A. Colpo-perineorrhaphy by Resection.

The posterior column of the vagina being rich in fibrous tissue is very resistant and Martin advises to preserve it to serve as a support for the new posterior vaginal wall and only excising the vaginal mucous membrane laterally. This realizes Emmet's new procedure which is universally employed in America and well described in the works of Baldy and Kelly. The operation presents modifications according to the injury one is treating.

We will describe successively:

1. Treatment of incomplete old tears of the perineum.
2. Treatment of complete old tears of the perineum.
3. Treatment of uterine prolapse.

1. **Old Incomplete Perineal Tears.** *First Stage. Fix the Limits of the Denudation.*—These limits are variable following

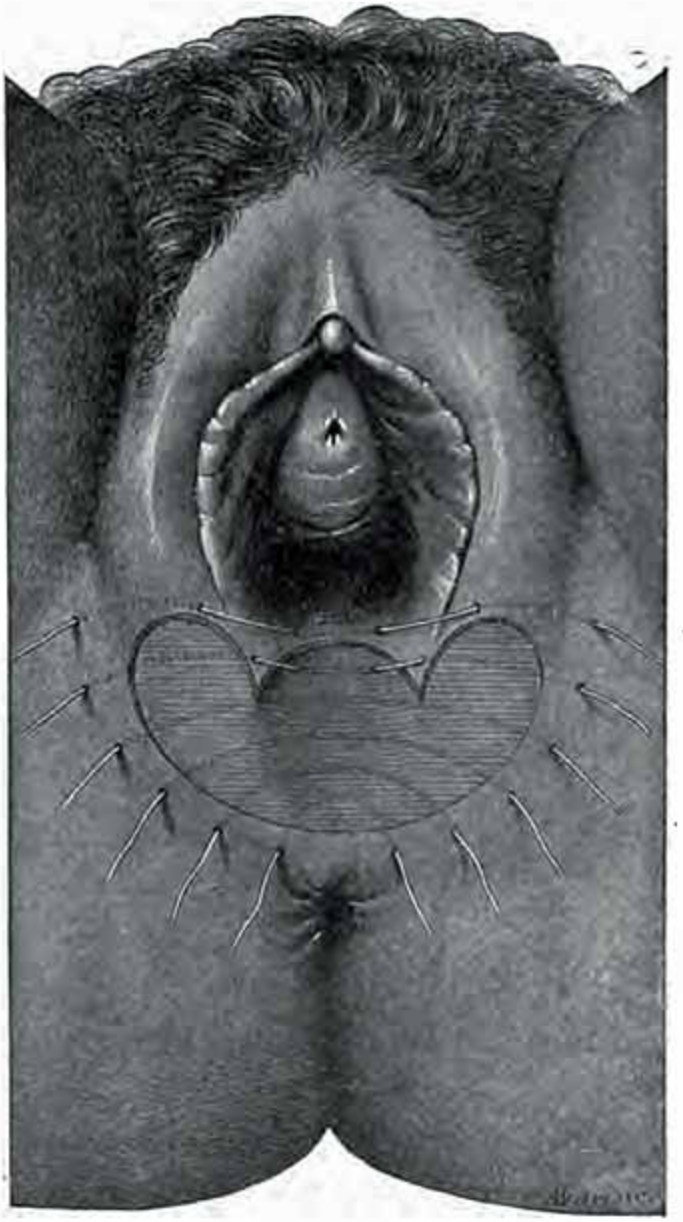

FIG. 108.—First procedure of Emmet. (Denudation in butterfly form with sutures exclusively perineal.)

the degree of relaxation and increased breadth of the vagina following on the perineal tear. To fix them, place on each side at the level of what remains of the hymen two tenacula. Between them leave a portion of the anterior vaginal wall about equal to that of the entry of a vagina in a virgin. A third tenaculum is fixed on the posterior vaginal column.

In drawing on these three tenacula, two grooves are created

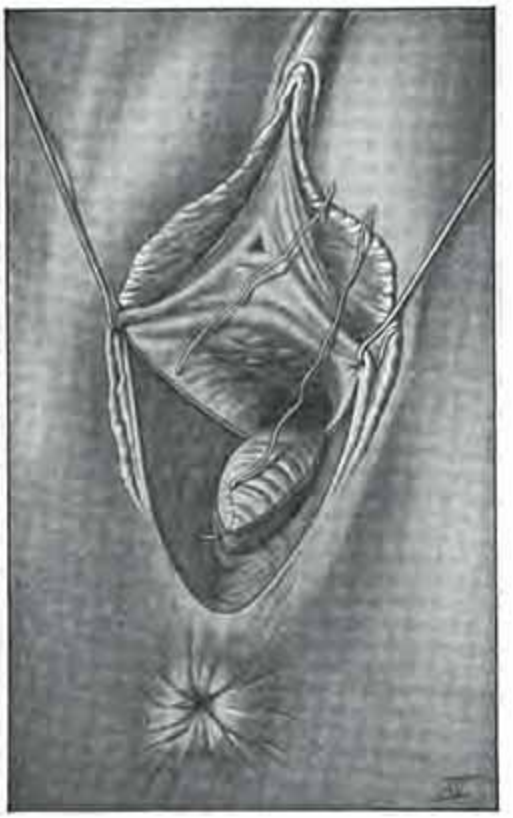

FIG. 109.—Placing the first suture, one time the denudation terminated. (*Kelly.*)

on each side of the middle line posteriorly, which extend more or less deeply into the vagina. On the distal extremity of these, place a tenaculum forceps which may be 2 or 4 cm. (3/4 inch to 1 1/2 inches) from the vaginal entry. It is then sufficient to unite by rectilinear incisions the five points fixed by the tenacula to produce the required denudation.[1]

With a bistoury trace an incision going from each side of the

[1] We use Museux's small forceps instead of tenacula.

column of the vagina to the distal tenaculum and then from this tenaculum to the other which is at the level of the hymen. Finally unite with a V-shaped incision, the two tenacula implanted on the level of caruncules taking care that the incision passes through the mucous membrane and does not impinge on the skin.

Second Stage. Denudation of the Surfaces.—In order to do the

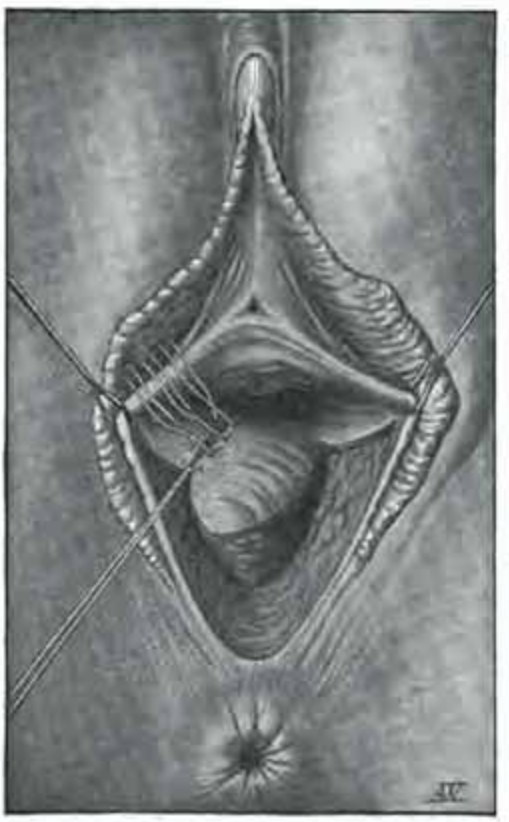

FIG. 110.—Placing the sutures on the triangle rendered accessible by drawing on the first point of suture.

denudation, stretch with the aid of the tenacula, successively, the surfaces from the right side and left side and then excise the vaginal mucous membrane with a bistoury or Emmet's curved scissors. In the latter case, the mucous membrane is raised in the form of little tongues. It is very exceptional to have to tie a bleeding vessel as a temporary forcipressure suffices.

Third Stage.—An assistant separating the right and left labia with tenacula, the surgeon, a little below the middle of the

triangle of denudation, inserts his first silkworm-gut stitch. By drawing downward on this stitch held between the medius and ring-finger, he draws into view the superior portion of the denuded triangle. He brings into apposition its borders with catguts passed on a strongly curved needle. He carries on the same procedure from the other side.

There remains now a wound only moderately deep, formed

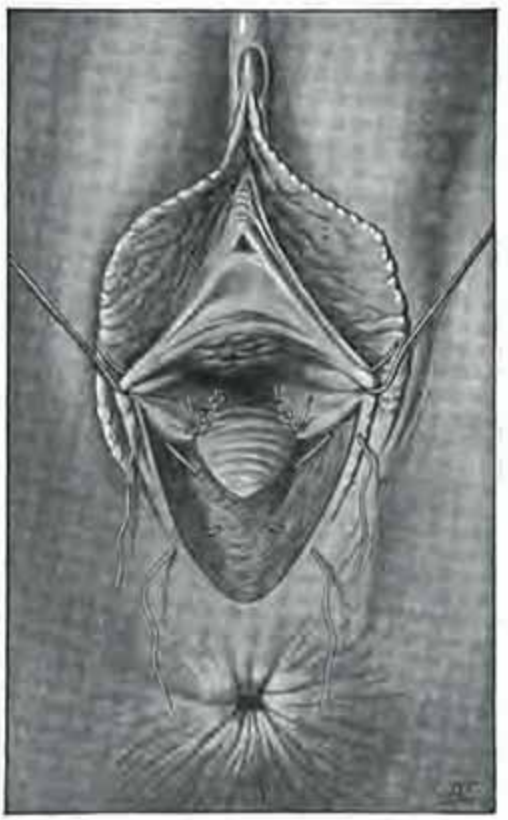

FIG. 111.—The vaginal sutures have been inserted. The perineal ones are inserted but not tied.

by the reunion of the vulvar portion of the lateral triangles and of the central portion of the denudation. Two silkworm guts, one passing by the superior angle of denudation and through the posterior median column and another uniting the skin below, suffice to terminate the suture. One or two extra catguts between the cutaneous and vaginal sutures, and some superficial silkworm-gut sutures unite the skin.

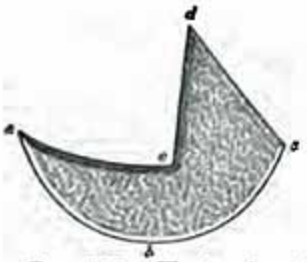

FIG. 112.—The tracing of the denudation.

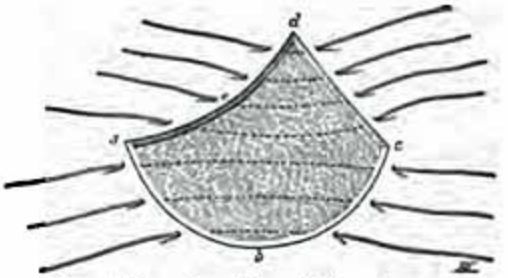

FIG. 113.—Insertion of the sutures.

FIG. 114.—Perineorrhaphy by complete denudation of the perineum (denudation and insertion of sutures).

Veit's Procedure.—He operates in rather a special manner. Departing from the principle that the perineal tear is most often unilateral, he makes a circular incision, *abc*, at the junction of mucous membrane and skin. He excises a paramedian triangle, *cde*, dissects up the flap *abd*, and then unites the points *aed* (which points owing to the dissection of the flap no longer indicate an angular line) to *dc*. Then he brings together *ab* and *cd*.

This procedure is asymmetrical like the tear; theoretically it would be

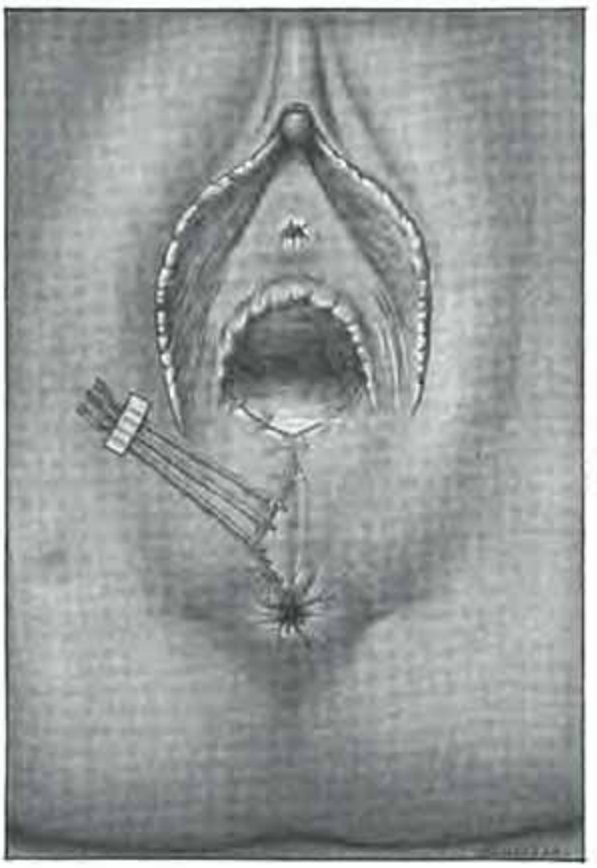

FIG. 115.—Perineorrhaphy in complete rupture of the perineum (operation terminated)

preferable to others, as Veit says, because it is the only one which takes into account the anatomy of the rupture.

2. Old and Complete Tears of the Perineum.—Before operating some gynecologists advise the dilatation of the sphincter as much as possible in order to elongate it and prevent spasmodic contractions which may supervene during the first few days following the suture.

An incision is made over the recto-vaginal septum about 1 cm. above the line of junction of the rectal and vaginal mucous membranes. This line curved backward almost to the level of the extremities of the torn sphincter. This incision constitutes the posterior portion of the denudation, the anterior portion of which is identical with that which we have described under the treatment of incomplete ruptures of the perineum.

Inserting the index finger into the rectum, the surgeon dissects the little band of recto-vaginal septum which has remained intact, in such a manner as to free it and to press it down below like an apron over the orifice of the rectum. A close dissection enables us to find without perforating the intestine, the two ends of the torn sphincter and of freeing them to the extent of about 1 1/2 cm. It suffices then to freshen the ends which are covered with cicatricial tissue to bring them in apposition and then unite them with catgut sutures. A few catguts inserted in figure-of-8 form unite the deep parts in the center of the wound in such a manner as to avoid any cavity.

Then do the suture of the perineum and vaginal mucous membrane as in incomplete rupture. The operation is terminated by the suture of the posterior flap which is like an apron and which hangs more or less folded over the anus. In keeping these last sutures long and making a light traction on them, one can draw the whole suture out and fix the ends of the sutures on the buttock with adhesive plaster (Fig. 115).

3. **Old Tears Complicated by Prolapse.**—In prolapse there is as in the incomplete perineal tear, a gaping of the vulva and insufficiency of the perineal body. There is also an excess of vaginal wall. The operation ought to have a triple object: to diminish the posterior vaginal wall and the vulva, and reconstitute the perineum.

This can be done by doing an operation identical to that one which we have described for the treatment of incomplete perineal tear, taking care that we give to the lateral triangles of denudation of the vagina considerable dimensions in length and breadth, so as to resect a large area of vaginal mucous membrane. Dissect up almost entirely the lateral wall of the vagina, the external border of the triangle of denudation being parallel, and immediately subjacent to the angle which separates the

anterior wall from the lateral. The operation becomes then a veritable bilateral colporrhaphy combined with a perineorrhaphy. The laxity of the tissues and the presence of a rounded tumor, prominent anteriorly, in place of the posterior column of the vagina, render this the easiest of operations.

Hegar's Procedure.—The denudation has a triangular form. Dimensions vary according to the degree of prolapse. In slight cases it is sufficient to denude a triangle having 6 to 7 cm. breadth of base and a height of 7 cm. If the prolapse is very extensive, the base may measure 8 cm. and the height may be 9.

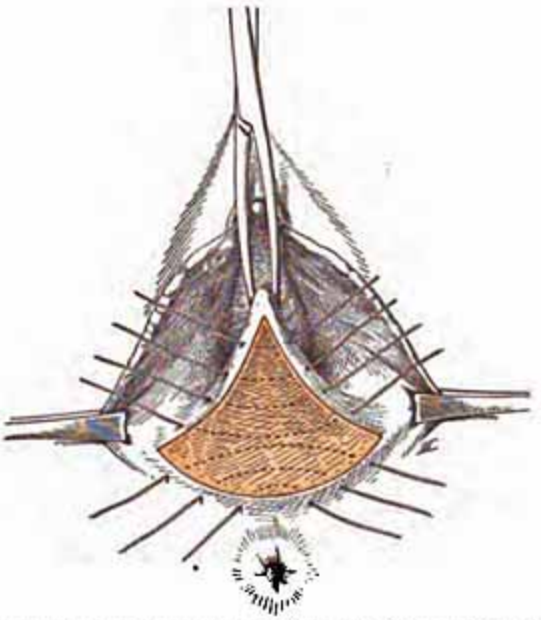

FIG. 116.—Hegar's colpo-perineorrhaphy (denudation and insertion of stitches).

Having fixed the point at the level of which will be situated the superior angle of the wound, it is seized with a small Museux forceps and drawn forward and upward. The posterior wall of the vagina appears directly in the vaginal orifice; two to four other little forceps serve to stretch the flap laterally, of which the base is at the level of the fourchette (Fig. 116). The denudation is then made with the bistoury, the point of which is always directed toward the flap. The thickness of the flap varies according to the state of the tissues. In general a few millimeters thick is enough. But when the wall is hyperplastic, hard and formed of only slightly vascular or cicatricial tissues, one should cut deeper.

When the denudation is complete the operator should make even the surface of the wound and for this purpose he should make the bleeding sur-

face bulge with his finger in the rectum. If there are any little spots not denuded, remove them. The larger vessels are ligatured with catgut.

The vaginal sutures are of catgut and the perineal of silver.

B. Colpo-perineorrhaphy by Division and Splitting.

Langenbeck, Wilms, Staude, Bischoff were among the first to have recourse to the splitting of the perineum, but these complex methods were not inviting; and Lawson Tait was the first to do a simple and rapid splitting.

The procedure consists essentially in a splitting of the perineum and recto-vaginal septum by a transverse incision and in reunion by following a sagittal line, antero-posteriorly, of the denudation thus created. The wound reunited is perpendicular to the incision and the perineum is reconstituted between the vulvar orifice and anus.

1. Incomplete Perineal Tears.—L. Tait, with two fingers in the anus, stretched the fourchette transversely and divided with special scissors, pointed and curved, the recto-vaginal septum, stripping the right and left sides over a length of 3.5 to 4 cm. with a depth of 2 to 3 cm. From the extremities of the transverse incision he made two others, which extended vertically upward on the labium majora. Drawing upward the flap thus cut, he transformed the transverse wound into a longitudinal one which he reunited by silver wires passed from left to right, which took in all the rawed parts but not the skin. This he did in order to avoid the pain which these wires cause by pressure.

To this operation we prefer the following which in its main lines recalls that of Doleris' colpo-perineoplasty.

The curved incision, with concavity above, is made at the union of skin and mucous membrane. Two fine Museux's forceps mark the limits already determined and serve at the same time to stretch the parts. These are given to two assistants who draw on them and the operator incises gently the middle part in a curve of about 3 cm. The surgeon goes deeper and deeper until he gets past the non separable fibrous zone which lies immediately below the skin, keeping close to the vagina in order not to risk injuring the rectum. He then presses back with his finger the tissues which deeply close the vagina. Follow the

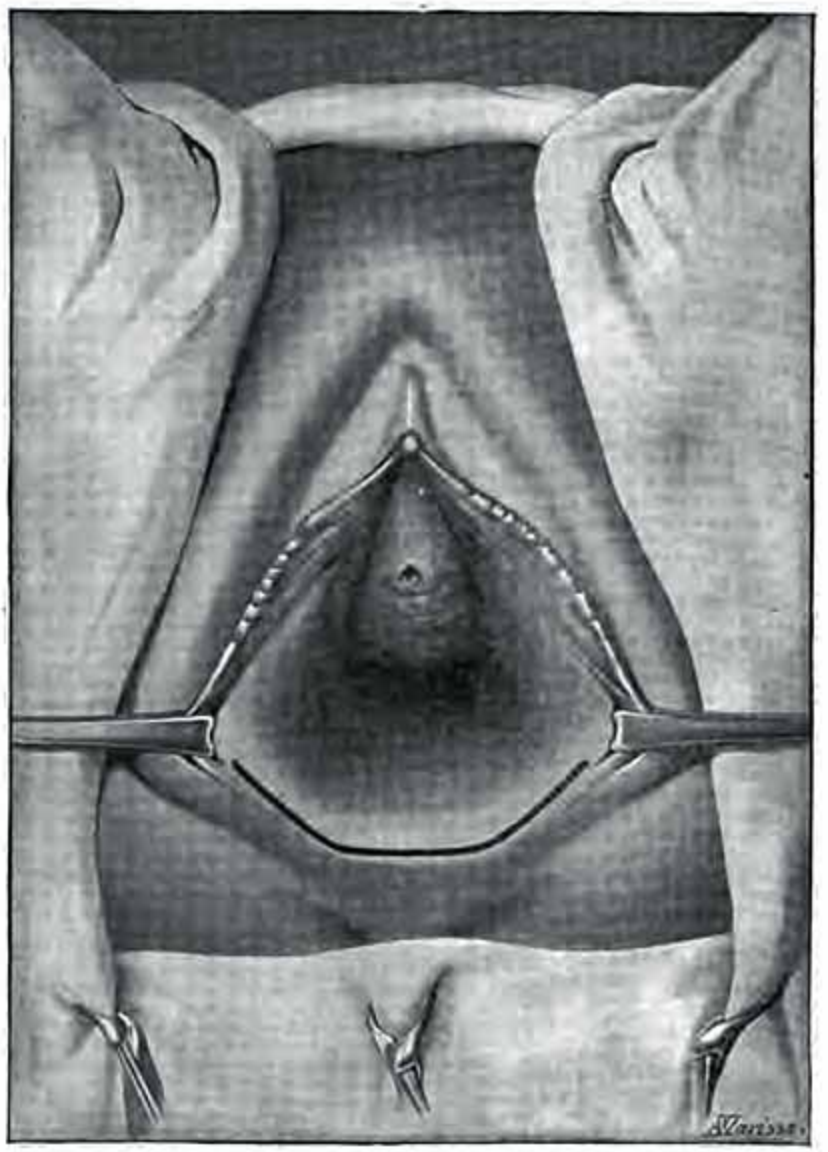

FIG. 117.—Perineorrhaphy incision by splitting in ruptures of the perineum.

external surface of the vagina until the denudation is considered sufficiently deep and extensive. Take a pair of straight scissors and insert one limb as deep as possible in the lateral portion of the separation. Then with one cut go through the skin and parts immediately subjacent to the right and to the left until the incision marked by the forceps is reached. Then with his finger he completes the lateral denudation of the vagina.

The wound has the form of a dihedral angle with base below and limited above by a vaginal valve and below by a rectal valve. Taking off the two forceps which mark the lateral limits of the incision, they are attached to the mid-point of these valves in such a manner as to draw the vaginal valve upward and the rectal downward and to give the wound the appearance of a lozenge with the long axis vertical. Now insert sutures; three metal stitches (silver, bronze, aluminium) suffice generally. The pos-

FIG. 118.—Needle for perineorrhaphy.

terior stitch passes through the skin of the perineum in the posterior angle of the lozenge about a centimeter from the edge of the denuded surface; it then traverses the substance of the rectal valve near the upper end, care being taken not to perforate the intestine and comes out opposite the point of entry.

The other two stitches pass anteriorly to the one described, the second at the level of the summit of the cleft and the third in the substance of the vaginal valve.

These wire stitches which pass easily on Emmet's needle draw the soft parts into the median line. It is thus necessary to pass them laterally as deeply as possible in the substance of the perineum, before insertion into the rectal and vaginal valves.

The operation being finished the result is not esthetic. Between the vagina and anus is a perineum sufficiently thick, but anteriorly the exuberant vaginal mucous membrane forms a sort of folded apron which projects over the line of sutures. It is

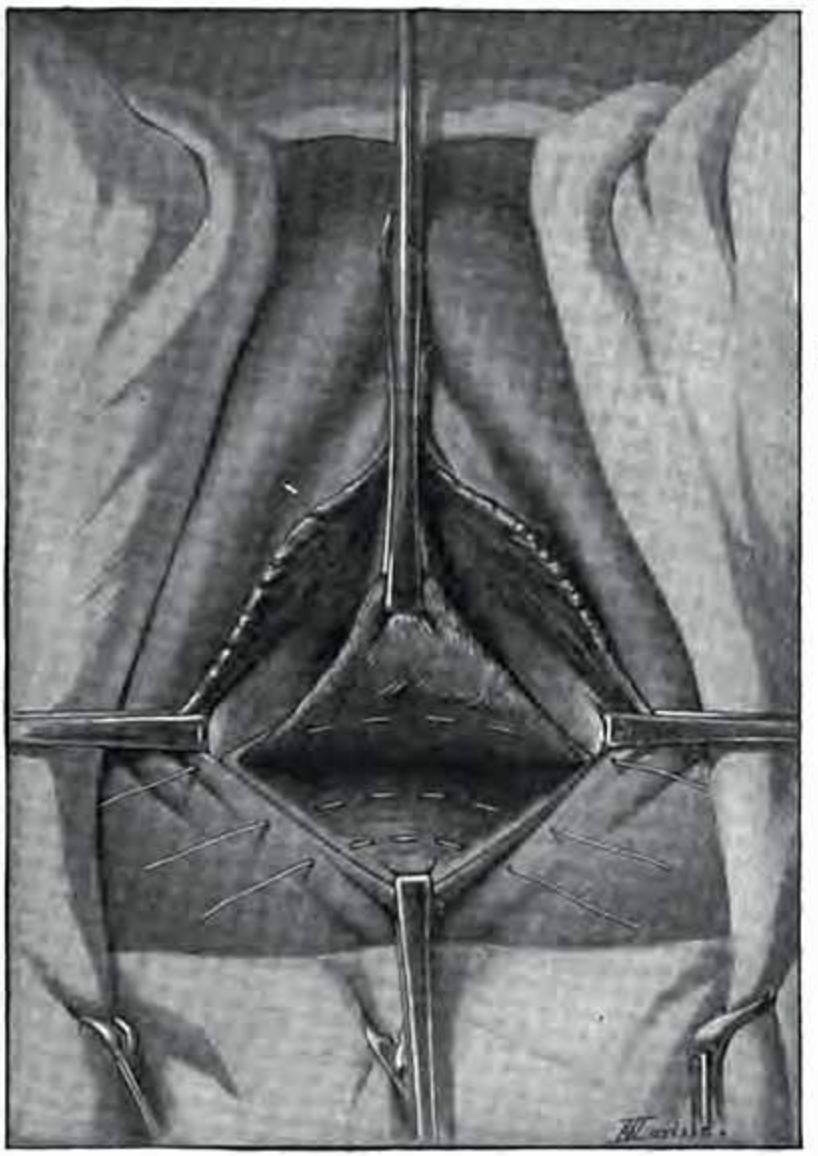

FIG. 119.—Perineorrhaphy by splitting. The splitting has been effected and the stitches inserted but not tied.

unnecessary to worry about this as this mucous membrane will gradually contract.

We consider it useless to shave off close to the redundant mucous membrane perineum of the posterior vaginal wall and to make a careful suture of the vaginal flap to the cutaneous lip.

2. **Complete Tear of the Perineum.**—In complete perineal tear we should draw forward the two extremities of the torn sphincter into the median line. The incision should be modified and take the form of an H.

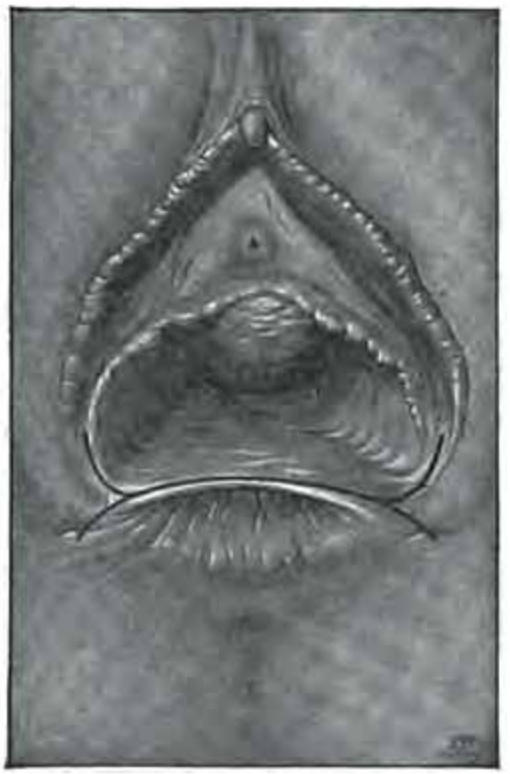

FIG. 120.—Perineorrhaphy incision by splitting in complete ruptures of the perineum. In the skin can be seen the little depressions corresponding to the extremities of the torn sphincter.

To the original incision for incomplete ruptures, add two incisions which run backward to the level of the torn sphincter denoted by a little cutaneous depression.

The splitting and the insertion of stitches presents no peculiarity, as everything is done as in incomplete rupture.

Some gynecologists commence by uniting the two lips of the rectal

tear by points of buried catgut inserted like Lembert's sutures in intraperitoneal wounds of the intestine. They are called after Lauenstein and only differ from Lembert's sutures in that they are placed on intestines denuded of their serous covering. Analogous stitches are inserted in the vaginal tear. Finish the operation by a perineal suture of silver wire.

Watkins[1] has recently advised an operation for complete rupture of the perineum which seems to him to have the following advantages:

1. The sutures are away from the anus, hence infection is diminished.
2. There is no tightening of skin or cicatricial tissue about the anus.
3. The sphincter is sutured apart.

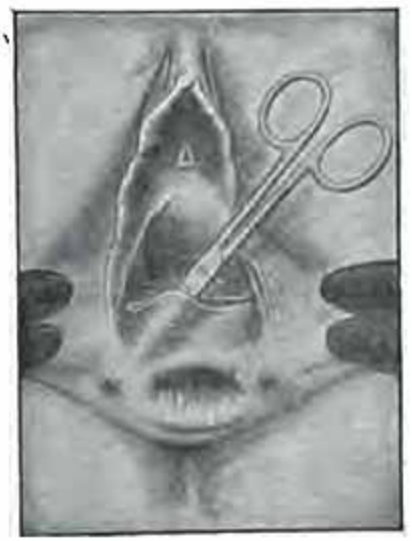

FIG. 121.

FIG. 122.

4. There is no danger of recto-vaginal fistula.
5. The post-operative pains are minimal.
6. Enemas may be given without fear of infection.

The operation is done in the following manner:

1. A transverse vaginal incision of a thumb's length and a half-thumb's breadth is made above the most elevated portion of the rectal tear. The higher the incision, the greater is the security against infection. When the rectal tear is not extensive, the incision ought to be made at least a thumb's breadth above the edge of the tear.

2. With a pair of pointed scissors denude from each side the vaginal mucous membrane until we reach a point corresponding to the extremity of the torn sphincter indicated by a depression in the skin (Fig. 121). The same

[1] *Surgery, Gynecology and Obstetrics*, July, 1908.

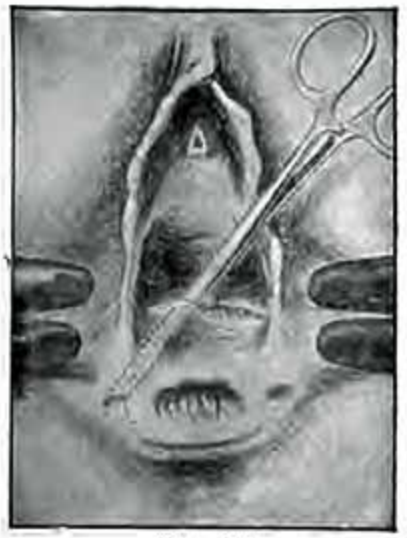

FIG. 123.

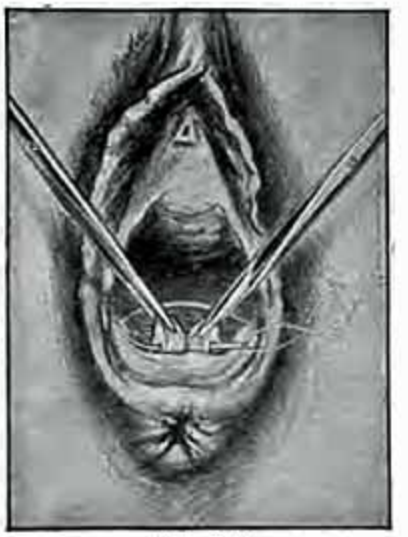

FIG. 124.

FIG. 125.

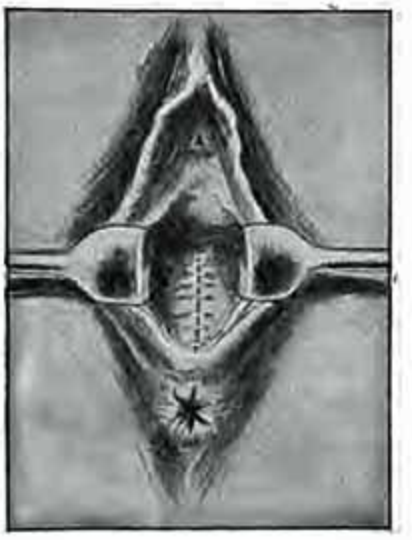

FIG. 126.

maneuver is repeated on each side. The limbs of the scissors are separated in such a manner as to separate the tissues very thoroughly.

3. The tissue lying between the two canals produced by the scissors is gently dissected and the finger explores to see that no uncut bands remain (Fig. 122). It is very important to dissect thoroughly the deep surface of the rectal mucous membrane, so that when the extremities of the anal sphincter are sutured, the sphincter will lie only on this mucous membrane, with the result that tension of the sutures will be greatly diminished.

4. The extremities of the sphincter are then seized on each side with pressure forceps (Fig. 123). Draw out nearly the whole of the muscle. If the first hold is insufficient, make a second with another forceps and, if necessary, a third.

5. The two extremities of the muscle are sutured with chromicized catgut which are passed two or three times through the muscle before tying (Fig. 124). Include surrounding tissue with the muscular to avoid cutting through on contraction of the muscle.

6. Terminate with Hegar's colporrhaphy (Figs. 125 and 126).

In Fig. 126 the sutures are removed from the anal orifice and are all in the vagina. In rectal digital examination it is easy to ascertain a normal muscular resistance and not the least retraction from the skin.

The operation consists, in short, in a transplantation of tissues. The mucous membrane, between the incision and rectal tear, is made to form the external face of the perineal body.

3. **Old Tears Complicated by Prolapse.**—In old tears complicated by prolapse, the operation is little different. The vagina has suffered a considerable increase in size and the perineal support has more or less disappeared. We should therefore resect a portion of the vagina and make a new perineal support.

The increased size of the vagina may be corrected by any of the anterior colporrhaphy procedures which we will describe later. If, however, we find a well-marked rectocele after splitting the tissues in the usual way, it is extremely easy to resect a more or less extensive area on the posterior vaginal wall and then to suture with catgut the two edges of the excised vagina. The operative treatment of vaginal prolapse presents one peculiar point; in place of limiting our splitting to the site of the old tear, we should extend as high as the level of the cervix uteri, and this is the only means of reconstituting a *solid perineal body*.

The suture inserted in the soft parts as formerly described is here insufficient. We must not only go deeply but some dis-

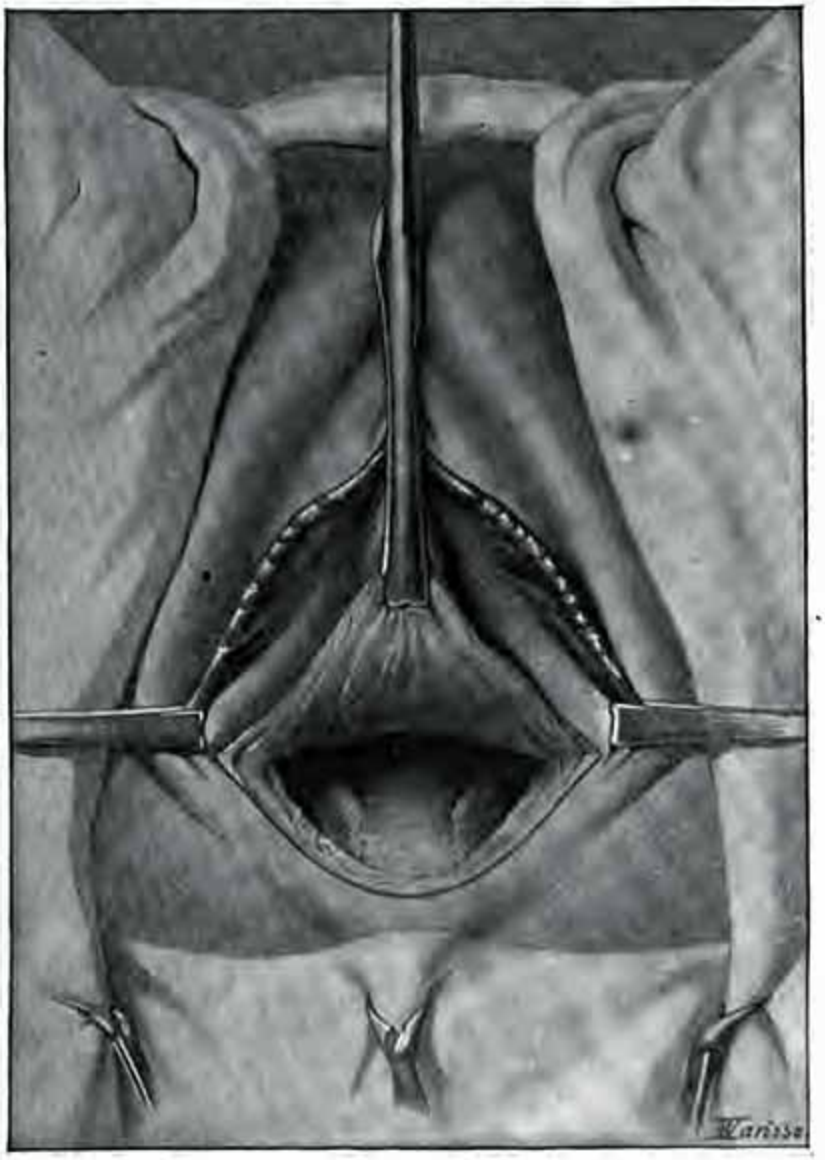

FIG. 127.—On the posterior valve resulting from the splitting are to be seen the edge of the levators.

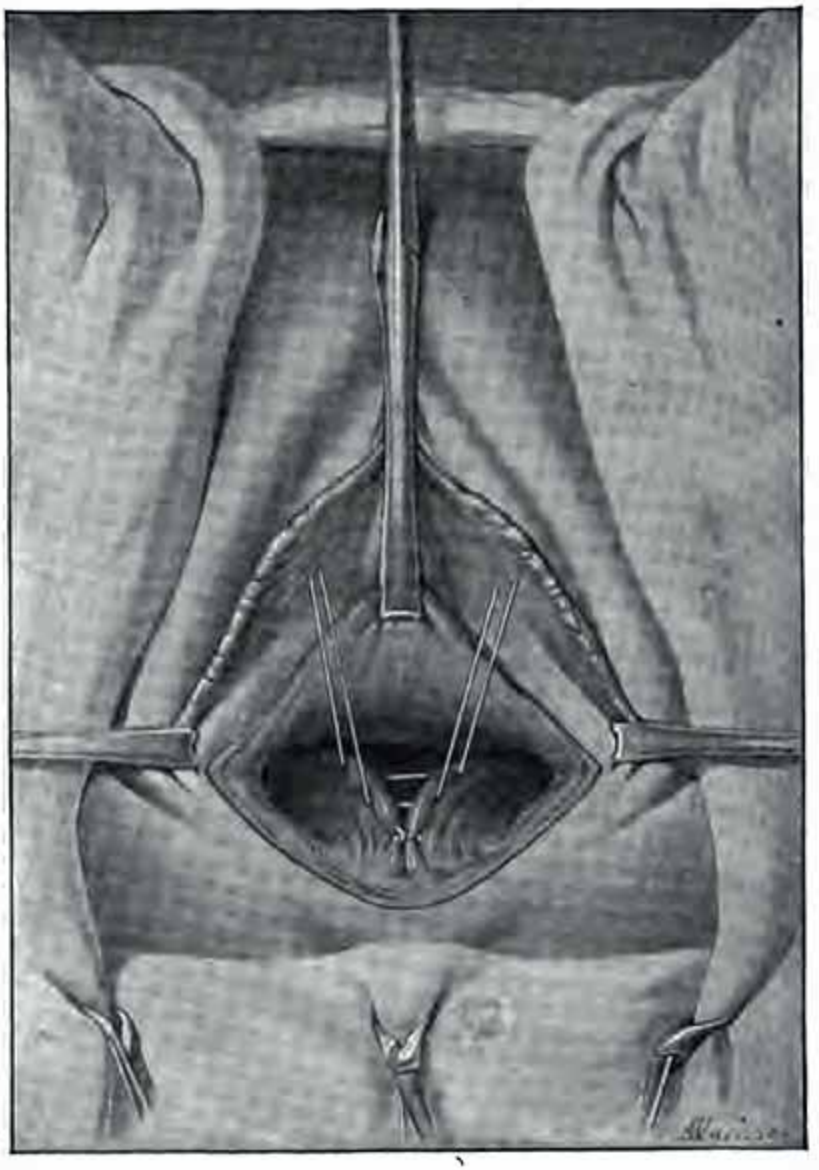

FIG. 128.—Suture of the levators. (The posterior suture is tied but the others are only inserted.)

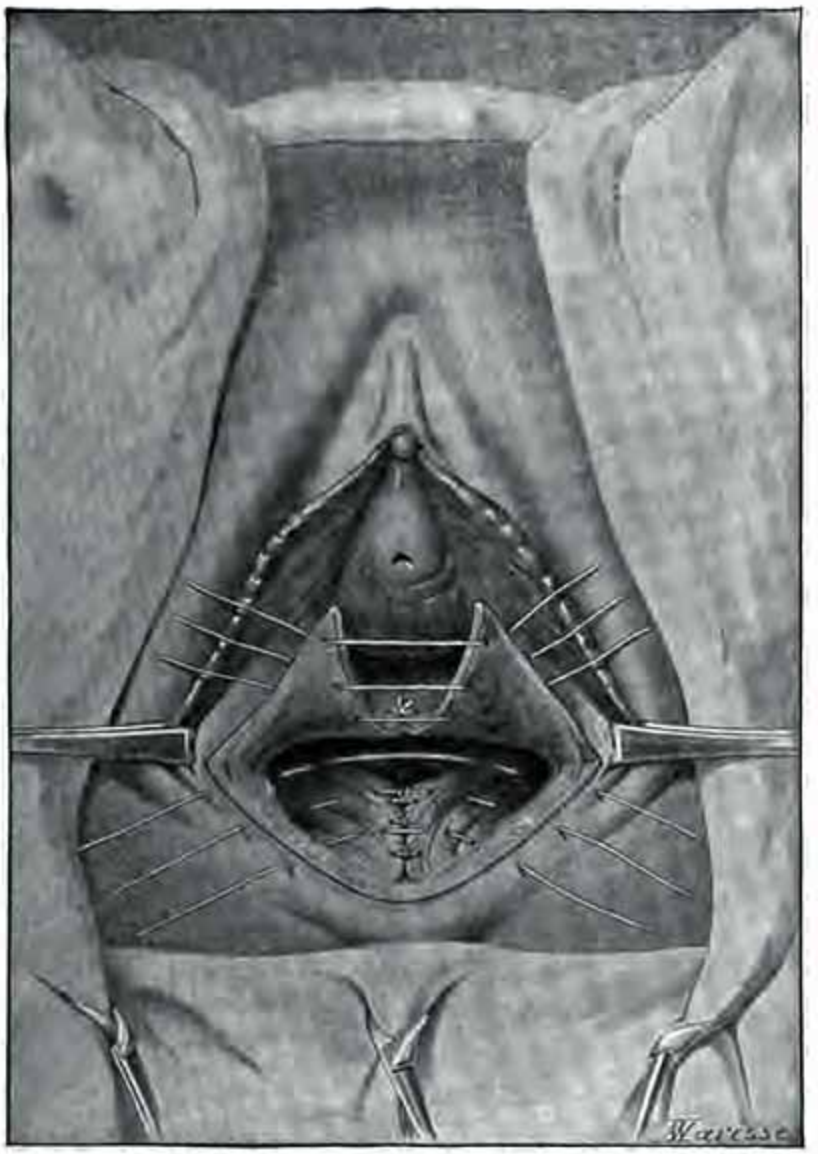

FIG. 129.—Resection of the excessive posterior vaginal wall in colpo-perineorrhaphy by splitting.

tance laterally in order to bring between the vagina and rectum more solid and resistant tissues. These tissues are principally to be found about the level of the levators, and the suture was advised in 1897 by C. Noble[1] in America, by Ziegenspeck[2] in Germany, but strictly was first practised in France by Duval and Proust[3] and my colleague, Pierre Delbet.[4] We have used it for many years.

In the case of prolapse, we must search some distance away for these muscles toward the lateral limits of the denudations. They are often hard to recognize, but on feeling with the fingers the bands which form the edges of the preserved portion of these muscles, descending from the superior portion of the perineum backward from the posterior border of the uro-genital diaphragm to the lateral portion of the rectum. They should be freed and then, guiding one's needle with the finger, they should be freely sutured with chromicized catgut very slightly resorbent. Three or four stitches are placed from behind forward and then tied.

When a muscular perineal body is thus reconstituted, the skin and subjacent parts are sutured with non-resorbent stitches; they pass through muscles already sutured in such a manner as to avoid the persistence of a virtual cavity between the two rows of sutures and thus prevent serum collection.

In proceeding thus, we obtain resistant perinei and durable cures.

In cases where the excess of vaginal wall seems to indicate the resection of a portion of it, it is extremely difficult to do it. It will be found sufficient to remove a corner of this wall and then suture the borders of this vaginal section before proceeding to the perineal reunion (Fig. 129).

[1] Charles P. Noble. A Contribution to the Technic for the Cure of Lacerations of the Pelvic Floor in Women. *Amer. Gyn. and Obstet. Journal*, New York, 1897, T. X, p. 413.
[2] Ziegenspeck, *Centr.-Bl. f. Gyn.*, Leipzig, 1899, p. 1251.
[3] P. Duval and R. Proust, Technique de la suture des muscles releveurs de l'anus au cours de la périnéorraphie. *Presse médicale*, Paris, November 22, 1902, p. 1120.
[4] Pierre Delbet, Périnéorraphie par interposition. *Bull. et Mém. de la Soc. de Chir.*, 1902, p. 1092.