apex is in the median line of the posterior vaginal wall beyond the introitus (Plate 3). An imperfect star is thus produced which contains considerable denuded sur-

face, but whose points or angles, upon being sewed up, will unite ends of muscular fibres without much traction upon other surrounding tissues or displacement of parts. The main stitch, introduced through the right labium majus at the base of the triangle and brought out through the mucous membrane at a point near where the same side of the triangle intersects the posterior border of the transverse denuded strip, then introduced at the corresponding point behind the transverse denuded strip on the left side, and brought out through the left labium at the base of the triangle, will draw the star together in the form of a cross, and indicate what edges are to be stitched together. This main stitch should not be twisted until after the vaginal stitches.

The triangle will, of course, be divided in the centre as the star is pulled together, forming two long right-angled triangles whose shorter legs form the restored cutaneous raphe of the perineum as they meet in the median line. Their hypothenuses coming together in the median line, in the vagina form one side of the cross; the united transverse strip forms the other side. When the patient has not borne children the perineum is seldom greatly relaxed externally and the vulval wedge may be omitted, so that the base of the triangle will be upon the posterior border of the transverse denudation. A small neck or minute triangle may be taken from the fourchette, whose apex is at the posterior commissure, and whose base is at the anterior edge of the transverse strip, to better raise the sagging fourchette. Or if the fourchette be already high, the point at either end of the transverse strip may be placed so that when the triangle projecting into the vagina is closed both sides of the transverse strip will be of equal length and be easily united. Broad strips must, of course, not be taken from the vagina of those who may afterward bear children; but, on the other hand, the triangle should be made broad and long and the transverse

strip wide in operating upon those with rectocele or who have passed the menopause, in whom there is often great relaxation, destruction or retraction of tissue.

When the *levator ani* has been torn laterally, or when the fibres which pass under and behind the rectum have become relaxed, it will be better, instead of removing the apex of the triangle in the median line, to remove a strip on either side of the rectum, something like those removed in Freund's operation, and thus draw up deeper fibres of the levator ani. They may be removed and sewed up immediately, *i. e.*, before the rest of the figure, as Martin does in his "*Elytrorrhaphia duplex lateralis*," and may go with all the varieties of the anterior denudations mentioned.

Since becoming accustomed to these forms of denudation I have found it also more convenient to denude the apex of the triangle first and sew it up before denuding the rest of the figure, thus saving the loss of considerable blood. The objection to this consists in the difficulty in knowing, in the beginning, how far up the vagina to carry the denudation.

The tranverse denudation is for shortening or reattaching the fibres of the levator ani which pass from the pubic rami forward to the perineal body and lift that body, while the antero-posterior denudations shorten or raise those that pass more directly towards the median line under the vagina and rectum, and thus lift the pelvic floor and posterior vaginal wall (Plate 4). We thus produce the greatest possible effect in raising and strengthening the parts with the least possible loss of tissue. The uniting of separated fascia and fixation of the vagina to its connective tissue is attained at the same time that the muscles are shortened. The transverse strip not only raises the perineum but attaches it to the pelvic floor, on either side of the rectum. The stitches must be passed deep into the sides or edges of the

denuded figures, but should not include their middle sections, since that would bind down instead of raising up the parts. When the parts have been previously injured, and are traversed by cicatrices, the form of denudation must, of course, be modified to suit the case, viz.: to remove the cicatrices and restore the injured tissues to their natural relations. The operation should be suited to the particular case, and not the case suited to a particular operation. The old notions of building a pyramid which never existed; of constructing a firm triangle in the median line, where a firm triangle must be a pathological condition; of projecting a huge rigid cicatrix between the elastic walls of the rectum and vagina, to run the risk of being gradually melted away by time and traction; or of cutting away, instead of replacing, prolapsed masses, are the crude methods of an age of transition, and continue to live, as useful remedies, only for want of something better.

If the anterior wall of the vagina be much loosened anterior elytrorrhaphy should also be performed as an important, if not necessary, part of the cure.

The patient, after all plastic operations for retroversion, should be kept in bed, but not be allowed to lie on the back for two weeks. It goes without saying that should such plastic operations be undertaken indiscriminately, failure must be the result. The main part of the cure must be made before this nearly mechanical part, viz.: the restoration of natural checks upon the motions, and hindrances to the falling over backwards, of the womb.

To the criticism that I am producing an unnatural state of things by thus elevating the perineum and recto-vaginal promontory, I must answer that I have seen many well developed patients in whom the promontory and portions of the perineum were natnrally thus elevated without inconvenience either before or after marriage, and that I am imitating

nature by taking the perinea of such women as models for the operation.

The anterior vaginal or cervical walls may be stitched to the posterior vaginal walls, as a preliminary or first step in performing the above described operation, if the case be unusually unpromising or complicated, and the patient be beyond childbearing.

The denudations should be made where the walls come together after the uterus has been anteverted and the cervix pushed well back, and need not be as extensive as in the Le Fort operation for prolapse. Occlusion of the vaginal canal must, of course, be avoided.

This brings us to the combination methods. The Alexander operation is nearly always combined with support by a pessary for a few weeks or months. It should often be preceded by a plastic operation either for raising or restoring the perineum and recto-vaginal promontory. Other combinations may be devised, some fanciful and some practical. The posterior cervical and vaginal surfaces may be united and a Harry Sims or Gehrung pessary be used to hold the uterus in place until the union is firm and the tendency to retroversion diminished. The abdominal section operations may be supplemented by plastic operations or pessaries. Both walls of the cervix may be stitched to the posterior vaginal wall, before and behind, or the cervix may be stitched posteriorly and laterally to the vagina.

The Fitch, Studley, Schultze's figure eight, and sleigh pessaries, the Hurd, Fowler, Fritsch and Woodward patterns, Martin's eccentric ring, cotton plugs used as recommended by Thomas, etc., are more or less perfect examples of combined traction behind and support in front. They are indicated when the upper surroundings and supports of the uterus are tender, and motion of the organ is to be limited by a firm hold upon the cervix.

In conclusion it must be said that such mechanical

treatment as a routine and sole remedy for retroversion is only exceptionally curative, since the original cause and its accompanying or resulting pathological conditions, if still present, tend to break down all barriers and tear loose all attachments.

DISCUSSION.

DR. H. P. MERRIMAN said: I have been very much interested in the paper, which I think is a valuable one. It seems to deal not merely with the subject of pessaries, but with the various means of support in the case of retroversion. I think a great many physicians, when they find a retroversion, without stopping to consider its cause, at once feel that it is necessary to employ a pessary, and in a great majority of instances the use is followed by failure to cure. We all know that retroversion of the uterus has more than one cause; it is due in a great many cases to pressure from above, to weight within the uterus itself, as in the case of a fibroid tumor; the use of the pessary in these cases is of no value—it is only when there has been a weakening of the supports. In the case of weakened ligaments the pessary is of value as a temporary expedient. When the retroversion is due to a weakened vaginal support, which is true in the great majority of cases, for when we find the perineum ruptured, even partially, we are going to have, sooner or later, a retroversion. We find pessaries valuable in these cases, though, as a rule, we should not depend upon them permanently, because we need to restore the vaginal supports by some kind of operation, such an operation as restoring the perineum and curing a rectocele or cystocele, or by the general operative procedures Dr. Byford has mentioned. It strikes me that what we need in nearly every case is to examine the vagina and restore it to its proper shape and position. The uterus is retroverted because the vaginal support is gone, the wall of the vagina has become relaxed and is

letting down the uterus, and we want to restore that wall of the vagina. If there has been a ruptured perineum you must restore the perineum, if there has not been we may be able to restore the uterus, and by keeping it in place for six months or a year regain the support of the rested vagina. This will be done in a little different way from what Dr. Byford has suggested. We have got to fit something to the vagina that will extend the posterior wall and push up the cul-de-sac back of the uterus. We cannot do that where there is tenderness, or where there is a tumor; but where there is not, and it is merely a simple retroversion, then it will be necessary to fit the pessary to the vagina and have it fit in such a way as to elongate and support the vagina in a natural shape. It always distresses me when I hear men speak of fitting a pessary to the uterus. I do not believe it should be fitted to the uterus. It should be fitted to the vagina; the object is to restore the vagina to its natural position, and we must choose a pessary especially adapted for that purpose, and it should lie easily in the vagina.

Dr. William Byford said: Mr. President, I came here with the determination of not speaking upon this subject to-night, because the scope of the paper is so great that if I were to undertake to comment upon half the points it would take too long. I believe the principles of the paper are correct for the treatment of this form of displacement of the uterus, especially the one of acting upon the cervix. My impression is that in retroversion of the uterus there is stretching of the utero-sacral ligaments until they are relaxed, and we find connected with it relaxation of the vagina, which I think is more frequently the consequence than the cause.

Dr. Franklin H. Martin asked Dr. Byford what advantages he claims for his pessary over the German sleigh pessary? If the fulcrum of this pessary is as indicated in the large diagram, situated at a low

point on the posterior vaginal wall, how is he going to get any support for his fulcrum in a case of lacerated perineum? His illustration represents the fulcrum resting very low in the vagina, and it would have no support if the perineum is even partially lacerated.

Dr. T. D. Fitch said: Dr. Merriman thinks supports for the uterus are abused. I think so also; they are abused because practitioners do not take the trouble to enlighten themselves with regard to the use of these mechanical supports, but when they get a case that requires a mechanical support they go ahead thoughtlessly to adjust a pessary of the latest device to support a displaced uterus. If from different causes the uterus has become displaced, do not the uterine ligaments become weakened as the result of that displacement? You never have a case of displacement that the uterine supports do not become weakened and relaxed, and can you tone up a muscle or a ligament that is placed upon the stretch to its utmost capacity, by any means, while in this tense condition? It is impossible. We must assist those ligaments to regain their tone by these mechanical supports, relax the ligaments, give them rest, and then by local and general treatment give them tonicity. Having done this you can remove your artificial supports. I fully endorse what Dr. Merriman says with regard to fitting the pessary to the uterus. The pessary should conform to the normal form of the vagina, and that is why we have to have this flexible material so that we can bend them by heat and make them fit the different shaped vaginæ. I do not approve, as a rule, of the principle of leverage. And that is why so many physicians fail in the use of Hodge's pessary; the leverage is too great. The pressure is so great in using this leverage that abrasion occurs, and laceration and cutting through the tissues. Pessaries should never be fitted in such a way as to produce abrasion, laceration or cutting through the tissues. They should not press hard;

they should distend the vagina to its normal length, especially, not its normal breadth, and this can be done without much pressure where the uterus is replaced so the fundus falls forward so as to be in front of the transverse axis of the uterus at the junction of the cervix with the body. If it is thoroughly replaced, then you do not get much pressure when you introduce the pessary. It requires little force to hold the cervix back, and I believe in the majority of cases that here is where the general practitioner fails, viz.: in getting the fundus thoroughly forward, and uterus replaced. Many times it is half raised up and the pessary presses against the body of the uterus so hard that it will imbed its whole thickness in the body of the uterus, producing inflammation.

I have frequently held the sound in the uterus and held the uterus up thoroughly anteverted, or thoroughly at right angles with the vagina and introduced the pessary over the sound so as to secure thorough replacement of the uterus. I believe in the use of the pessary not only as a support to the uterus, but as a splint to the vagina, for if the vagina is kept in its normal position the uterus will necessarily be kept in its natural position. The ideal pessary, in my opinion, is the pessary of Hodge. Emmett's pessary will fit more vaginas than Hodge's or Smith's, the latter differing from Hodge's in that its vulval extremity is narrow instead of broad, Hodge's is broad while Smith's and Emmett's are both narrow at the lower extremity and are supported by the walls of the vagina. Emmett's is much better than Smith's, is much larger, and therefore much less liable to press too hard upon tissues. The pessary of Dr. Byford which he has introduced to-night, is the form which I have improvised extemporaneously for myself, and used in several cases. I had six cases where the tissues in the posterior vaginal junction were so sensitive that it was impossible to use a Hodge, Smith, or Emmett. So I took the ordinary pessary of Hodge

or Smith, and bent it in the form of a Byford pessary, and found I could use it where I could not use the others. There is an objection to placing this pressure upon the anterior surface of the cervix with a firm unyielding instrument, and I don't believe that Dr. Byford's pessary will entirely remove that difficulty. He has stated in his paper that there is in a great many cases an absence of the anterior lip of the cervix uteri; there is not sufficient of it to be received on this instrument and to be held, its slips off and down in front of the instrument. This is not the only objection, I have found that while the pressure is brought upon the anterior surface of the cervix by the edges on my instrument, it so interferes with the circulation that the anterior lip will become swollen and œdematous. In his instrument there is no ring for the cervix to become imprisoned upon, this is certainly a thing most to be desired where there is an ulceration or laceration existing. If the pressure could be divided between the posterior vaginal junction and the anterior surface of the cervix, the œdema would be much less than where the whole uterus was held up by the pessary. These pessaries, Byford's and mine, are certainly very strongly indicated in cases where there is great tenderness in the cul-de-sac. A prolapsed ovary with a retroverted uterus may fall down into the cul-de-sac of Douglass and no pressure can be borne there at all, and in such cases the only pessary that can be used with success is one that brings the pressure to bear upon the anterior surface of the cervix uteri.

Dr. Sarah H. Stevenson said, I would like to ask how to treat cases in which the fundus lies high and in which the pressure upon the surface has no effect whatever. Where the fundus is low there is no difficulty. It is very easy to cure that sort of retroversion, but where the fundus is high I do not know how to treat the case.

Dr. Henry T. Byford said in closing this discus-

sion, I think it is wrong to say that pessaries are fitted to the vagina; they may be fitted either to the vagina, uterus, or pelvic floor, or all three. In regard to the bearing of this instrument, it forms almost a semi-circle in which the cervix fits loosely and does not get directly pressed upon. It also makes a good support for a uterus that is not retroverted, but which rests on the pelvic floor. I have a case of bilateral laceration with eversion to the third degree, in which after this pessary was applied to the extensive ulceration due to friction upon the pelvic floor, got well in three weeks. I have a case of fibroid tumor in which the uterus lay directly across the pelvic, the right horn on a level with the cervix, but which is held about straight by this pessary modified by having one shoulder lifted, thus giving the patient back her former comfort. In regard to Dr. Martin's question—in the case of laceration just mentioned the levator vaginæ portion of the levator ani seem ruptured or relaxed, and leaves a large vaginal outlet, and yet a good sized instrument is retained. A large instrument is of course required for a large uterus or a relaxed vagina. You can change the position of the fulcrum by changing the curve of the arms. The sleigh pessary if reversed looks very much like this one with the handle cut off, but it would require a change in the curve of the arms, and in the neck, before it could be similarly used. My pessary comes the nearest being a perfect representation of one of Dr. Fitch's instruments, which he devised before he became sick, but has not exhibited until to-night, and which is a modified Courty's. About the operation, I would like to say that my object in performing it is merely to raise the natural tissues, not to build an artificial support or barrier of fanciful shape; not to remove any more tissue than is absolutely necessary, but to draw the tissues together as much as is possible or desirable. What I have tried to do has been to find the directions of the muscular fibres and

shorten them a little, and if they have been torn to reunite them as they were originally. At the same time I have always in mind the gathering up of the loosened connective tissue about the denudation, and I sometimes cut a little deeper at certain points in order to cut into it and make a closer union of tissues.