## ARTICLE III.

## THE OPERATIVE TREATMENT OF PROLAPSE OF THE VAGINA AND UTERUS.

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THE object of this paper is to present in a concise form the operative treatment of prolapse of the vagina and uterus with special reference to three different methods which have in late years come before and have been indorsed by the profession, namely, Simon's,[1] Hegar and Kaltenbach's,[2] and Bischoff's.[3]

The great majority of physicians still cling to the old method of treating these conditions with pessaries.

Among the prominent symptoms associated with prolapse of the vagina and uterus, pain in the back and loins, a constant feeling of impending loss of something from the external genital organs, painful and disturbed micturition, a disordered condition of the bowels, and nervousness varying from slight irritation to well-defined hysteria, may be mentioned. In view of the great number of women so afflicted, and the attention these conditions must necessarily have received from observing physicians in all ages of the world, is it not almost astounding to think that the first attempt at operative treatment of which we have record was made in the 19th century? Surgical treatment having been suggested, a brisk contest ensued between different operators as to the relative merits of the treatment they respectively advocated, until finally at this date operative procedure has been brought to such a state of perfection that Hegar and Kaltenbach can with justice say that kolpo-perineorraphy, in the surety and completeness of its results, stands equal in importance to any gynæcological operation, with perhaps the single exception of vesico-vaginal fistula.

In none of the systematic works on gynæcology accessible, has an attempt been made to present the various operations devised with an analysis of the results attending them, while in the majority of cases each author mentions only the single method he may have originated or adopted. As an established usage is not always applicable to an individual case, it happens that the profession often attempts what has been already tried and discarded, for want of that information our leading lights should have placed within its reach. A brief *résumé* of some of the efforts and the progress made in this direction is therefore profitable.

The site of every operation for prolapse of the vagina and uterus has been respectively—1. The vulva. 2. The introitus, or entrance to vagina proper. 3. The vulva and perineum. 4. The vagina. 5. The perineum, vulva, introitus, and vagina proper, strengthening the whole septum-recto-vaginalis (Kolpo-perineorraphy).

[1] Prager Vierteljahrschrift, 1867. [2] Die Operativ Gynæcologie, Erlangen, 1874.
[3] Die Kolpoperniоplastik nach Bischoff von Dr. Banja. Basel, 1875.

The operation proposed and executed by P. C. Huguier,[1] of which mention will be hereafter more particularly made, rests upon an entirely different principle from the foregoing operations.

Gérardin in 1823 was the first who attempted to cure prolapse by operative means. His method comprised simply cauterization of the vaginal walls. During the year 1830, Mende proposed the operation of hymenorraphy, consisting, as its name implies, of an artificial hymen, but did not carry it out. Not much later Fricke attempted episiorraphy, by freshening the lower third of both labiæ majoræ and the posterior commissure and uniting them with the quilled suture. The result was somewhat unsatisfactory. Malgaigne freshened deep into the introitus, as did also in about the same way Baker Brown, Crédé, Dieffenbach, Kiwisch, Küchler,[2] Linhardt, and Scanzoni. Heyfelder, Dammes, and Schiffer followed with a poor modification of episiorraphy, by drawing one or more rings through both labiæ. We have next a series of operations, the so-called kolpodesmorraphy, performed with a view of narrowing the vagina, and thus retaining the prolapsed parts *in situ*. These operations consisted in excising a number of folds of vaginal mucous membrane and at the same time inducing adhesions to neighbouring parts. Gérardin, aforementioned, was the first to propose this principle.

Benj. Philips cauterized the vaginal walls with fuming nitric acid, and thereby obtained favourable cicatricial contractions; while Dieffenbach, Henning, Kennedy, and Velpeau drew the actual cautery over the vaginal mucous membrane in lines lying in the direction of its long axis, and Colles and Simon caused a ring-formed eschar at or near the cervical insertion. The "pincement du vagin" of Desgranges, although soon abandoned and forgotten, consisted in applying strong serre-fines to longitudinal folds of vaginal mucous membrane, then reapplying them to fresh folds, for months afterwards. He used chloride of zinc in his later operations. What would the modern physician say to Chipendale's proposition to inoculate the vaginal mucous membrane with gonorrhœal virus in the hope of obtaining cicatricial contraction similar to that of stricture of the male urethra? Bellini and Blosius performed kolpodesmorraphy by applying ligatures to portions of the vaginal mucous membrane until they sloughed off. More recently the elastic ligature has been frequently employed for the same purpose. Folds of mucous membrane of various lengths are raised with two pairs of toothed forceps, and a number of Karlsbader needles or hare-lip pins are passed through the base of these folds, and beneath the needles or pins a piece of rubber tubing is tightly applied and allowed to remain until the fold sloughs off, which usually occurs between the 8th and 11th days. As other than mucous membrane is often included in these folds, as the parts are slow to heal, as the disagreeable

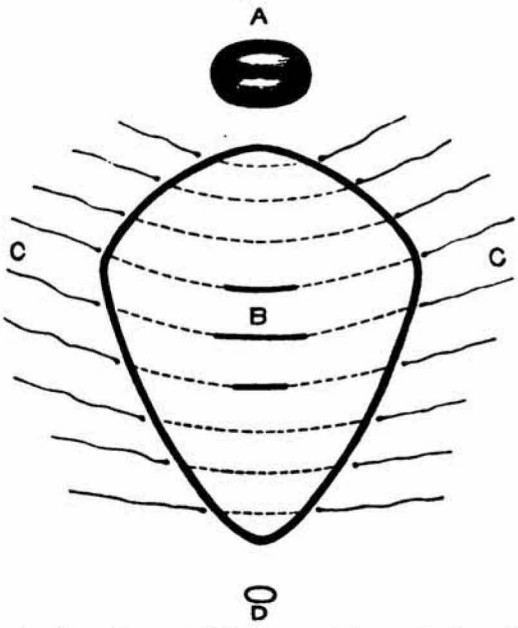
[1] Mémoire sur les Allongements hypertrophique du col de l'Uterus, etc. Paris, 1860.
[2] Die Doppelnath zur Damm-schamscheidennath, u. s. w. Erlangen, 1863.

fetid discharge is decidedly unpleasant to the patient, and as the operation does not secure a firm and durable cicatrix, its results have been unsatisfactory. This operation can be performed perhaps with favourable results where the prolapse of the anterior vaginal wall is but slight, or where there are folds of hypertrophied mucous membrane.

To Marshall Hall the credit is due of having first performed elytrorrhaphy. He excised an elliptical piece of mucous membrane from the anterior vaginal wall and united the edges of the wound with the quilled suture. A number of other operators removed elliptical or oval pieces from the lateral vaginal walls. More recently Simon connected this method with epesio-elytrorrhaphy. Marion Sims revived and revised this operation with a modification of his own in 1858. Through him we were made acquainted with a good vaginal suture. Where the prolapse is slight, and the patient can shun herself, a favourable result may be obtained. The so-called "median" operation of Spiegelberg[1] is a very peculiar one. By it the middle of the lower portion of the anterior vaginal wall is suspended to the middle of the upper portion of the posterior one. But the operation of kolporraphy anterior of Hegar and Kaltenbach answers all expectations, and consists in removing an elliptical portion from the anterior vaginal wall (Fig. 1). The upper angle is made as blunt as possible for the purpose of increasing the breadth of the wound lying nearest the portio vaginalis to the fullest extent consistent with the parts. The simple lithotomy position is the best for the patient. As the operation is scarcely ever accompanied with severe pain, it is quite unnecessary to use anæsthetics. In 33 cases Rokitansky has had no occasion to use chloroform.

In operating, Hegar and Kaltenbach direct that the vaginal membrane be seized with a double tenaculum about one-third to one-half inch from the anterior lip of the cervix, as near the median line as possible; another tenaculum attacks the membrane from one-third to three-quarters of an inch from the orificia urethræ externa within the vagina, and two more tenacula are applied opposite each other at the lateral margin of the vaginal surface about to be

Fig. 1.




A. Os uteri. B. Flap on anterior vaginal wall excised. C. Sutures. D. Os urethræ externa.

[1] Zur Entstehung und Behandlung des Vorfalls der Scheide und Gebärmutter. Berliner Klinische Wochenschrift, 1872.

freshened. Slight traction being now made upon each tenaculum in opposite directions, a smooth field for operation is exposed corresponding to the size of the mucous membrane it is desired to excise. Its amount depends entirely upon the extent of the prolapse and the excess of tissue in the vaginal wall. In order to determine this amount, a fold of membrane may be picked up by tenaculæ on each side of the median line and approximated, thus making apparent the condition of the vagina after the operation. It is sometimes taught that the prolapsed parts should be placed *in sitû* before freshening, but as this merely complicates and renders the operation tedious without corresponding benefit, it is entirely unnecessary. The boundary of the part to be freshened should be marked out with a sharp scalpel, whereupon the mucous membrane, at its lowest angle, should be seized with a pair of toothed forceps, and dissection commenced with a sharp scalpel, applied first to one, then to the other side. To be ambidextrous is of great advantage. The removal of the mucous membrane is generally accomplished with but little trouble, care being taken that all ragged and uneven edges be smoothly trimmed with forceps and scissors. Severe hemorrhage, and a soft friable and relaxed condition of the vaginal membrane with cicatricial eschars may complicate the operation. Hemorrhage is, however, usually easily controlled by the application of an ice-cold sponge, torsion of the bleeding vessels, and finally closure of the wound. Hegar and Kaltenbach unite by insertions deep into the tissues and use silk sutures. These are removed in from ten to fifteen days, and it is well not to be in too great haste. Before operating, the bladder should be entirely emptied by the catheter, the vagina and the whole external genital organs should be thoroughly drenched with a three per cent. solution of carbolic acid, as well as occasionally during the operation, and again when the sutures have been fully adjusted and the parts placed *in sitû*. The preliminary and subsequent treatment is similar to that of kolpoperineorraphy, of which mention will hereafter be made, with the exception of tying the knees together. The patient should not leave her bed before the fourteenth day, and should abstain from household duties for a still longer time.

Kolporraphy anterior is not a serious operation. It requires but a moderate amount of operative skill, is not followed by evil results, but can be most favourably commended for its effects upon cystocele; it aids very materially in reducing prolapse of the uterus with complete prolapse of the vagina; it sometimes insures the good results of kolpoperineorraphy, and therefore should, in my opinion, precede all operations whose helpmate it is.

Elytrorrhaphy posterior, *per se*, excludes freshening of the introitus and vulva, is applicable to those cases where there are great relaxation and folding of the posterior vaginal wall, and can properly only be regarded as an adjunct of kolpoperineorraphy. Whether the mucous membrane to

be excised lies in the upper or lower part of the posterior vaginal wall, it has still mostly an elliptical form, and is united by suture. The field and method of operation are so similar and so closely allied to operations to be discussed hereafter that it is unnecessary to give details now.

Before considering the respective operations of Simon, Hegar and Kaltenbach, and Bischoff, for the cure of prolapse of the vagina and uterus, attention is drawn to Huguier's treatment of these conditions. This French gynæcologist says in his work, page 49, that the disease described by authors under the name of Prolapsus is, in the large majority of cases, nothing more nor less than an elongated hypertrophy of the supra-vaginal portion of the cervix uteri, and he considers this elongation not as a consequence, but as an actual cause of the prolapse. Consequently, he proposes to cure prolapse by the amputation of the supra-vaginal portion of the cervix. Spiegelberg, in objecting to this idea of causation, maintains that the elongation is secondary in a majority of cases, being induced by the dragging of the vagina and bladder upon the uterus whose tissues, as well as those of its immediate appendages, are in a relaxed, ductile, and weakened condition. Position and constant downward traction he assumes to be causes, not effects. According to personal observations, I must believe this hypertrophied elongation of the supra-vaginal cervix to be secondary. Several times cases have come under my care exhibiting but slight prolapse of the vaginal walls and the normal position of the uterus, yet whose cavities at first measurement indicated a length of from two and one-half to three inches. In the course of time the prolapse of the vaginal walls progressed more and more until it became complete, while simultaneously the os uteri externum continued to descend lower and lower until finally it protruded far beyond the external genitals, while the fundus of the uterus retained its normal height, thus increasing the measurement of its cavity variously from five to seven inches.

Nevertheless, there may be cases of prolapse wherein an hypertrophied elongation of the portio supra-vaginalis is primary, but they cannot be distinguished from those in which the hypertrophy is secondary. Where hypertrophy is the primary cause, a cure may under favourable circumstances be reached by Huguier's method; but, in the majority of cases of prolapse of vagina and uterus with hypertrophied elongation of the supra-vaginal cervix, a cure can never be induced by Huguier's operation.

In a large number of cases of prolapse we find an hypertrophied state of the infra-vaginal portion of the cervix, named by Spiegelberg, circular hypertrophy. Observation has taught me that in prolapse of the uterus and vagina with hypertrophy of the supra-vaginal portion of the cervix, either with or without conjoined hypertrophy of the infra-vaginal portion, amputation after Huguier's method, or simply amputation of the infra-vaginal portion as practised by many of his followers, is entirely useless and without favourable result. Ample opportunity was afforded

me by Rokitansky at the Maria Theresa Woman's Hospital at Vienna of watching the course and results of a simple replacement of the prolapsed parts without amputation, care being taken to retain the same *in sitû*, and to enjoin absolute rest on the patient. By this means uterine cavities measuring five and seven inches were reduced to two and three-fourths, and three and one-half inches respectively, thus clearly proving the rapid diminution of the hypertrophied parts by mere replacement and rest. Rokitansky possesses a very instructive preparation by way of demonstration of this fact. Upon receiving a patient into the hospital on the 13th July, it was found that her uterine cavity measured seven inches. On the next day he performed kolporraphy anterior; on the 27th July, the patient died of cerebral apoplexy. At the post-mortem the uterine cavity measured but four inches, thus showing a reduction of three inches in thirteen days.

In my practice I pay no attention to simple hypertrophy of the cervix uteri, but perform the operation of kolporraphy anterior. The time the patient is obliged to remain abed is usually sufficient to reduce the elongated and hypertrophied uterus to quite its normal size. From its rapid decline in size under such circumstances it is fair to assume that its enlarged condition is partially due to œdema. It should be understood, however, that amputation of the prolapsed cervix is the only cure in cases of hypertrophied elongation of the infra-vaginal portion of the cervix without vaginal prolapse.

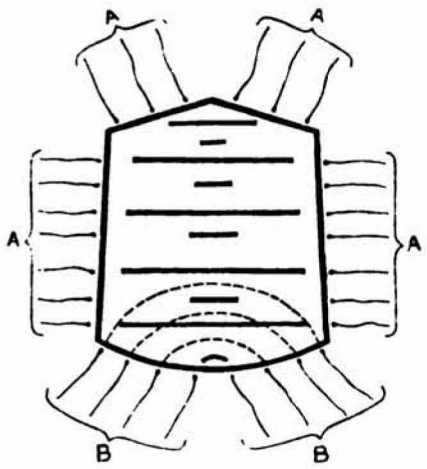
The operations to which special attention is hereby drawn, those of kolporraphy posterior of Simon, kolpoperineorraphy or perineauxesis of Hegar and Kaltenbach, and perineoplasty of Bischoff, seek to permanently narrow the vagina, change its axis forward and upward, and strengthen the recto-vaginal septum. Some description of the details of these operations is necessary in order to clearly apprehend their differences and relative merits.

In Simon's operation of kolporraphy posterior, the patient is placed upon her back with her thighs flexed upon her abdomen. Simon's speculum, a modification of Sims', is then introduced for the purpose of raising the anterior wall of the vagina; two of Simon's flat specula are applied to the labia and the lateral walls of the vagina. Thus the field of operation is fairly presented to view. Along the boundary of the true skin and the mucous membrane of the vulva an incision is made varying from two to two and one-half inches in length (Fig. 2). Upon the line of this incision as a base, a pentagonal figure is constructed, whose sides vary from two to two and one-half inches, and whose apex lies in the medium line of the posterior wall of the vagina. This can be more perfectly represented by a diagram.

The mucous membrane covered by this figure is then excised, and the wounded surface coaptated by using alternately the deep and superficial silk sutures. In order to properly conduct this operation the operator should

have five assistants, three of whom should be acquainted with the operation. The armamentarium consists of, 1, Sims' or Simon's specula of different sizes; 2, two of Simon's lateral specula; 3, a number of scalpels; 4, a curved scissors; 5, two pairs of toothed forceps; 6, Jobert's or Bozeman's needle-holder and catcher; 7, a number of single and double-hooked tenacula; 8, Chinese raw silk for sutures; 9, an Esmarch's irrigator; 10, sponges; and 11, a number of long and short needles. Under favourable circumstances the duration of the operation varies from one to three hours. In the after-treatment a soluble condition of the bowels should be maintained, and the catheter be resorted to when the patient fails to pass water spontaneously. The perineal sutures should be removed on the fourth, and the vaginal sutures about the ninth to the eleventh day.

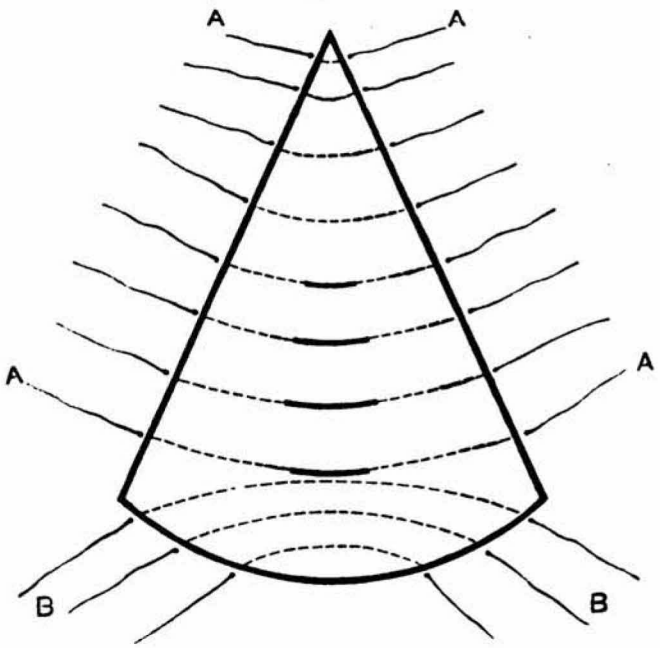
Fig. 2.




A A. Vaginal sutures. B B. Perineal sutures.

When performing kolpoperineorraphy or perineauxesis, Hegar and Kaltenbach place their patient in a lithotomy position. They excise a triangular piece of membrane from the posterior vaginal wall (Fig. 3). Its apex forms

Fig. 3.



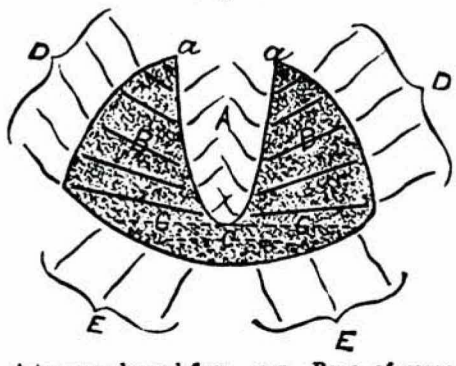

A A. Vaginal sutures. B B. Perineal sutures.

an acute angle at a point from one-half to one inch from the portio vaginalis. The portion excised extends to and runs in a curve along the posterior

commissure. The instruments required are practically the same as those used by Simon, and the time of operation about the same. The wound is united by the silver wire suture, and the vagina is thoroughly douched through the irrigator with a solution of chlorine water. The patient is permitted to assume any recumbent position. Fetid discharges are combated with vaginal injections, and the smarting or burning of the wound is allayed with liq. plumbi subacet. in solution or cold compresses. The bowels should be kept open and the perineal sutures should be removed in three to five days. After that time a generous, nourishing diet should be allowed if there be no fever. The vaginal sutures are not removed until the fourteenth to the twenty-first day, and not even then if tension and swelling exist.

Preparatory treatment of the patient is necessary before attempting the operation of kolpoperineoplasty of Bischoff. The uterus should be replaced; leucorrhœa, erosions of the cervix, and all inflammatory symptoms should receive careful attention. The bowels should be properly evacuated by enemata, and the operation performed a few days after the cessation of the menses. The patient likewise, in this operation, takes position as in ordinary lithotomy. Four assistants are sufficient. A pair of scissors curved on the flat, a vulsella, several flat specula, with the instruments, etc., mentioned in connection with Simon's operation, complete the outfit. The anterior vaginal wall is elevated by a flat speculum, while two assistants separate the labia on each side respectively by pressure with three fingers, thus fully exposing the posterior wall of the vagina. A tongue-shaped flap is then marked out with a scalpel (Fig. 4). Its apex lies at the margin of the posterior commissure, and its base is from one and one-half to two and one-half inches above on the posterior vaginal wall; it lies over the median line, and has a width of from three-fourths to one and one-half inches. This tongue-shaped piece of mucous membrane is dissected from the vaginal walls, but remains attached at its base. On each side of the tongue-shaped flap a triangular piece of mucous membrane is excised. The apex of each of these triangles is at the side of the base of the tongue-shaped piece. From this point a line is drawn to the middle of the labia majora on each side, and the mucous membrane between this line and the tongue-shaped piece is completely excised The mucous membrane lying external to the introitus between the perineum and the points on the

Fig. 4.




A tongue-shaped flap. *a a*. Base of same. B B. Triangular pieces. C C C. U-formed perineal pieces. D D. Vaginal sutures. E E. Perineal sutures.

labia majora to which the mucous membrane of the vagina has been denuded is U-shaped, though with horns widely diverging, and this also is denuded to the edge of the true skin. Hemorrhage is usually easily controlled by torsion and ice. Care should be taken to remove all islets of mucous membrane and to leave a smooth denuded surface. The success of union by first intention depends largely upon this. The flap is secured to its new attachment by interrupted sutures, beginning at the base of the flap and so applied as to bring the apex of the flap in contact with the lateral margin of the denuded part bordering the flap. Slight traction with forceps or vulsella upon the edges of the wound will facilitate its coaptation. After the flap has been adjusted the perineal wound is closed. It is apparent that as the flap is made larger or smaller, and the denudation of the vaginal outlet is increased or decreased, we can break the axis of the vagina at a point more or less distant from the introitus, and simultaneously reconstruct the vagina and perineum. The operator should recollect that the efficiency of the operation depends not merely upon narrowing the vagina, but upon changing the direction of its axis. Hence the necessity of a long and thick perineum.

The after-treatment is simple. A tampon dipped in carbolized oil or water is inserted into the vagina, and the perineal wound covered with a cloth saturated with the same solution. A cotton tampon is laid over this and fastened with a T bandage, for the purpose of exerting slight pressure and preventing the filling of the wound with blood. After twenty-four hours this bandage as well as the tampon should be removed, and the patient kept in the dorsal decubitus with knees slightly bent. It matters little if the bowels are moved daily, although perhaps it is better that they should be constipated for the first four or five days. Subsequently mild salines, to induce daily stools, are useful. The diet should be mild and unstimulating. Due attention should be given to this, as to all fresh wounds, and proper rest be given to the wounded parts. If the operator carefully observes antiseptic treatment, union by first intention will be the rule. The perineal sutures are removed after about fourteen days, and the vaginal sutures some days after this. The patient should keep her bed for at least fourteen days after the operation.

In applying in a general way the principles laid down by these authors to cases falling under my direction, my armamentarium consists of: 1, a double tenaculum; 2, a number of scalpels; 3, a pair of scissors curved on the flat; 4, one or two pairs of toothed forceps; 5, a pair of forceps smooth at the point, used in holding knots while tying sutures; 6, a number of artery forceps; 7, Langenbeck's needle-holder; 8, Bozeman's needle-holder and catcher; 9, Sims', Emmet's, and surgeons' needles; 10, surgeons' silk, No. 2 for vaginal, and No. 3 for perineal sutures; 11, carbolized catgut for ligating bleeding vessels; 12, sponges; 13, a 6 oz. hard-rubber syringe; 14, a flat speculum for elevating the anterior wall of the

vagina; 15, two wooden specula for the labia and lateral walls of the vagina; and 16, one or two tenacula, and ice-water for sponges. Two good assistants, or at least two intelligent women, are indispensable as aids, while three or four add very materially to the ease of the operator. The instruments are arranged in order upon a stand, within easy reach while operating.

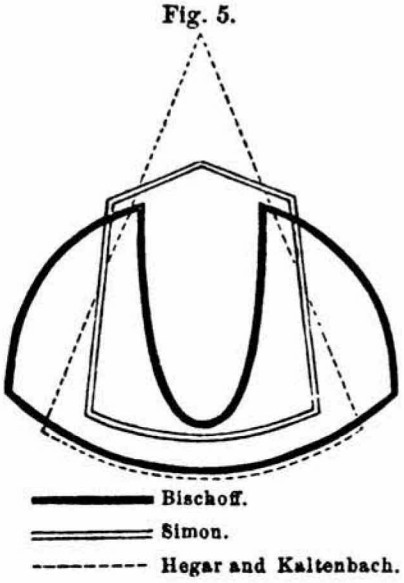
When time and convenience permit, my patient is directed to use warm sitz-baths for some days previous to the operation, to keep her bed, and to live upon light, easily digestible food. If the vaginal walls are firm, a 2 per cent. solution of carbolic acid in glycerine, soaked into a cotton tampon and changed every twelve hours for a few days, is inserted into the vagina. The day before operating, a mild saline laxative is given, and a few hours before an enema, in order to clear the rectum of any remaining fecal matter. The patient is placed in the lithotomy position, with the nates well over the edge of the operating table, so that the vulva is easily accessible. As denudation of the introitus and perineum is painful, full anæsthesia is necessary by any method. Before operating, the perineum and vulva should be shaved at least to the height of the middle of the labia majora, the bladder catheterized and emptied completely of its urine, and the external genitals should be well cleansed with a 3 per cent. solution of carbolized water. The patient should lie upon her back, care being taken that the pelvis inclines neither to the one nor the other side, lest an asymmetrical wound result. To secure perfect coaptation the labia majora should be brought together, and at the point where denudation shall commence a slight incision be made. This will mark clearly the prolongation of the vaginal freshening, and will insure a perfect perineum. The vaginal wall is better presented by having an assistant pass one or even two fingers into the rectum, and, by pressure on the anterior rectal, causing the posterior vaginal wall to bulge forward. Placing it thus gently upon the stretch, the field becomes smooth, and excision of the mucous membrane much less tedious. In one of my cases it became necessary to remove a flap measuring four and a half inches in length, with a base of three and one-half inches. To change sufficiently the axis of the vagina, and to render the necessary support to insure against subsequent malposition of the uterus, a broad and thick perineum became essential, so that the labia majora was denuded and united by suture to one-half its height. The restored perineum measured two and a quarter inches.

Of the three operations herein specially discussed, that of Hegar and Kaltenbach is probably easiest; then follows Simon's; while Bischoff's is the most difficult, and requires the most patience, skill, and attention to details, indeed some ingenuity in dissecting off the tongue-shaped flap, which should not only consist of mucous membrane, but also of submucous tissue. While dissecting, it is well to douche the parts frequently with a 3 per cent. solution of carbolized water, as again before introducing this

suture, when the whole wound should be thoroughly cleansed. I have always used silk for the vaginal sutures. After closing the wound, superficial sutures are introduced when the margins of the wound do not meet perfectly, and the parts are again douched with carbolized water. Both silk and silver wire have been used for the perineum with equally good results in my experience. After the kolpoperineoplasty of Bischoff, a tampon, saturated with a 2 per cent. solution of carbolized water is introduced into the vagina. As I have tied the knees together for five or six days, and the patient has been required to keep the dorsal decubitus as well, it has seemed unnecessary to apply the T bandage to hold the tampon to the perineal wound. The catheter is rarely necessary, and should only be used when the patient cannot micturate spontaneously. If there has been no stool for the first four days, it is induced by enema. Vaginal injections of a 2 per cent. solution of carbolized water are daily used. The diet for the first five or six days consists of light soups, gradually yielding to the usual nourishment of a healthy subject. The perineal sutures are removed on the fourth or fifth day, but the vaginal not before the fourteenth to the twenty-first day. The patient should not leave her bed for at least twenty-one days, and should abstain from hard labour for several weeks more. There is usually little or no febrile reaction, and the smarting and burning of the wound can be allayed by cold applications. The operation should be performed after menstruation, and not sooner than eight or ten weeks after confinement.

Which of these methods, it may be asked, causes the greatest lesion? Which the least? Which affords the best chance of union by first intention? Which from every point of view is attended with the most favourable results? It may be briefly answered that the guarantee of a good result is determined by a strong recto-vaginal septum, based upon a perineum which has been lengthened and thickened, and thus changes the axis of the vagina in its lower half forward. Narrowing the vagina, *per se*, has no lasting result, though it diminishes its calibre to the smallest size consistent with the parts operated upon. In Bischoff's operation the greatest change is effected in the vaginal axis, and the vagina is decidedly narrowed, as shown in the accompanying diagram (Fig. 5); therefore we may reasonably expect from it the most happy results. It is, however, a somewhat complicated operation, and should only be attempted by one who is specially skilled in plastic operations, and particularly those of the female genital organs.

Fig. 5.



Where large cicatricial contractions of the perineum and vagina exist, it may be impossible to form a tongue-shaped flap, while in extreme relaxation of the posterior wall it becomes necessary to substitute this operation by one of the two others. Simon, whose operation is much simpler, has cured the majority of his cases. Hegar and Kaltenbach have met with excellent results; and this operation narrows the vagina, changes its axis, and creates a strong and thick recto-vaginal septum.