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With Author's Compliments

On

Genital Renovation
by
Kolpostenotomy and Kolpoecpetasis
in
Urinary and Fecal Fistules

BY

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GENITAL RENOVATION BY KOLPOSTENOTOMY AND KOLPOECPETASIS IN URINARY AND FECAL FISTULES.

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PART I.

GENITAL renovation, or genital anakainosis, as opposed to genital kleisis, particularly by kolpostenotomy and kolpoecpetasis in urinary and fecal fistules, without interference with the functions of the organs involved, is the title in extenso of the paper which I now have the honor of reading before this Society.

The term genital kleisis is here used in a generic sense, and is intended to include all those operations employed to occlude or impair the vulvo-vaginal and uterine tract by interference with its functions. It was first proposed, I believe, by Dr. Anatole Le Double, of Paris, in 1876, in a treatise entitled, "Du kleisis génital et principalement de l'occlusion vaginale et vulvaire dans les fistules uro-génitales." The term genital anakainosis is also used in a generic sense, and is intended to include all those operations employed to restore or renew the vulvo-vaginal and uterine tract without interference with its functions. This word, now used, I believe, for the first time, is formed from the Greek ἀνά, again, and καινίζω, to renew or restore, and has a wide signification, not only as regards lesions of the bladder and rectum, which involve the vagina, but also some of the lesions of the uterus and its appendages. Another word for which I am partly responsible, and which I propose to use in this connection, is ephelkosis, ἐπί, to, upon, and ἕλκω, to draw, pull, drag. It is intended by this

to describe the process or act of pulling to or drawing down the uterus like a drawer to make it subservient to the closure of large defects in the vesico-vaginal and recto-vaginal septa. The operation itself is, therefore, called hystero-ephelkosis. Professor Horner, of Philadelphia, be it to the credit of American ingenuity, made the first systematic attempt in the Blockley Hospital to practice hysteroephelkosis in a case presenting a very large vesico-utero-vaginal fistule, but he met with a disastrous failure.[1]

The umbrella-shaped instrument which he employed in performing the operation was evidently of French origin, as its name, *ephelcometre*, suggests. There is still another word of Greek origin which I wish to introduce in connection with the bladder, and that is stellosis, from στέλλω, to contract, fold up, to confine, restrain. When this word is united with the Greek work κύστις, bladder, we have cystostellosis, which is shorter than the phrase, contraction of the bladder, and preferable to the term atrophy of the bladder, which is not applicable to the condition of the organ after its collapse, or folding up; a condition almost always found associated with large urinary fistules. As a companion word, therefore, for kolpostenosis, cicatricial narrowing of the vagina, cystostellosis seems to be called for, and the two words I shall have occasion to use frequently in this paper. Kolpoecpetasis I have already described in a former communication read before this Society; and belonging to it, as part of the same procedure, we have kolpostenotomy, which is the surgical procedure of cutting into a cicatricially narrowed or distorted vagina. Kolpoecpetasis may be employed in simple, uncomplicated narrowing of the vagina from natural or morbid causes; but in complicated narrowing or obliteration of the vagina from sloughing, adhesions, cicatricial bands and bridles, tortuosities, distortions, etc., kolpostenotomy becomes an indispensable part of the procedure for gradually stretching open the organ, and maintaining its natural functions independently of those of neighboring organs. Kolpoecpetasis with kol-

[1] *Am. J. M. Sc.*, vol. xxi., p. 109, 1837.

postenotomy, therefore, forms a very important part of the treatment of urinary and fecal fistules, and this is readily admitted when it is remembered that kolpostenosis in some form or other constitutes about one half of all the cases met with in practice. Kolpostenosis is almost always complicated by cystostellosis to a greater or less extent. Kolpoecpetasis, in addition to its special sphere of usefulness in opening up the vagina and restoring that organ to the normal dimensions, fulfills a most important indication as regards the lost function of the bladder, namely, the obturation or the stopping up of the fistulous opening, as does the lid when placed upon the mouth of a modern milk jar, thus forcing the bladder to take on, to a certain extent, its function of retaining the urine, and afterwards of dilating *pari passu* with the expansion going on in the vagina. In this process the urine, notwithstanding the existence of the fistulous communication between the bladder and vagina, is made mechanically to perform the part of a dilator, and the operation, properly speaking, is cystoecpetasis, to stretch open the bladder, a companion word to kolpoecpetasis.

Some may object to the introduction of so many new words, but why should they, if the terms can aid us in the study and the rational treatment of a class of diseases so important as the one under consideration? In the nomenclature of diseases of the male genito-urinary organs we find descriptive words applied to special operations, as for example, urethral dilatation, urethral divulsion, internal and external urethrotomy, excision of the third lobe of the prostate gland. These are all words or phrases intended to fix the attention upon the various resources of our art for overcoming the obstacles which prevent the performance of the normal functions of the organs involved. These operations are all based solely on the idea of maintaining the genital tract intact, without hindrance or implication of neighboring organs, and are known to be in strict accordance with the highest aims of pathology, physiology, and therapeutics.

In the study of diseases of the female genito-urinary or-

gans, then, why should we not have words equally expressive, and such as give a clear conception of the character and objects of the operations required upon them? Is it because there is in the field of vaginal surgery a less comprehensive nomenclature of diseases and a greater uncertainty in the employment of our resources for their cure than in the domain of urethral surgery, that we are forced to be less precise in our descriptions and use of scientific terms? This would really seem to be true as shown by some of our advanced teachers and writers of the day seriously treating the perforating lesions of the vaginal walls under the generic term of "Vesico-vaginal Fistula," and of giving unwarranted prominence to the expedients devised for the accompanying complications regardless of the sacrifice of physiological functions. Some of the evils of this teaching and practice will be brought out in the course of these remarks.

My object in calling attention to the subject of genital kleisis at the present time is threefold; first, to examine critically this system of practice together with some of the published statistics of the promoters of it, especially of the late Professor Simon, its most earnest advocate, and with the view of learning more definitely its limits, its application in practice, and its dangers, immediate and remote; second, to show how genital anakainosis or genital renovation has been brought to its present high state of perfection, and with the view to directing the attention of the profession more pointedly to the range of its usefulness, its application in practice, and the little danger, comparatively, attending its employment; and, thirdly, to present a comparative analysis of the results so far as the statistics which we have of the two methods will permit. The statistics used in support of genital anakainosis are those obtained from my own practice, amounting to one hundred and twenty cases, the last fourteen of which, excepting one, having been treated in the Woman's Hospital, of the State of New York, since my appointment as surgeon in February, 1878.

A. GENITAL KLEISIS.

In 1832, when Vidal (de Cassis) first proposed to obliterate the vulva for the relief of incontinence of urine in vesico-vaginal fistules, thought to be otherwise incurable by the best resources of our art, he believed that no fistule situated in the *bas fond* of the bladder and attended with loss of tissue, had ever been cured. Notwithstanding the fact that up to 1845 no success by his method, not even in a single case, had been recorded, still Vidal continued to question the possibility of curing a fistule of large size in the *bas fond* of the bladder, and maintained his confidence in the utility of his genital kleisis. At this date, however, August Bérard, an earnest follower of Vidal, made trial of the method in a case supposed to be suitable, and the result was an almost complete success, the woman being able to retain and pass naturally a considerable quantity of urine; but on the seventeenth day she was seized with peritonitis, and on the thirty-eighth day died. At the autopsy pleuro-pneumonia, in addition to slight peritonitis, was found to exist. It was also discovered that the line of union in the vulva was complete, excepting two small points. Bérard reported the case to the Academy of Medicine of Paris, on the 11th of February, 1845, when a very warm and excited discussion ensued, which was continued through two succeeding séances, Dubois, Blandin, Gerdy, Moreau, Roux, Velpeau, and others, participating. The result was that not only Bérard was censured for having caused the death of his patient, but the operative procedure itself was condemned as irrational and undeserving of confidence. After this the method fell into general disfavor. It was not long, however, before the principle of the method was revived by Jobert (de Lamballe), and was extended to the obliteration of the mouth of the uterus for the relief of incontinence of urine resulting from vesico-uterine fistules, and to the shutting up of the cervix uteri in the bladder for the same purpose in vesico-utero-vaginal fistules.[1] Again

[1] *Traité des fistules vesico-uterine*, etc., 1852.

the principle, after the lapse of eight or ten years, found an advocate in Professor Gustav Simon, then residing in Darmstadt, Germany. He extended it to the urethral portion of the vagina in the form of transverse obliteration. (Quere Obliteration der Scheide.)[1]

In 1856 I finished the treatment of a case of vesico-utero-vaginal fistule by turning the cervix uteri into the bladder (hysterocystokleisis), an operation which had been commenced by Dr. Sims, and left after two or three failures. The case was published in the "North American Medico-Chirurgical Review," for July and November, 1857. In another case, in 1859, after closing a large recto-vaginal fistule by uniting its borders, there remained a large urethro-utero-vesico-vaginal fistule, with only the lower half of the urethra intact. Coupled with the extensive perforations in the two walls of the vagina there was present also the complication of kolpostenosis to the extent of scarcely allowing the index finger to pass. Here it was only after the employment of kolpostenotomy and kolpoecpetasis, and after the recto-vaginal fistule had been closed, that I found coaptation of the sides of the urinary fistule impossible, and thought of transverse obliteration of the vagina (kolpokleisis) below the chasm. This I did in March of the year named as an original procedure, not then having ever heard of Professor Simon or his peculiar views upon the subject. The result was a complete closure at the first operation.[2] In 1856, just before or about the time Dr. Sims adopted the interrupted silver suture as a new method, he performed obliteration of the vagina in two cases of vesico-utero-vaginal fistules (kolpokleisis), but in these cases the urethral portion of the vagina was intact, a condition of the parts which even at that early day was regarded by me as contra-indicating such a line of practice.[3] The credit, however, was due to Professor Simon for having first made the application of the principle. His first patient, Margaretha

[1] *Deutsche Klinik*, Fall viii., August 15, 1856.
[2] *New Orleans M. and S. J.*, January, 1860.
[3] Cases IV. and V., *Silver Satures in Surgery*, 1858.

Hubert, was operated upon in May, 1855, in the presence of Drs. Orth, Eigenbrodt, and Hegar.[1] The occasion of the operation was a vesico-utero-vaginal fistule, complicated just below by a kolpostenosis, the latter lesion opposing access to the former for treatment. The operation consisted in paring off the sides of the stenosis and uniting the front and posterior sides with double rows of silk sutures, a plan which Professor Simon only a short time before had perfected. After the fourth trial the opening was reduced to a point so small that the patient could retain a large part of her urine and pass it in the natural way.

From this success Professor Simon was led to conclude that the procedure was a great improvement on the method of Vidal. After this it became an established operation with him, and was soon adopted by other German surgeons. Among them were Roser, Wernher, Wilms, Ulrich, Bardeleben, Wagner, Esmarch, Spiegelberg, and Hegar. In 1867, Professor Simon states in his book on "Plastic Surgery," that he had obtained up to that date, twenty-eight successful closures of the vagina. Then, having so high an appreciation of the method, he called it kolpokleisis, and divided it into two forms; to wit: transverse and oblique kolpokleisis. His indications for the procedure in these two forms were eight, namely: (*a*) Great loss of substance, making it impossible to bring the sides of the fistule together; (*b*) Inaccessibility of the fistule; (*c*) Loss of the infra-vaginal cervix uteri and danger to the peritoneum; (*d*) Hemorrhage into the bladder, if severe, after operation; (*e*) Incarceration of the cervix uteri in the bladder; (*f*) Atresia of the vagina above the fistule; (*g*) Atresia of the urethra with one fistule above and one below; (*h*) Uretero-vaginal, and uretero-uterine fistules?

This brings us to a study of the statistics of Professor Simon, statistics as completed and published by him in his letter addressed to me in the "Deutsche Klinik," 1868, which gives the best reflex of his practice to be found anywhere in his writings. He published this communication

[1] *Deutsche Klinik*, Fall viii., August 15, 1856.

under peculiar circumstances, to wit: In defense of his claim of priority of the operation of kolpokleisis, and this, too, at the time when the procedure had been received with the highest favor in Germany. It may be inferred, therefore, that no case or fact relating to the substantiation of his claim to the originality of the operation was omitted in order to make his tabular statement complete. From his English translation I make the following extract, which includes his statistics in full from 1853 to the autumn of 1868, a period of fifteen years.

"My results, in toto, are consequently the following: Of one hundred and eighteen fistules which existed in one hundred and five patients, one hundred and four fistules which existed in ninety-two patients were completely cured; five fistules which existed in five patients were closed except small openings; three fistules which existed in two patients, as incurable, dismissed; six patients died.

"Thus in comparing the results of 1859 by the old imperfect method, with those attained after that year by means of the improved one, the proportion is considerably in favor of the latter. While previous to 1859, of twenty-two fistules only fourteen (= 64 per cent.) were cured and two patients (= 9 per cent.) died, after that period, of ninety-six fistules which existed in eighty-three patients, eighty-nine (= 92⅔ per cent.) fistules in seventy-seven patients were cured and only four patients (4⅓ per cent.) died.

"With what safety the cures are effected by my simplified method the following report of my latest operations may serve to inform you, besides my works of 1862 and 1868, in which the results are given in detail. During six months' residence at Heidelberg (from May to October, 1868) we have operated, in the hospital, on fourteen fistules in fourteen patients. I have performed twelve and my assistants — Messrs. Heine and Hotz — each one. Three of the fistules were very small; they had remained after previous operations at Rostock; the other eleven were new cases, but six of them had been operated upon already once or several times by other surgeons. Several of them were of considerable size; in five cases twelve sutures were required in order to close them, in one even fifteen. Moreover, different com-

plications existed, which made it necessary three times to embrace the posterior lip of the os uteri in the suture; once to overlap an existing atresia of the urethra; once to remove one; twice to perform kolpokleisis, and once to make a transplantation of a flap from the vulva. Yet, notwithstanding these troublesome circumstances, all fourteen patients were cured by seventeen operations. Of these eleven required only one operation; three had to be operated on twice each — among them were two small fistules which had remained from previous operations."

From a glance at these figures, one in search of information regarding the operation of kolpokleisis and the results attending its use, will be sadly disappointed at finding no distinction made between the cures effected by it, and those secured by direct operation, namely: "By uniting the borders of the defect." I confess that I examined and was disappointed, since just here is to be found the measure of differences between the results of practice by Professor Simon and myself, and of the value to be attached to the one and to the other. But nevertheless, it is possible to supply this defect in Professor Simon's figures from statements made in his work on "Plastic Surgery," [1] published in the same year and only a few weeks prior to the date of his tabular statement. Here it is seen that during the period of thirteen years, commencing with Margaretha Hubert (1855), and ending at the date of the work above quoted, he had had twenty-eight cases in all treated by kolpokleisis alone. Add to these the six cases out of the fourteen patients treated at Heidelberg from May to October, 1868, and the total number will be thirty-four cases.

Of the cases, therefore, submitted to direct operations by uniting the borders of the defect and preserving the functions of the organs involved, there are fifty-eight, and of those submitted to indirect operations (kolpokleisis) by divisional closure and impairment of the genital tract without regard to existing lesions or normal functions there were thirty-four; being in the proportion of fifty-eight to thirty-four.

[1] *Beitrage sur plastischen Chirurgie*, Prag, 1868, vol. ii., pp. 217 and 218.

With this discrimination, therefore, in the character of the ninety-two cures claimed out of one hundred and five cases by Professor Simon, his figures, rearranged, stand as follows : —

Fifty-eight cases were cured by uniting the borders of the fistule or direct operations with preservation of the vagina, 52.23 per cent.

Thirty-four cases were treated and ameliorated by kolpokleisis or indirect operations with sacrifice of the vagina, 32.38 per cent.

In five cases the fistules were closed except small openings, 4.76 per cent.

In two cases the patients were dismissed as incurable, 1.90 per cent.

In six cases the patients died, 5.71 per cent.

As to the number of operations required to complete the cures and ameliorations by kolpokleisis in these one hundred and five cases there is no clue, except in the fourteen cases treated at Heidelberg, which were sufficiently satisfactory as to repetitions. Only eight cases out of the fourteen, however, were real cures, 57.15 per cent., six of the number being simply ameliorations, 42.85 per cent. These figures as to real cures are almost the same as those in Professor Simon's original table and go far to corroborate the relative proportion above given ; as to the ameliorations, the proportion is considerably above that in his table. It may be said that the bridging over of an obliterated urethra in one of these fourteen cases was not kolpokleisis. This is true to some extent, but it is equally true that the operation was an expedient and the result was not a cure, since it left an obstruction to the flow of urine, and the patient afterwards was exposed to the formation of stone in the bladder. The turning of the cervix uteri into the bladder, it may be said, also, was not kolpokleisis, since the operation left the patient with a large part of the genital tract intact ; but it must be remembered that this result was obtained at the expense of fecundity and of the habit of ever afterwards menstruating by the urethra, a condition of things which

does not comport with a high degree of excellence in the operative procedure or of skill in employing it. The best, therefore, that can be said for those results is that they were ameliorations and only deserve to be so classified. The same remarks apply with equal force to the four ameliorations thus secured by Dr. Sims and myself from 1856 to 1859, as before mentioned.

Let us here see what had been the experience of other surgeons with genital kleisis up to about the time that Professor Simon published his statistics. Dr. Sims, in a letter dated August 4, 1864, addressed to Dr. José E. Monteros,[1] and published by the latter, stated that up to that time he had had under his observation three hundred and twelve cases of urinary fistules in women, two hundred and sixty of which he had cured, 80.01 per cent. Out of this number of cures there were twelve cases in which the cervix uteri was turned into the bladder with urethral menstruation, (hysterocystokleisis) with which his two cases of kolpokleisis previously referred to made fourteen cases, a percentage of 4.48. As to the precise number of cases treated by Dr. Sims from 1856 to 1864 by kolpokleisis and hysterokleisis, the period during which the greater number of his cases occurred, he leaves us in ignorance, but judging from the fact that he so early resorted to both of the latter procedures in his practice, the presumption is that the number of kolpokleidic and hysterokleidic cures was equal to, if not greater than, that obtained by shutting up the cervix uteri in the bladder, amounting in all to at least thirty cases, 9.62 per cent.; at all events this is about the average percentage of genital kleisis by his method, as we shall presently see. It is well known that Dr. Sims had had comparatively little success previous to the adoption of his present method of operating, June 24, 1856; and were it not that the seemingly large number of his cases (three hundred and twelve) is so fully authenticated by Dr. Monteros, I should be disposed to think there was some mistake, judging from

[1] *Essai sur le traitement des fistules genito-urinaires chez la femme.* 1864.

the experience of other surgeons with equal opportunities for observation during the same period. Dr. Sims not having reported in detail over a score or two of these cases, it is of course impossible to verify his exact percentage of genital kleisis by reference to individual cases.

Mr. Isaac Baker Brown, a partial adherent of the Sims method, in the third edition of his work, entitled, "Surgical Diseases of Women, 1866," reports in detail eighty-nine cases of vesico-vaginal fistule, in its various forms. Of this number six were treated by genital kleisis: one by obliterating the os uteri for a vesico-uterine fistule (hysterokleisis), three by uniting the posterior lip of the cervix with the anterior border of the fistule (hysterocystokleisis), and two by obliteration of the vulva and orifice of the vagina (episiokolpokleisis). Mr. Brown's recourse to genital kleisis, therefore, in his eighty-nine recorded cases, amounted to 6.74 per cent.

Dr. T. A. Emmet, a strict adherent of the Sims method, in his book entitled, "Vesico-Vaginal Fistula, 1868," reports in detail seventy-five selected cases. Of this number there were seven cases treated by genital kleisis: one by obliteration of the os uteri for a vesico-uterine fistule (hysterokleisis), five by uniting the posterior lip of the cervix uteri with the anterior border of the fistule (hysterocystokleisis), and one by uniting the walls of the vagina (kolpokleisis). Dr. Emmet's percentage is 9.33 per cent.

It will be seen, therefore, from an average of the percentage of resorts to genital kleisis by the above three surgeons, that it differs widely from that of Professor Simon, being 23.82 per cent. less. The explanation of this difference will appear further on. As to the death rate of these three surgeons, there is nothing to show that it exceeded four per cent., which speaks well in this particular for their method of operating. That of Professor Simon was 5.71 per cent., as we have seen, which is not large, particularly when compared with the mortality of his followers, especially with kolpokleisis, which alone, in the hands of some, reached twenty-five per cent. The latter figure may

seem high as compared with that of Professor Simon, but I doubt very much, judging from what I saw and learned of the operation of kolpokleisis in Europe, whether it is much, if at all, above the average. Of the four cases I there saw operated upon, two died, making fifty per cent. In four fifths of the cases in which kolpokleisis has been performed, I venture to say that kolpostenosis, in some form or another, existed. In cases with this complication, according to my experience, the tendency is in a large proportion of them to alkalinity of the urine. Under such circumstances phlegmonous inflammation is exceedingly liable to follow any operation of genital kleisis, especially where there is much exposure of raw surfaces to the action of such urine, shut up as it is in the vagina, and consequently the danger of the pelvic peritoneum becoming involved is greatly increased. This undoubtedly is the explanation of the high mortality indicated.

As to the frequency of the indications laid down by Professor Simon for kolpokleisis and the acceptance of them by surgeons generally in Europe, I am satisfied from what I saw there during a visit of nearly three years (from July, 1874, to April, 1877), that they are strictly adhered to. Of twenty-one cases which I was called upon to examine for an opinion, eight in Germany, five in Austria, and eight in France, eighteen of the number either showed kolpokleisis already commenced or bore acknowledged condemnations of the procedure as a *dernier ressort.*

Again, as to the objections and dangers of kolpokleisis. It was a careful study of the remote causes of death after this operation that first led me in 1868 to investigate and oppose it, and that the grounds of my opposition were well taken additional facts have since abundantly proved. I had seen already as far back as 1859, after performing my first and only kolpokleisis, a case of large recto-vaginal fistule with a thick, hard, and unyielding kolpostenosis, complicated with pregnancy at six months, which to my mind foreshadowed imminent danger. The vaginal tract was reduced to the size of the index finger. It was only by

preparatory treatment (kolpostenotomy and kolpoecpetatis) that I was enabled to save this woman from further injuries and to preserve the life of her child, the latter object being regarded by the parties concerned as of the greatest importance. I intentionally brought on labor at the seventh month after the preparatory treatment had been fairly completed, and by only a few incisions, when the child's head had descended to the point of stenosis, and the timely use of the forceps, I effected a safe delivery of the mother, and saved the child, which afterwards throve and did well. The kolpostenosis in this case was no less a remote cause of danger to the life of this woman than if it had been nephritis or pyonephrosis, remote causes of death after kolpokleisis. Another case of almost complete spontaneous kolpokleisis came under my observation in the spring of 1870. It was the result of a protracted labor. There existed here a recto-vaginal and a urethro-vesico-vaginal fistule. The kolpokleisis in the urethral portion of the vagina, in corresponding relationship to the two fistules, was complete with the exception of a point only large enough to admit a very small surgeon's probe. In this blind process of nature both fistules were inclosed, and continence secured of both feces and urine. This was the first case to open my eyes in a practical way as to the remote results or causes of death, from direct interference with normal functions. This woman had labored under these several lesions for five or six years, but the spontaneous closure of the vagina did not reach its stage of causing complete continence of urine and feces until six or eight months before my advice was sought.

Now Nature's work and the result, as regarded the continence of feces and urine, were just as satisfactory, so far as they went, as possibly could have been secured by the surgeon, and yet before they were fully completed some of the remote results had already developed. When the woman applied for treatment her condition was such as to augur a speedy termination by death. Indeed it was only by the most timely interference of undoing her spontane-

ous kolpokleisis and restoring the genital tract that her life was saved. After kolpostenotomy and kolpoecpetasis both fistules were cured by uniting the borders of the defect, thus proving in this instance the work of art to be superior to that of Nature. This patient remains perfectly well, now after eleven years.

Here then were found the remote causes of death as the result of the spontaneous operations of Nature alone; but they were no less important, as bearing upon the subject, than if the kolpokleisis had been effected by the hand of the surgeon, and in consequence the remote causes had been developed in the usual way.

Furthermore, seeing now in my case of kolpokleisis effected eleven years prior to this, that the beneficial results of the operation had considerably diminished as regarded the continence of urine, and were likely soon to be lost entirely, I naturally concluded that the legitimate evils of the expedient were in progress and would soon develop into the remote causes of death as in the preceding case. In this train of thought I then addressed a letter (1870) to Professor Wernher, of Giessen, Germany, one of the earliest promoters of kolpokleisis after Professor Simon's adoption of the principle, and perhaps the earliest to record a success by it; he replied promptly to the effect that only a few months before receiving my letter his patient had died, and at the autopsy he found a calculus the size of a pigeon's egg in the vagina just above the cicatricial diaphragm.

Such were the data upon which my first investigations with regard to kolpokleisis were based, and which led me to the conviction that the operation was exceedingly dangerous as regarded its remote consequences, and was altogether too indiscriminately employed everywhere in America as well as in Europe. This belief I then set forth in my paper upon the subject.[1]

Soon after this, and in the same line of investigation, my attention was called to the objections and dangers of the Sims' method of operating for urinary fistules, which I had

[1] *Am. Jour. Med. Sciences*, July, 1870.

long suspected but of which I had not before had positive proof. I conceived that the dangers arose from certain erroneous principles of practice; first, the rendering of cicatricial bands or distortions of the vagina available for folding or turning the borders of the fistule, like shelves, into the neighboring organs without regard to structure or functions; and second, in the absence of kolpostenosis from the plaiting or folding in of one or the other of the vaginal walls with corresponding projections into neighboring organs without regard to the passage of urine or feces. These principles of practice I will designate under the term sectional kolpokleisis, in contradistinction to Professor Simon's divisional kolpokleisis, Of the first form of sectional kolpokleisis referred to, the objections and dangers are manifested in the occurrences of cystitis and stone formations in the vesical pockets or shelves, as occurs generally after divisional kolpokleisis. Numerous examples of the above sequences could be cited from high authorities, but the liability to such complications is so self-evident from the peculiar mechanism thus induced in the interior of the bladder as not to be called for here. As to the second form of sectional kolpokleisis mentioned, however, it is not so frequently met with and deserves here a more extended notice. I cannot do better, therefore, than cite the following case presenting a small and uncomplicated urethro-vesico-vaginal fistule.

I was requested to see Mrs. S. in consultation with Dr. S. W. Dana of this city on the 11th of November, 1870, only a few months after my first paper condemning divisional kolpokleisis had appeared. The doctor himself called late at night to ask me to see this patient, believed to be laboring under uremic poisoning. He stated that she had been operated upon in one of our hospitals for a urinary fistule by a distinguished gynecologist of whom there could be no doubt as to skill, six months previously, and that a catheter to draw off the urine had been used daily ever since, as he had been informed. The patient had been under his care only three or four weeks, but during this

time he had been compelled to use the catheter daily. For the past two days he said the quantity of urine had so diminished and the condition of the patient had become so alarming that he feared a speedy termination of the case from the cause above mentioned.

Suffice it to say, I found the patient suffering from cystitis and cystostellosis attended with the most violent tenesmus. There was also stillicidium of urine. The introduction of a catheter showed little or no urine in the bladder, but the use of the instrument revealed the existence of a soft yielding substance in the neck of the organ. The patient stated that her suffering began soon after she was operated upon for the closure of the fistule in her bladder, and that she had been pronounced cured. She was told at the time of her dismissal from the hospital that it would be necessary to have the urine drawn off with an instrument every day for two or three weeks. She said the introduction of the instrument had gradually become more and more painful until she could no longer endure it.

After learning this history of the case I suggested the administration of morphine to the extent of allaying pain and procuring sleep, promising to call the next day to determine the situation of the urinary fistule which I knew existed at some point in the genito-uterine tract. My examination, in which I was assisted by Dr. Dana, showed a great shortening of the anterior wall of the vagina and a cicatricial line about two inches in length running directly across the root of the urethra, all the result, as I then thought, of the closure of a large urethro-vesico-vaginal fistule. The precise relationship, however, of this condition of the parts in the vagina with the soft, yielding body in the neck of the bladder, I could not at first comprehend or explain; it was something I had never encountered before, after any of my operations in this region. Next turning my attention to the presence of urine in the vagina, I began to search for the fistulous opening, but I utterly failed to find it here. After wiping dry the os uteri and placing a piece of old or worn linen over it (my linen test) the source was soon

proven by the merest point of moisture on the linen. The escape was from the cervical canal. Dilatation of the os uteri with a sponge tent and the application again of the linen test showed precisely the point of communication in the canal with the bladder. In this way was demonstrated not only the existence of a vesico-utero-cervical fistule, which had escaped the observation of the gynecologist referred to, but the mechanism of the course of the urine from the bladder into the vagina and the error of supposing uremic absorption which had been entertained by the physician in attendance.

The course of treatment adopted was to lay open the anterior lip of the cervix uteri from the fistulous sinus down to the bladder and vesico-vaginal septum, pare off the bottom of the sinus and then close the parts — a procedure devised by me in 1856 for fistules of this class. The result was a total failure owing to the complication of cystitis and cystostellosis, the extent of which I did not fully appreciate before.

Seeing now that the disease of the bladder was the objective point of rational treatment, and believing that this was referrible to some peculiar mode of closing the little urethro-vesico-vaginal fistule by the surgeon previously in charge of the case, I determined to open up his cicatrix and learn definitely of what the soft, yielding body in the neck of the bladder consisted, and if possible remove it. The considerations that influenced me at this juncture to adopt this course were: First, the patient had no power to pass urine voluntarily; Second, the painfulness of introducing the catheter and the daily increasing vesical tenesmus; and Thirdly, fears of speedy exhaustion and death. The operation was performed in the presence of Drs. Frank H. Hamilton, Samuel T. Hubbard, T. C. Finnell, J. F. Chauveau, and several other physicians, all of whom concurred in the opinion that the operation was urgently demanded under the circumstances. The first step consisted in piercing the cicatrix just where it crossed the urethra and then slitting it up right and left in its entire extent — about two inches — as stated. When this was done, very much to the

astonishment of all present the two sides of the divided parts separated and spread out, presenting a raw surface over an inch in width, and a small fistulous opening in the centre of the sulcus formed, large enough to admit an ordinary probe. A catheter was now introduced which showed the complete disappearance of the obstacle previously encountered in the neck of the bladder. The second step of the operation consisted in enlarging the small fistule upwards to the size of a half dollar, the object of this being to put the bladder at perfect rest and to insure an uninterrupted outflow of the urine and the muco-purulent secretions. The result was that the patient was promptly relieved of all her urgent and threatening symptoms and placed in a position to be cured. It was nearly eight months, however, before the bladder got into a normal condition and the artificial fistulous opening could be closed. This was effected at a single operation with the button suture, and soon afterward the vesico-utero-cervical fistule was shut up by the same method and all in accordance with the highest aims of genital anakainosis. The patient, after a year's treatment, was discharged cured and remains so to this day, now over ten years.

Another case illustrating the objections and dangers of the Sims' method by folding or turning different structures into neighboring organs without regard to functions, came under my observation in August, 1871. It formed the subject of a communication by me to be found in the Transactions of this Society for 1879. Here the disease was a recto-utero-vaginal fistule, and the complication suggesting the expedient, a kolpostenosis stretching across the posterior wall of the vagina just beneath the fistule. The surgeon who preceded me, one of the most eminent of New York in this department, not deeming it possible to remove the stenosed obstruction, decided to make it available for bridging over the chasm in the recto-vaginal wall by uniting its apex with the anterior lip of the cervix uteri (hystero-proctokleisis), thus turning the menstrual flow through the rectum and enforcing sterility. It is true the operative

procedure failed by the cutting out of the silver wire sutures as shown by one of the latter which I found five years and a half afterwards hanging in the summit of the stenosed point, but this is of no consequence; it is not the failure I criticise, but the practice. As to the unjustifiability of the procedure, it is only necessary now to say that through the judicious employment of kolpostenotomy and kolpoecpetasis the opposing obstacle was overcome, the borders of the fistule reached and united, and the patient discharged cured on the principle of genital anakainosis. No stronger proof of the brilliancy of the result could be adduced than the fact that the woman afterwards conceived and bore a child at seven months. The mishap of premature labor was caused, some two years after her cure, by an exceptionally severe voyage from the West Indies to New York.

It was under those circumstances, and with those impressions concerning the objections and dangers of genital kleisis in the several forms here particularly referred to, that I visited Europe in 1874, intending to renew my investigations there upon the subject, my hospital advantages at home not being adequate. After meeting with several eminent surgeons and gynecologists in Germany, among them Professors Esmarch, Bardeleben, Martin, and Crede, and conversing with them upon the subject, I received a very kind and liberal proposition from the late Professor Simon to visit Heidelberg, and take part with him in the operations required in a considerable number of cases of vesico-vaginal fistule, which he then had in the hospital of the university, in order to test the relative advantages of our respective modes of operation in these cases. I accepted Professor Simon's proposition about the 1st of October, and began work in a most practical way, alternating with him in operations as the cases presented.

Among the first cases I saw in the hospital after I arrived in Heidelberg was one of pregnancy occurring after an almost complete kolpokleisis about half an inch behind the meatus urinarius. Mr. Spencer Wells happened to be present on the occasion. The little remaining opening

could only be seen by the closest search. Through this little filiform tract the spermatozoa entered and traversed the whole length of the vagina to the cavity of the uterus, the former at the time being the recipient of all the urine through a urethro-vesico-vaginal fistule. Pregnancy was the result, and the woman presented herself at about the fourth or fifth month of gestation for medical advice. Professor Simon having already thoroughly investigated the case requested an opinion from Mr. Wells and myself respectively as to what was best to be done for the woman under the circumstances. Mr. Wells expressed his belief that it was best to permit the pregnancy to progress to full term, and then when the child's head had put the cicatricial diaphragm or kolpokleidic closure on the stretch to lay the parts open by incision, thus allowing the completion of labor. He stated that he had had a similar case himself after one of his kolpokleidic operations, and he recommended this course of procedure, which turned out well. In theory I regarded this opinion of Mr. Wells correct as far as it related to his own case, knowing, as he did undoubtedly, that the vagina above the seat of his kolpokleidic closure was free from stenosis as a complication of the coexisting fistule, but I knew perfectly well, from the light thrown upon the case before us by the investigations, that kolpostenosis was the complication of the fistule, which had in the first place led to the uncompleted kolpokleisis now existing, and that to wait for the child's head to pass this stenosed point of the vagina, and put the kolpokleidic diaphragm below on the stretch, according to the opinion of Mr. Wells, would be to expose the woman unnecessarily to further injuries, and perhaps to the loss of her life, as well as that of her child. From the experience I had had in the case of pregnancy, associated with a recto-vaginal fistule and kolpostenosis, before referred to, I gave an opinion directly opposite to that of Mr. Wells, which was based on the belief that the proper course under the circumstances was to undo at once the kolpokleidic closure, overcome the kolpostenosis, and thus prepare the vagina for the incoming

head of the child at premature or full birth, as might afterwards be determined by the adaptability of the restored vagina.

Suffice it to say, Professor Simon concurred in the opinion of Mr. Wells, and sent the woman home with instructions to the family physician how to proceed when the labor should set in. The result was, as Professor Simon afterward informed me, that the physician in charge failed to carry out the instructions or found it impossible to do so, and the woman sustained terrible injuries in addition to those she already had. So serious and extensive were these complications now, he further said, that no hope was left for her relief, not even from a second kolpokleisis.

Now, whether the physician in charge of the case was to blame for the misfortune of this poor woman, or could have done any better under the circumstances, I very much question. The cause of the trouble and accident no doubt was the preëxisting kolpostenosis, as I believed at the time of giving my opinion, and the only thing to have been done under the circumstances was just what I suggested, to wit, the reëstablishment of the vaginal tract by kolpostenotomy and kolpoecpetasis as a preparatory step for labor. So thoroughly satisfied am I of the safety and judiciousness of this course that I have no hesitation in recommending it as the best to be pursued in all cases where there is the slightest doubt as to the existence of kolpostenosis.

Another case of medico-legal interest I saw in the service of Professor Simon, where kolpokleisis had been performed by a distinguished German surgeon. The patient was a young woman from Russia. She had sustained a urethro-vesico-vaginal fistule of small size, which was complicated by a hard and resisting stenosis situated just below. The surgeon on finding it impossible to overcome this kolpostenosis, reach the fistule, and unite the borders of the defect, concluded to leave the latter untouched and make a kolpokleidic closure within the stenosed point. The obliteration was complete, and the woman was sent

home as cured. The result proving unsatisfactory, the poor woman was a second time sent off to Germany, now to consult Professor Simon, the author of kolpokleisis, as to the judiciousness of the work of the previous surgeon. Professor Simon instituted an exploration of the bladder by his method of urethral dilatation, and discovered that the fistule was only large enough to admit the index finger. He at once concluded to undo the kolpokleidic closure by incisions and reëstablish the continuity of the vaginal tract, thus bringing to light the covered up stenosis and fistulous opening. This all occurred only a week or so before my arrival in Heidelberg. With this case began practically the application of the principles underlying the operative procedures of Professor Simon and myself respectively. These points have been already sufficiently dwelt upon in another place, and will be passed over here.

Another case in the hospital at Heidelberg, illustrating in a striking degree some of the remote causes of death, was next brought to my notice. Here a urethro-vesico-vaginal fistule of medium size existed, with kolpostenosis just below it, reduced to the calibre of admitting the index finger. The woman, five or six years before, had been submitted to kolpokleidic closure by an eminent surgeon for the reason that the fistule could not be reached so as to unite its borders. The result was complete, and the woman returned to her family, with continence of urine restored. After a few years she began to have pain in the region of the bladder and kidneys, and finally diminishing power to retain her urine. These troubles gradually progressed from bad to worse until all control of the urine was lost, when she applied to Professor Simon for relief. We examined the case together, and found that the continuity of the vaginal tract had been reëstablished by the formation of a calculus in the vesico-vaginal pouch, which had cut through the cicatricial diaphragm below, thus making an outlet for itself. Professor Simon asked me what I would do under the circumstances. I stated that I would first overcome the obstacle, the kolpostenosis, and then close the fistule, if the patient's

general health, then very much shattered, could be improved. He replied that he did not believe that those ends could be accomplished according to the plan I proposed. After waiting a few weeks he performed kolpokleisis on the site of the first operation. The result was that the patient died on the fifth day from uremic poisoning. The autopsy revealed nephritis of one kidney and pyonephrosis of the other, with a long calculus, the size of the thumb, projecting from the left ureter into the bladder.

Suffice it to say there was found in this autopsy all of the worst evils I had ever predicted of kolpokleisis, and from this, and what I had previously learned from my investigations upon the subject, I now determined to condemn the operation in toto.

Next, I will refer to a case illustrating the immediate cause of death, which came before me in Vienna a few months after I left Heidelberg. Here the fistule was vesico-vaginal, of small size, situated just above the root of the urethra, but the complication was kolpostenosis beyond this point, not, however, in a marked degree. The surgeon, not believing it possible to overcome the latter and close the fistule by uniting its borders, resolved to perform kolpokleisis, the usual method employed there under such circumstances. I was invited to be present, and saw the operation performed with the greatest care and skill. The result was that phlegmonous inflammation developed in a day or two in the locality of the sutures, owing to the infiltration of the surrounding connective tissue by alkaline urine. From this pelvic peritonitis followed, and on the fourth day the patient died. The autopsy confirmed what has just been said of the morbid processes, and showed the immediate cause of death which is to be expected in a large proportion of cases after this operation.

A few days after the unfortunate termination of the above case, Professor Billroth, in a conversation with me upon the result, remarked that he had had a patient die in the same way after kolpokleisis. When I visited Paris a few months later, a distinguished surgeon of Lille, whom I met,

told me he had had a similar misfortune. There were other eminent surgeons with whom I conversed upon this subject, but only a very few seemed willing to admit the objections and dangers of the operation which I insisted upon. So firm was the hold of the procedure upon popular favor, and so decided were the convictions of its value as a *dernier ressort*, that only the few who had lost cases by it could be found willing to discuss the feasibility of any other plan of dealing with the difficulties thought to be insurmountable.

In order to show the confidence of French surgeons in genital kleisis as a principle, and the kind of pretext for its employment, it is only necessary to refer to the action of the Academy of Medicine of Paris, at its séance, March 16, 1875, on a memoir presented by Dr. F. J. Herrgott, of Nancy, a candidate for membership, entitled, "De l'Oblitération du vagin comme moyen de guérison de l'incontinence d'urine dans les grandes pertes de substance de la vessie." This memoir is a résumé of what had been accomplished by genital kleisis from the time of its adoption by Vidal, in 1832, up to that date, including me among the authors then recommending and endorsing the practice, when I had only performed hysterocystokleisis and kolpokleisis each once nearly twenty years before, and had for five years condemned the practice as unjustifiable! Dr. Herrgott, in support of his views and practice, presented an epitome of four cases, the history of the fourth and details of the three operations required being in full as follows: —

"Case VI. — Great loss of substance in the anterior wall of the vagina; cicatricial closure of the vagina, excepting two holes; occlusion of these by suture; peritonitis; death the second day. (October, 1864.)

"Case XI. — Great loss of substance; vagina closed by a cicatricial septum, excepting an opening admitting two fingers; a first operation reduced the extent of the opening; after a second operation there remained a little hole, which was closed by a third operation. (March, 1872.)

"CASE XII. — Anterior wall of the vagina totally destroyed; hernia of the vesical mucous membrane in the vagina; first operation complete failure; second operation (in two sections), considerable reduction of the fistule; third operation, cure; menstruation by the urethra. (May, 1872.)

"CASE XV. — Fistule vesico-utero-vaginal, measuring in length six centimeters; cicatricial deformity of the neck; vesical hernia in the vagina; first operation united the right portion; second operation united the left portion; there remained a little opening in the centre which was closed by a third operation. (Case reported by Dr. Marchal, chief of the clinical service of accouchement.)"

This fourth case was operated upon in 1874, and the history shows that the fistulous opening only occupied the *bas fond* of the bladder, with cicatricial bands in the posterior cul-de-sac. The urethra was intact, the coexisting kolpostenosis was undoubtedly the indication for kolpokleisis.

The report of the committee, consisting of MM. Hirtz, Verneuil, Giraldès, upon the memoir, was made to the Academy on the date mentioned, and, after it was read by M. Giraldès, the following resolutions were offered and passed: —

"1. To authorize the insertion entire of the fourth case in the memoir of the author, in the body of this report.

"2. To thank Professor Herrgott for his interesting case.

"3. To send his memoir to the Committee of National Correspondents, to be added to the scientific papers of this candidate."

In the discussion that followed the reading of the above report, M. Verneuil expressed his preference for occlusion of the vulva, according to Vidal's method, over kolpokleisis, for the singular reason that it was much more difficult to carry out the latter, and that when the operation high up in the vagina did succeed, the aims of the surgeon were liable to be soon thwarted by the marital relation. This had happened once in his practice, and the circumstance, he thought, ought to be taken into account in the estimate

of the two methods. In another case he unluckily opened Douglas' pouch and let out several coils of intestine, which, however, were returned and the opening stitched up without further harm. He said that this was exceedingly liable to occur in cases where there were cicatricial bridles in the locality referred to, and the operation here had to be carried out. He further stated that the success of kolpokleisis in his hands had been three closures out of four, and that almost always several repetitions of operations were required. Dr. Herrgott's success, he remarked, had amounted to about this, and as Dr. Herrgott's unsuccessful case was one of death it may therefore be inferred from the experience of Professor Verneuil that the ratio given by him was one death out of four, thus making the mortality of the operation in his hands also twenty-five per cent.

In 1876, about a year after this action of the Academy of Medicine, of Paris, by which it placed itself almost in direct opposition to the course taken by it on the 11th of February, 1845, with regard to Vidal's method, M. Le Double, doubtless encouraged by this change in opinion of the members of the Academy, published his book on Genital Kleisis. He presented me with a copy of it, and I have found it to be full of valuable information upon the class of operations comprised under this most appropriate title. It is exceedingly questionable, however, whether his division of episiokleisis rests on well-authenticated cases of occlusion of the vulva. I have never seen the closure complete, the result being a mere episiostenosis, and of but little benefit to the patient. Professor Simon was also of the same opinion. The result in the only case I ever saw had been achieved at great sacrifice of time and labor by a distinguished surgeon of New Orleans for a large vesico-utero-vaginal fistule and laceration of the urethra; later the case came under my care, when I overcame the episiostenosis, and cured the fistule and cleft urethra by three direct operations, thus putting the treatment on a legitimate basis. The first of these operations I performed on the 15th of February, 1857.[1] The

[1] Case XI.— *North Am. Med.-Chir. Review*, July and Nov. 1857.

vesico-utero-vaginal fistule was almost the counterpart of the fourth one described by Dr. Herrgott at length in his memoir, above referred to.

The case of Dr. Schuppert, of New Orleans, to which M. Le Double refers in support of his classification, and which was operated upon in 1861, does not appear to have been one of episiokleisis. Dr. S. states that two centimeters of the urethra remained and a narrow stenosis existed above. To have secured the result he claims in the case, the denudation must have been carried to a point beyond the urethral orifice, and was, therefore, partly in the vulva and partly in the vagina, constituting, properly speaking, an episiokolpokleisis ; in fact, Dr. Schuppert himself designates the operation as one of episioelytrorrhaphy.[1] The case of Professor Simon, the report of which he ascribes to me, was not one of obliteration of the vulva at all. The kolpostenosis in this case was seated near the root of the urethra and the obliterating operation was at this point, thus constituting kolpokleisis in the urethral portion of the vagina.

Next let us examine the classification of the different forms of genital kleises. That of Professor Simon was for a long time regarded as the most complete ever given. Just before Professor Simon's death, however, Dr. Herrgott, in his memoir to the Academy of Medicine of Paris, upon the obliterating operations of the vulva as well as of the vagina, led the way to an extension of the old classifications. To this latter circumstance I attribute the adoption by M. Le Double of the title of "Genital Kleisis" for his treatises on the subject, he intending to include under it all the classes of obliterating operations on the vulvo-vaginal and uterine tract.[2] As a matter of scientific interest bearing upon genital kleises at the date of which I am speaking, especially in France, I here present M. Le Double's classification. This will show at a glance what has been proposed and attempted to be carried out by all promoters of the practice : —

[1] *A Treatise on Vesico-vaginal Fistula*, 1866. [2] Op. cit.

Hysterokleisis. With Cicatricial Diaphragm incomplete (Dieffenbach).

Kolpokleisis. With Cicatricial Diaphragm complete.

- Transverse.
  - Of the Arch of the Vagina.
    - 1st. By turning the neck of the uterus into the bladder.
    - 2d. By turning the neck of the uterus into the rectum.
    - 3d. By embracing the two walls of the vagina.
  - Of the body of the vagina.
  - Of the urethral portion of the vagina.
- Vertical.
  - At the entrance of the vagina immediately behind the vulvar ring (Vidal).
- Oblique.
  - Neck of the uterus outside of the occlusion.
  - Neck of the uterus behind the occlusion.

Episiokleisis.

- With rectal diverticulum. (Cicatricial Diaphragm complete and obturation of the meatus urinarius.)
  - Primitive or pathological.
  - Secondary or surgical.
- Without rectal diverticulum. (Cicatricial Diaphragm complete or incomplete.)
  - With preservation of a part of the length of the urethra or of all the meatus urinarius. (Cicatricial Diaphragm complete.)
  - With the destruction of all the inferior wall of the urethra and the meatus. (Cicatricial Diaphragm incomplete.)

For all practical purposes it would seem that the above classification of M. Le Double is sufficiently comprehensive and well arranged. But large as it is it does not designate clearly and precisely the several forms of kleisis involving the cervix uteri and the bladder and rectum; and as to the plaiting and folding of the borders of the fistule and the bridging over of atresias of the urethra, he does not include these in his scheme at all. With the view, therefore, of making prominent the procedures of thrusting the cervix uteri into the bladder and rectum, and of adding the folding and doubling of the separate walls of the vagina, regardless of the homogeneity of structures and the harmony of functions, I propose a new classification based on the divisional abridgment of the vulvo-vaginal and uterine tract and the sectional abridgment of the vaginal walls anteriorly and posteriorly. This accords better, it is believed, with the teachings sought to be enforced both as regards the permanent sacrifice and alteration of organs and of functions. The scheme is here presented in tabular form:—

GENITAL KLEISIS.

Divisional Abridgment.

A. *Hysterokleisis.*

Sectional Abridgment, Anteriorly.

1. Hysterocystokleisis.
2. Kolpocystokleisis.
3. Kolpourethrokleisis.
4. Kolpourethrocystokleisis.

Sectional Abridgment, Posteriorly.

1. Hysteroproctokleisis.
2. Kolpoproctokleisis.

B. *Kolpokleisis.*

a. Transverse.

In urethral portion, body and arch of the vagina.

b. Oblique.

In body and arch of the vagina.

C. *Episiokolpokleisis.*

D. *Episiourethrokleisis.*

With rectal diverticulum.

E. *Episiovulvokleisis.*

With rectal diverticulum.

Such are my views upon the classification of genital kleisis, but from what I have previously said regarding the objections to this practice and its dangers it will not be inferred that I indorse and recommend this large class of operative procedures. On the contrary, I condemn them all except one, and that is the divisional form of episiokolpokleisis. Here all the vesico-vaginal septum and the upper half of the urethra are supposed to be destroyed, and hysteroephelkosis and the button suture are found insufficient to close the chasm. Under such circumstances obliteration of the vaginal orifice (all other conditions favoring it) might be undertaken with fair prospect of securing continence of urine in the recumbent, if not in the erect posture, but even this operation is scarcely warranted from the benefits really conferred. As to the two other forms of episiourethrokleisis and episiovulvokleisis with rectal diverticulum and anal outlet, I think they should never be thought of as

surgical resources. Here, in addition to the above-described lesions, the lower half of the urethra is also partially or completely destroyed. It is far better for the poor woman to remain in her already deplorable state than to undergo either of the last-named operations, at the cost, perhaps, of many repetitions to secure success, and then ever afterwards to maintain a communication between the bladder and vagina on the one hand and the rectum and the vagina on the other, with the anus as a common outlet for all three organs.

With regard to kolpokleisis, the view that I take of it in any of its forms is that if there is tissue enough remaining for the operation there is enough remaining also for the coaptation of the borders of the fistule, and why then resort to the expedient? As to hysterokleisis, there is no necessity for it, since exposure of the vesico-uterine fistule by splitting the anterior lip of the cervix uteri and the cure of the same are entirely feasible with preservation of the normal uterine outlet.

Concerning the sectional forms of genital kleisis with distortion and shortening of the vulvo-vaginal tract, it is only a question of patience and perseverance with kolpostenotomy and kolpoecpetasis in order to entirely avoid these expedients and maintain intact the vulvo-vaginal contour.

I know it will be said that my picture of genital kleisis is overdrawn, being based mainly upon my individual experience and observation. Granting this to be true, it is of but little consequence as affecting the many facts which I have endeavored, in these remarks, to place before the reader.

My percentage of genital kleisis out of one hundred and twenty cases is only 1.66 per cent., the smallest that has ever been recorded by any operator of equal experience, and from this fact alone I assume to speak authoritatively upon the points above presented. In this connection I will tabulate the percentage of genital kleisis by the four other prominent surgeons to whose labors I have previously referred, in order to place their results side by side with my own, which may be stated thus: —

Simon, 34 cases treated by genital kleisis out of 105 presented, 32.38 per cent.

Sims, 30 cases by genital kleisis out of 312 presented, 9.62 per cent.

Emmet, 7 cases by genital kleisis out of 75 presented, 9.33 per cent.

Baker Brown, 6 cases treated by genital kleisis out of 89 presented, 6.74 per cent.

Bozeman, 2 cases treated by genital kleisis out of 120 presented, 1.66 per cent.

These figures as regards the practice of Mr. Brown, Dr. Emmet, and the writer are correct, having been taken from the records. As to Dr. Sims', they are believed to be approximately, if not positively, correct; the proof is that they tally almost exactly with those of Dr. Emmet, his strict follower. Professor Simon's are correct only as relates to his occlusion of the vulvo-vaginal tract and the turning of the cervix uteri into the bladder. The proportion of his cases in which the mouth of the uterus was obliterated does not enter into the account, but out of his one hundred and five cases it could not have been less than four, which would make his proportion of genital kleisis as 38 to 105, or 36.19 per cent., instead of 32.38 per cent., as tabulated. This, however, is of but little consequence, since his difference of percentage is already so much greater than either of the other four surgeons cited as to give the appearance of the grossest error in calculation.

The question may now be asked, What is the explanation of these differences of percentage in the results from genital kleisis? The writer, the first advocate of kolpostenotomy and kolpoecpetasis combined, insists that these procedures are the true measures of the differences above shown. Kolpostenotomy alone, as a means of immediate preparatory treatment for exposing concealed fistules in the vulvo-vaginal tract, and making them accessible to the use of instruments, was understood for a very long time before kolpoecpetasis was successfully applied under the form of gradual preparatory treatment, and hence the beginning of a new era by the combination made of the two procedures. As results of the combination follow cystoecpetasis and hysteroephelkosis, as described in the outset

of these remarks. The button suture, although criticised and even pronounced hurtful by some who are ignorant of its true principles of action, has contributed largely in the combination indicated to restrict genital kleisis to the narrowest limits in the practice of the writer. Professor Simon, accredited with the other extreme percentage of genital kleisis, understood thoroughly the value of kolpostenotomy as a means of immediate exposure of the fistule concealed in the vulvo-vaginal tract in simple cases ; but he had no conception or appreciation whatever of the value of the combination with it of kolpoecpetasis as a means of gradual and certain exposure in the graver cases. This the writer found to be the weak point in his mode of operating, which mainly accounts for his high percentage of genital kleisis, and for the great mortality, especially from kolpokleisis, in the hands of many of his followers. As to the percentages of genital kleisis in the hands of the other three surgeons named, they fall under the same general criticism, though in a far less degree, and the differences in their results point unerringly to failure or inability on their part to combine and carry out to the legitimate end the fundamental principles above indicated. The histories and analyses of their cases, as far as reported, go to sustain this statement.

As further support of all that has been said condemnatory of genital kleisis, and of the possibility of avoiding the practice entirely, the writer proposes to introduce here an epitome of his last fourteen cases of urinary fistules, treated in the Woman's Hospital, twelve of the number having been complicated with kolpostenosis, and a large proportion of them answering to Professor Simon's indications for kolpokleisis. These cases admit of the following classification : —

One urethro-vaginal fistule.
Two urethro-vesico-vaginal fistules.
Three vesico-vaginal fistules.
Six vesico-utero-vaginal fistules.
One vesico-utero-cervical fistule.
One urethro-utero-vesico-vaginal fistule.

Number.	Name and Residence.	Age.	Children.	Injured.	Admitted.	Disease.	Complications.	Previous Operations by Sims' Method.	Preparatory Operations.
1	C. B. New York City.	38	4	Jan. 1875.	Mar. 26, 1878.	1 Vesico-utero-vaginal fistule.	Incarceration of cervix uteri in bladder. Kolpostenosis and cystostellosis.	2	Kolpostenotomy and kolpoecpetasis carried from 45 to 65 mm., with cystoecpetasis.
2	J. C. Woodstock, N. Y.	26	1	May, 1876.	Oct. 23, 1878.	1 Vesico-utero-vaginal fistule.	Kolpostenosis. Sinus in the anterior lip of the cervix uteri.	2	Kolpostenotomy and kolpoecpetasis carried from 40 to 60 mm.
3	L. C. Cornwall, N. Y.	25	0	—	Nov. 14, 1878.	1 Vesico-vaginal fistule the result of kolpocystotomy.	Uterus ante-flexed. Hysteria and aphonia, overdistention and paralyzation of urethra.	—	None required.
4	C. B. East Springfield, N. Y.	33	—	Aug. 25, 1878.	Dec. 21, 1878.	1 Vesico-utero-vaginal fistule.	Kolpostenosis slight.	—	Kolpostenotomy and kolpoecpetasis carried to full size of vagina.
5	K. B. New York City.	22	1	Mar. 19, 1878.	Feb 27, 1879.	1 Vesico-vaginal fistule.	Kolpostenosis; a remaining silver wire the nucleus of a calculus and followed by vaginitis.	1	Removal of calculus. Kolpostenotomy and kolpoecpetasis carried from 45 to 60 mm.
6	J. N. New York City.	33	6	Sept. 6, 1879.	Oct. 13, 1879.	1 Vesico-utero-cervical fistule.	Kolpostenosis. Fistulous opening in cervical canal.	—	Kolpostenotomy and kolpoecpetasis carried to 70 mm.

Finishing Operations by Bozeman's Method.	Results.	Relationship of the Sexual Organs and of their Functions.	Discharged.	Remarks.
—	Improved.	Restored.	June 24, 1879.	Uterus retroflexed. Neck lacerated and incarcerated in the bladder. Fistule of small size. Uterus disengaged from bladder and almost completely restored to its normal relationship. Having about completed the preparatory operations, the patient, becoming discouraged, placed herself in the hands of another surgeon, who performed two finishing operations. Result thought to be successful, but the patient afterwards informed me that as soon as she got up and began to walk about the urine ran off through the vagina just as it had previously done. Patient therefore remained uncured.
1	Cured.	Preserved.	Mar. 24, 1879.	Fistule large enough to admit the point of the index finger, lay to the right of the median line and involved the cervix uteri. From the left angle a sinus extended upwards through the anterior lip of the cervix uteri, and opened into the cervical canal, constituting a vagino-utero-cervical fistule. Vagina shortened and distorted by cicatricial bands, which rendered the anterior border of the fistule immovable. Sinus in the cervix uteri laid open and followed up by the usual treatment. Elastic catheter only used at intervals in the after treatment.
1	Cured.	Preserved.	April 13, 1879.	Patient had been under the treatment of half a dozen or more physicians during several years for anteflexion of the uterus, hysteria, retention of urine, and cystitis, and had undergone urethral dilatation, and finally kolpocystotomy. After closing the fistulous opening incontinence of urine was found to exist owing to the patulous condition of the urethra. On the 4th of April, 1879, I laid the whole urethral tract open, intending to let the parts rest a few months, and then, after reducing the calibre of the canal to its proper size, to close it over an elastic catheter. The patient did not return to me for the finishing operation required, but placed herself in the hands of another surgeon. The procedure on the urethra here referred to, the first step of which I performed, was original with me and would have been completed at one operation had not my plan of treatment been thus interrupted. As it turned out, eleven operations had to be performed by the surgeon who succeeded me, running, as I understand it, through a period of nearly two years.
1	Cured.	Preserved.	Feb. 24, 1879.	Cervix uteri almost completely cut off from view by a broad and annular cicatricial band. Fistulous opening readily admitted two fingers after preparatory operations — was bordered above by the anterior lip of the cervix uteri and rested below within the band of nodular tissue mentioned. Catheter only used at intervals of two to four hours.
1	Cured.	Preserved.	April 22, 1879.	This patient had previously been operated upon by the Sims' method, by an eminent gynecologist, but the result was a total failure. The fistule I found situated in the trigone of the bladder to the right of the median line, and about large enough to admit the index finger. Across the anterior wall of the vagina, just below the fistule, there was found stretched a thick unyielding band of cicatricial tissue, and from this border of the fistule hung a twisted wire loop, remaining from the operation mentioned. This loop serving as a nucleus, a calculus the size of a pigeon's egg had formed in the vagina and this, in its turn with alkaline urine, had caused the violent vaginitis found coexisting. Catheter only used at stated intervals.
2	Cured.	Preserved.	April 8, 1880	Vagina considerably contracted in the upper third. Uterine orifice of fistule situated in the cervical canal one cm. from internal uterine orifice, and large enough to admit into the bladder an English No. 10 catheter. After kolpoecpetasis was completed the cervical canal was dilated, and bilateral hysterotomy was performed. The divisions were carried to the vaginal junction, and then all the an-

Number.	Name and Residence.	Age.	Children.	Injured.	Admitted.	Disease.	Complications.	Previous Operations by Sims' Method.	Preparatory Operations.
7	M. S. Port Chester, N. Y.	34	2	March, 1880.	May 11, 1880.	1 Urethro-vesico-vaginal fistule.	Kolpostenosis, congestion of the vagina, and plastic exudations in the surrounding connective tissue. Partial immobility of the uterus.	—	Kolpostenotomy and kolpoecpetasis carried from 40 to 60 mm.
8	S. J. Cavuta, N. Y.	37	—	1870.	Sept. 16, 1880.	1 Urethro-vaginal fistule.	Prolapsus uteri and vaginal hyperesthesia.	—	Kolpoecpetasis alone carried to the limit of 65 mm.
9	A. F. New York City.	35	1	July 21, 1880.	Sept. 16, 1880.	1 Vesico-utero-vaginal fistule.	Kolpostenosis. Partial fixation of uterus.	—	Kolpostenotomy and kolpoecpetasis carried from 40 to 55 mm.
10	J. S. Staten Island, N. Y.	19	1	Aug., 1880.	Sept. 27, 1880.	1 Urethro-vesico-vaginal fistule.	Kolpostenosis of annular form just below the fistule.	—	Kolpostenotomy and kolpoecpetasis carried from 20 to 50 mm.
11	A. L. C. Albion, Wis.	41	4	Oct., 1877.	Oct. 1, 1880.	1 Urethro-utero-vesico-vaginal fistule.	Kolpostenosis seemingly insurmountable. Root of the urethra involved in it. Marked cystostellosis.	2	Kolpostenotomy and kolpoecpetasis carried from 40 to 65 mm., with corresponding cystoecpetasis.

Finishing Operations by Bozeman's Method.	Results.	Relationship of the Sexual Organs and of their Functions.	Discharged.	Remarks.
				terior lip below the fistule, including the vesico-vaginal attachment, was excised, thus converting the original small fistule into a large vesico-utero-vaginal fistule. This being only a preliminary step, the kolpoecpetasis was continued up to the point indicated. As a preparatory step to the finishing operation the internal uterine orifice was again dilated, and the stump of the anterior lip of the cervix uteri united to the opposing border of the vesico-vaginal septum, thus leaving the cervical canal, though shortened two thirds of its length, in its normal relationship with the vaginal tract. After removal of the suture apparatus only a small suture hole remained, which had to be closed at a second operation. Catheter only used at stated intervals.
1	Cured.	Preserved.	June 28, 1880.	The fistule occupied the trigone, and part of the *bas fond* of the bladder. Vagina narrowed by cicatricial bands, and plastic exudations in the surrounding connective tissue. Cicatricial bands were situated below and above the fistule. Calibre reduced to about forty mm. By kolpostenotomy and kolpoecpetasis calibre of vagina increased in fifteen days to sixty mm. Fistule now large enough to admit three fingers. Operation for closure of the fistule attended with considerable hemorrhage. Hot water used to control it, but it was not entirely arrested until the sutures were introduced and adjusted. Hemorrhage probably due to the unusual shortness of the preparatory stage of treatment. Catheter used at stated intervals.
2	Cured.	Preserved.	Dec. 12, 1880.	Fistule situated at about the middle of the urethra, and was of a longitudinal shape. Here dilatation was employed to restore the organs to their proper relationship, and to overcome the morbid sensibility of the vaginal tract. My assistant, Dr. Janvrin, performed the finishing operation, using my suture. Success was only partial. Second operation by myself. Elastic catheter after first few days used at stated intervals.
2	Cured.	Preserved.	Dec. 16, 1880.	Fistule occupied the *bas fond* of the bladder, the anterior lip of the cervix uteri forming its upper border. Plastic exudations in the connective tissue surrounding the latter, the cause of the fixation noted. Fistule after dilating operations admitted easily two fingers. When the suture apparatus was removed on the seventh day there remained an opening about the size of a pin's head, at a point corresponding to the entrance of the right ureter into the bladder, which constituted a vesico-uretero-vaginal fistule. A slight operation six weeks afterwards completed the cure. Catheter used at stated intervals.
1	Cured.	Preserved.	Dec. 13, 1880.	Fistule occupied the trigone of the bladder, involving below the root of the urethra. The stenosis of an annular form was situated just below the fistule and held within its firm grasp the anterior border of the latter. Fistule closed with four sutures and button to suit the requirements of the pubic arch. Complete distention of the borders of the fistule was thus maintained within the range of the annular contraction during the reparative stage. Continence of urine restored. Patient required after the cure to wear an intra-vaginal dilator for a month or two in order to guard against recontraction and consequent paralyzation of the sphincter vesicæ muscle. Elastic catheter worn permanently for three or four days only.
3	Cured.	Preserved.	May, 1881.	Fistule occupied the trigone and *bas fond* of the bladder and implicated the root of the urethra below and the anterior lip of the cervix uteri above. Outside of the fistulous opening the mucous membrane on both walls of the vagina had been extensively implicated in the sloughing which followed the injury. From these pathological conditions resulted the marked kolpostenosis or hard unyield-

Number.	Name and Residence.	Age.	Children.	Injured.	Admitted.	Disease.	Complications.	Previous Operations by Sims' Method.	Preparatory Operations.
12	M. S. New York City.	—	—	—	Dec. 22, 1880.	1 Vesico-utero-vaginal fistule.	Kolpostenosis.	1	Kolpostenotomy and kolpoecpetasis carried from 45 to 60 mm.
13	M. C. New York City.	40	1	Sept. 5, 1876.	Feb. 14, 1881	1 Vesico-vaginal fistule.	Kolpostenosis involving whole calibre of the vagina. Laceration of perineum.	—	Kolpostenotomy and kolpoecpetasis carried from 40 to 60 mm.
14	A. M. Brooklyn, N.Y.	32	9	April, 1880.	Mar. 14, 1881.	1 Vesico-utero-vaginal fistule.	Partial incarceration of the cervix uteri. Marked kolpostenosis, cystostellosis, and endometritis. Laceration of perineum.	1	Kolpostenotomy and kolpoecpetasis carried from 40 to 60 mm., with cystoecpetasis.

Finishing Operations by Bozeman's Method.	Results.	Relationship of the Sexual Organs and of their Functions.	Discharged.	Remarks.
				ing band involving the anterior border of the fistule. The urethra was about an inch long, and this, with the corresponding portion of the vaginal wall, was drawn upwards, as a result of the cicatrization and the contracting band referred to. The stump of the cervix uteri was drawn downwards by the same morbid forces. The space intervening constituted the fistulous opening only large enough to admit the index finger into the bladder. The anterior border of the opening stood on a plane far above that of posterior, and was wholly without elasticity, having the feeling of cartilage. The preparatory operations resulted in not only opening up the vaginal tract, but in the dilatation of the bladder to two thirds of its natural size. First operation for closure of the fistule completely successful, but the cicatrix after two days gave way at the left extremity. Second operation was supplemented by a bilateral division of the cervix uteri, but still, owing to the great retraction of the parts, the right angle failed to close, thus leaving about the middle of the first line of union a small opening. Third operation with bilateral cervical division resulted in complete closure, except a small suture hole which fortunately healed itself after a few days, leaving the patient with power to retain and pass urine at intervals of two or three hours. Catheter used at stated intervals. The two previous operations had been performed by one of the most eminent gynecologists of the West.
1	Cured.	Preserved.	Feb. 19, 1881.	Fistule occupied the *bas fond* of the bladder, and had for its posterior border the anterior lip of the cervix uteri. After preparatory operations the fistule was almost large enough to admit two fingers. Operation for closure of the fistule was performed by my assistant, Dr. Janvrin. Catheter used at stated intervals. Result, complete cure. This case had previously been operated upon by the Sims' method, without success, by an eminent gynecologist of the city.
1	Cured.	Preserved.	May 16, 1881.	Fistule occupied the vesical trigone, and only admitted a No. 6 catheter. Incisions required superficial, and mainly upon the posterior wall. Fistule closed under my direction, by Dr. G. F. Chambers, member of the house staff. The laceration of the perineum, which extended nearly through the sphincter ani muscle, I afterwards completely closed at a single operation with my modification of the quill suture.
1	Cured.	Preserved.	May 9, 1881.	Fistule occupied the *bas fond* of the bladder and admitted the index finger. The partial incarceration of cervix uteri in the bladder resulted from injury at the time of labor to the side of the cervix. The body of the uterus falling backwards forced the anterior lip of the cervix partially through the newly formed fistule, and in this forced relationship the two adhered, leaving the pathologico-physiological condition indicated. After completion of the preparatory operations, and attention to the endometritis, the finishing operation was undertaken. This consisted in enlarging the fistule at each angle and thus freeing the anterior lip of the cervix uteri from its confined position in the bladder. Then the sutures were so introduced and the button so formed, that the lip of the cervix involved was lifted up to a plane with the anterior border of the fistule. The patient after the operation had considerable vesical tenesmus, but this was controlled with the free use of opium. Catheter used at stated intervals. The cure was complete. The operation for the laceration of the perineum was deferred to another time. This case had previously been operated upon by a distinguished gynecologist of a neighboring city, according to Sims' method.

TABULAR STATEMENT OF RESULTS.

For 14 fistules which existed in 14 patients there were 18 operations performed.

Thirteen fistules which existed in 13 patients were cured with preservation of vagina.

One fistule which existed in 1 patient left after preparatory work.

Percentage of cures and of operations for each cure and each fistulous closure : —

There were 13 cures out of 14 cases	92.85 per cent.
Operations for each cure	1.38 per cent.
Operations for each fistulous closure	1.38 per cent.

Now, the difficulties encountered in the above cases will not be questioned, it is presumed, when it is stated that six of the number had resisted nine previous operations by the Sims' method in the hands of four of the most eminent gynecologists of our country, and that in twelve of the cases kolpostenosis ranging all the way from seventy to twenty millimeters was found to exist. In addition to this there were two cases of incarceration of the cervix uteri in the bladder which had to be disengaged, and one in which the whole vesico-vaginal septum with a little of the anterior lip of the cervix uteri above and a little of the root of the urethra below had been destroyed. Besides this, in a fourth case a large vesico-utero-cervical fistule was presented, and the lower part of the cervix uteri had to be taken out with a part of the vesico-vaginal septum, which constituted a *new procedure;* and yet in all of these cases complete genital anakainosis was accomplished, and the women discharged cured, in the enjoyment of all their normal functions. Six at least of these fourteen cases answered to the indications laid down by Professor Simon for kolpokleisis. This percentage of success by genital anakainosis, 92.85 per cent., is the highest ever reached by me before, and is probably the highest ever reached by any surgeon in such a series of cases.

Three of these cases were operated upon by Drs. Janvrin and Chambers, two of them being cured at the first trial. Neither of these gentlemen had ever performed my opera-

tion before, and as regards the latter gentleman, a member of the house staff, it was his first effort by any method. Yet their results, two successes in three cases, would do credit to the most experienced and skillful operator. Thus is proven the perfect simplicity and success of my procedure, and that any one, the merest tyro in medicine, can, by means of kolpostenotomy and kolpoecpetasis carried to the point of completion, reach the highest aims of conservatism. Of the value of kolpostenotomy and kolpoecpetasis as preparatory measures towards rendering all cases simple and successful, as above shown, I will here quote the opinion of Dr. Ludwig Bandl, of Vienna, after observation of my practice in the General Hospital of that city: —

"Eine grosse Sicherheit für den Erfolg liegt meines Erachtens in der vorbereitenden Behandlung die Bozeman als einer der Ersten geübt hat (die Anfänge dieser methodischen Dilatation sind schon in Bozeman's erster Schrift vom Jahre 1856 enthalten) und von der auch Emmet der berühmte Chirurg des New Yorker Frauen-Hospitals, der wohl hunderte von geheilten Fisteln aufzuweisen hat, mit Recht sagt, dass von derselben das Geheimniss des Erfolges abhänge, und dass die best ausgeführte Operation fehlschlagen könne, wenn sie verabsäumt würde; er erweitert mit dem von Sims gebrauchten Glasdilatator methodisch die Vagina. Bozeman selbst legt ihr eine grosse Bedeutung bei und er sagte öften: 'Nicht das Operiren, sondern das Präpariren sei oft schwer.'" [1]

Professor Simon, in his last paper on our competitive operations in Heidelberg, and on my operations in Vienna,

[1] A great guaranty for success lies, in my opinion, in the preparatory treatment, which Bozeman was one of the first to practice (the beginning of this methodical dilatation is mentioned in Bozeman's first paper published as far back as the year 1856) and of which Emmet also, the celebrated surgeon of the New York Woman's Hospital, who can show hundreds of healed fistules, says with truth that the secret of success depends upon it, and that the best performed operation may miscarry if this treatment be omitted; he enlarges the vagina methodically with the glass dilatator used by Sims. Bozeman himself attaches the greatest importance to the preparatory treatment, and often said, "It is not the operation but the preparation which is difficult." — *Wiener med. Wochenschrift*, 49–52, 1875.

published in August, 1876, just before his death, also says of this procedure: —

"Ich selbst habe für mich aus dem Concours, besonders aber aus der Beschreibung der Wiener Fälle, den Gewinn gezogen, dass ich die allmälige Vorbereitungskur höher schätze als früher, indem ich sie ungeübteren Kollegen sehr dringend empfehlen zu müssen glaube."[1]

It is also seen in a large proportion of the above tabulated cases that the after-treatment was conducted without the permanent use of a catheter, in accordance with the principle of practice laid down by Professor Simon. This speaks well for the correctness of the principle in a general way; but there were cases, especially where the urethra was involved, in which my old practice was strictly adhered to, namely, the permanent use of an elastic catheter.

Here the elastic catheter, the form of instrument best adapted, is used, not so much on account of the hurtfulness of the urine, as for the purpose of assisting the sutures in holding the broken ends of the urethra together; but notwithstanding this reserve in the adoption of the principle set forth by Professor Simon, I accord to him full credit for his important modification of the old practice, even if for no other consideration than to save the patient from unnecessary discomfort and the surgeon from useless trouble and annoyance. The adoption, therefore, of this principle of practice, whether completely or partially, destroys utterly that of the heavy metallic or sigmoid catheter so strongly insisted upon by Dr. Sims in his so-called "Clamp Suture Method," and goes far to prove that by his new interrupted silver-suture method one of the causes, at least, of the nine failures accredited to his four followers in this series of

[1] I have profited much by the competitive operations, but especially from the report of the Vienna cases, placing a higher value on the gradual preparatory treatment than formerly, and I feel bound to recommend it most urgently to my less expert colleagues. — *Wiener med. Wochenschrift*, 27–32, 1876.

cases was referable to the hurtfulness of this clumsy and very objectionable instrument.

This brings us to the consideration of genital anakainosis, the second part of my paper, which will be presented in a subsequent communication.

296 FIFTH AVENUE.