THOUGHTS

ON

CHRONIC INVERSION

OF THE

UTERUS:

SPECIALLY WITH REFERENCE TO

GASTROTOMY as a SUBSTITUTE for AMPUTATION of the UTERUS,

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CHRONIC

INVERSION OF THE UTERUS.

These thoughts have been elicited by an interesting and highly suggestive paper of Prof. T. Gaillard Thomas, of the College of Physicians and Surgeons, New York, entitled "The History of Four Cases of Chronic Inversion of the Uterus, with the Account of an Operation designed as a Substitute for Amputation."—(American Journal of Obstetrics for November, 1869.)

Of the four cases of chronic inversion of the uterus, narrated in this paper by the distinguished author, two were his own patients, one was a patient of Dr. Thomas Addis Emmet's, and the other of Dr. Joseph Worster's. In both of the latter cases, Dr. Thomas was present, and assisted in the manipulations for the reduction of the displaced organ. To the credit of American gynæcology be it said that, in all the cases, the object of the operation, viz: the restoration of the uterus to its normal situation was attained, though not without indefatigable perseverance, especially in the last case of the series; this was

one of Dr. Thomas' cases, in which, after having been foiled, in all the manipulations that have been hitherto practiced, he resorted to a novel method, bold and original in its conception and successful in its execution. This method, to indicate it generally, for the present, consisted in gastrotomy and the instrumental dilatation of the internal orifice of the cervix-uteri—the supposed seat of the stricture, that had resisted all the efforts which had been made to reposit the womb. This invocation of surgery to the aid of manipulation was crowned with success; the resistance was overcome, the uterus was lifted to its proper place and restored to its natural relations.

Elated with the fortunate issue of this first trial of a method of treatment, which, as he tells us, he had fully elaborated in his own mind, two years before, Dr. Thomas comes before us, and confidently proposes it as a substitute for amputation of the inverted uterus. Before I discuss its claims to our acceptance, I must be permitted to clear away certain inveterate prejudices against the amputation of the womb, in cases of inversion, irreducible by manipulation. From several passages of his paper, and yet more from his practice, it may be inferred that Dr. Thomas entertains these prejudices, else why his protracted incubation of other means, even a hazardous surgical operation in aid of manipulations, rather than to apply the ligature or the écraseur to the offending organ? His physiology is, I think, at fault, to begin with. From his *locus standi*, he regards the uterus as the dominant organ of the female economy, for he quotes with approval the often cited aphorism of Hippocrates, which has come down to us from hoary-headed antiquity, "propter uterum est mulier." The aphorism is true only in a restricted sense, namely, that a woman, deprived of her uterus, cannot bear children; it being emphatically the child-bearing organ, but it is nothing more,

and hence it is appropriately called by German writers *frucht-halter*, fruit-bearer; that is its function, and if it bear no fruit, it is of no use in the female economy. And hence, though the uterus be extirpated, a woman may retain all her other sexual characteristics, menstruation excepted, provided that her ovaries are intact.

It becomes, therefore, a very interesting physiological and practical question, whether or not the ovaries are removed in the operation of extirpating the inverted uterus? It is, I think, demonstrably true that the ovaries and fimbriæ of the fallopian tubes are never included in the abnormal cavity of the uterus, in a state of chronic inversion. Only the ovarian ligaments and the proximal portion of the tubes, together with a part of the broad ligaments, are drawn down into the new uterine cavity. And even should the ovaries be drawn into it, at the time of the occurrence of the accident, they must necessarily be extruded from it, as the cavity gradually diminishes, by the contraction of its parietes, so that in the end, it is but little, if any larger than it was before the inversion took place. That such contraction does supervene, we have evidence from the examination of pathological specimens, which show that the cavities of inverted uteri, in the chronic state, are not often larger than a crow quill. Moreover, after the amputation of inverted uteri the ovaries are never found, so far as I am informed, in connection with the extirpated mass. Nor, indeed, does Dr. Thomas affirm to the contrary, though Dr. Worster does, implicitly at least, in the record of his case, written by himself and copied into Dr. Thomas' paper.

Dr. Worster's patient had come to him from the country, for the special purpose of having amputation of the inverted uterus performed. "But," says he, "reflecting on the success of a previous case of chronic inversion, treated by manipulation, on the danger of amputation,

and influenced by the consideration that her naturally fine voice (she was an eminent vocalist) would suffer from *the loss of her ovaries*,* even if the amputation succeeded, I decided to attempt its reduction by means of the hand, aided by the relaxing anæsthetic influences of chloroform."

But, though Dr. Thomas does not say whether or not the ovaries are removed with the inverted uterus, yet he speaks with emphasis of amputation of the uterus, as a mutilating surgical procedure; and so, indeed, it is, as are all amputations; but why decry amputation of the uterus, and deprecate it more than other amputions, should it as well as they become necessary to the salvation of life? In making such a distinction, it is assumed, of course, that amputation of the uterus is a more direful calamity than any or all other amputations. Is such an assumption sustained by the facts of the case? I think not. To this extent and no further, she is affected by the mutilation; she is effecually and forever incapacitated for child-bearing. But her feminality is not destroyed by it; she does not become masculine with hirsute appendage upon her lips; her voice is not changed, nor does it lose any of the sweetness or flexibility of its tones; her breasts lose none of their plumpness, nor do her limbs become angular; she retains her sexual desires, and her conjugal relations are kept up as before the mutilation; her life is not shortened and her health is not impaired, but often it is better than ever before; and last, though not least, she is ever afterward exempt from the maladies that afflict multitudes of women, such as uterine congestion, inflammation, ulceration, prolapsus, versions and flexions, fibrous tumors, cancer, etc., etc.

In these views, which may be startling to some of my readers, I am fortified by Dr. McClintock, of Dublin,†

* The italics are mine.

†Clinical Memoirs on Diseases of Women, Dublin, 1863.

who observes, "What the ulterior effects of this operation (amputation of the uterus) are on the constitution, is a question of some physiological interest, and one which our present knowledge of the uterus and ovaries, and our actual experience enable us to answer. The capability of conception would, of course, be forever destroyed; and menstruation would take place, only very scantily, or not at all. But the woman would retain sexual feeling, and all the external feminine characters. As the uterus does not discharge any vital function in the economy, the only way in which its removal might affect her physical health would be, by the stoppage of the menstrual discharge, and *a priori* we might reasonably suppose, that it would certainly do so. But I do not know of any well marked case in support of this. In most instances the general health greatly improved after the removal of the uterus. Dr. Clarke saw his patient (a very young lady) at the end of three years from the time of the operation, and she was so fat and so improved in appearance, that he scarcely recognized her. She complained only of bad appetite, and that she had never had her changes. Dr. Johnson told me, that one of his patients became a widow, and subsequently married again. The subject of case 2 was only twenty-two years of age, and when I saw her six months after the extirpation of the uterus, she was fat and robust, and her only source of complaint was the disappearance of the catamenia. *She admitted that her sexual feelings had undergone no change.*"* In addition to the the well-authenticated cases mentioned by Dr. McClintock, I had one under my own observation, equally striking and to the point. The patient is a woman residing in this city, Mrs. R., who was delivered of her fifth child

* The italics are mine.

about six years ago, being about thirty-five years of age at the time. I am not informed whether there was any difficulty during her labor, or immediately afterwards; but after getting up, she was attacked with profuse uterine hæmorrhage, which returned at irregular intervals, and Dr. Isaac H. Keller was called to attend her. Dr. Keller had Dr. G. W. Bayless, the Professor of Surgery in the University of Louisville, summoned in consultation, whose diagnosis was that there was a tumor in the vagina, and that the tumor was a polypus of the uterus. Accordingly a ligature was applied to the supposed polypus, which caused the patient to suffer such severe pain that Dr. Bayless came to my house to consult me about it, and I gave my opinion, without seeing the patient, that the case was one of inversion of the uterus which had been mistaken for polypus. But considering that the organ had been already strangulated, and that it was, therefore, too late to attempt its replacement by manipulation, my advice was that the ligature should be slackened, to relieve the pain, but tightened afterwards from time to time, as she could bear it. Dr. Bayless obligingly furnished me with the following memorandum: "The ligature was applied on the 12th April, 1864, it broke on the fourteenth day after the operation, and and the uterus came away on the nineteenth day." The specimen preserved by Dr. Bayless, which I have carefully examined, shows that it was only the body of the uterus that was amputated by the ligature; certainly there is no trace of the ovaries. About three years after the operation I visited Mrs. R., in company with Dr. Bayless, and made a digital and specular examination of the sexual organs. I found the os uteri perfect, with about its usual projection into the vagina; its lips were full, rather pouting, smooth, perfectly healthy, and a probe readily passed into the cervix half an inch or so,

where its cavity terminated in a *cul-de-sac*. The case appeared to have been one of incomplete inversion of the uterus, and after the separation of the body of the organ by the ligature, the neck of the tumor was retracted within the os in the progress of cicatrization.

In reply to our questions, Mrs. R. informed us that her health had been good, since she had recovered from the operation; that she had neither menstruated nor felt any menstrual nisus; that she had no leucorrhœa or other trouble of the sexual organs; *that her sexual feelings were unimpaired;* and her conjugal relations the same as before the operation.

Dr. Dewees* quotes freely from an Essay of Mr. Newnham's on "Inversion of the uterus," on the uncertainty of the diagnosis between polypus and inversion, felt by Mr. Newnham, in all its force, when he was about applying a ligature to a tumor in the vagina: and then Dr. Dewees remarks: "The case which gave rise to the above conclusions, proved to be an inverted uterus; it was successfully removed by the ligature; and the woman was restored by the operation to perfect health, *and without the loss of those feelings which it is thought have their origin in the ovaria;* it was therefore presumed that these bodies were not removed with the uterus; neither did they appear to be attached to the removed portion of the uterus."

Knowing all these facts, I was, I confess, surprised by the statement in the paper of Dr. Thomas, in depreciation of amputation of the uterus, that, besides its mortality, one quarter of all operated upon having died, those who survived the operation were not cured, and neither had they made an effort to attain perfect health, but only an attempt at purchasing immunity from a series of dangerous and annoying symptoms at the price of the uterus. What is perfect health in the estimation of Dr. Thomas?

*Treatise on the Diseases of Females, p 247.

Is not the man, who has suffered for years, with caries of the bones of his leg or disease of its joints, irremediable by therapeutics, whose sufferings have wasted his strength and brought him down to the brink of the grave, is not such a man, I ask, *cured*, when he has gladly submitted to amputation, and been restored to robust health and all the enjoyments of life? He purchases health by the sacrifice of his limb, and the woman hers by the sacrifice of her womb. Neither the limb nor the womb is a vital component of the organism; indeed, the womb is of less consequence to the welfare of the individual, its function having reference to the species.

There are, doubtless, multitudes of women who for the immunity from child-bearing, conferred by it, would gladly submit to amputation of the womb, provided that the operation could be performed, without pain or risk or the knowledge of their acquaintances. What physician can doubt this, who has been often importuned by respectable married women to bring on abortion? To them the most hateful of all the obligations imposed on them by nature and by divine revelation, is "to increase and multiply."

It may still be objected by some that, though the ovaries are not actually removed by the amputation of the uterus, yet they are virtually destroyed, the utero-ovarian circulation and innervation being cut off or crippled by the destruction of so much of the broad ligaments as was included in the uterine cavity. And there is some plausibility in the objection: the functional activity of the ovaries, under these circumstances, does seem to be diminished, and ovulation is probably, happily as I think, suspended, for were it to continue, it might cause much periodical suffering, as the accompanying sanguineous congestion could not be relieved by the flow of the menses. But though the ovaries may be in a state of

abeyance, incapacitating them for ovulation there may yet remain in them sufficient activity to preserve the femininism, over which they are supposed to preside. I say "supposed to preside," for though there can be no doubt that the rapid development of the sexual organs of the female at puberty exerts a wonderful influence upon her, both physically and morally, which stamps her characteristics upon her, yet there is some reason to believe that the stamp, once impressed, is indelible and cannot be effaced even by the ablation of the ovaries along with the uterus.

My thoughts have been led into this train by the recollection of a remarkable case, the most remarkable, perhaps, in the annals of midwifery. I reported it shortly after it happened, in the Western Journal of Medicine and Surgery, vol. i., for 1840. The particulars were given by my late lamented friend, Dr. E. Drane, who was my class-mate as a medical student, and whose competency and truthfulness I can vouch for. I will extract the report from the journal just cited.

"Case of Forcible Removal of the Uterus and its Appendages, after the Expulsion of the Fœtus.

"We are indebted to Dr. Drane, of this city, for the following particulars of this most extraordinary case. A woman residing in Oldham county, in this State, was attended by a midwife in her fourth or fifth confinement. Shortly after the birth of the child, the midwife applied herself to the task of removing the placenta, and seizing hold of the os tincæ, which was mistaken for the placenta, she applied such extractive force as to lacerate the vaginal and ligamentous attachments of the uterus and bring away the entire organ with the remnents of its ligaments, the Fallopian tubes and ovaria. Very little hæmorrhage followed this rude operation, but the patient being alarmingly prostrated by the violence she had suffered, Dr. Ballard, of Westport, Ky., was summoned to her assistance. When the doctor arrived and inquired concerning the delivery, he was informed by the midwife that the patient was cleared, and his attention was directed to

a vessel containing the supposed afterbirth, as evidence that she had performed her whole duty. He was surprised and alarmed for the safety of his patient to find, on examination, that it was the uterus and its appendages, which were deposited in the vessel, and on making a section of the uterus the placenta was found enclosed in its cavity.

Dr. Drane did not see the patient, nor is he informed as to the history of the case after the accident; he only knows that, without any very serious consequences, the woman recovered perfectly; that she is, at this time, alive and in good health, and has borne no children since her mutilation. We had more than one opportunity of examining the parts, preserved by Dr. Ballard, and perhaps still in his possession, and he assures us unequivocally, that they comprise the uterus containing the placenta, the tubes, ovaria, and portions of the uterine ligaments."

Dr. Ballard's attention having been drawn to this notice of mine, he wrote me a letter confirming Dr. Drane's accuracy in describing the parts torn away by the widwife, and in the conclusion of his letter, he says:

"In this case there was no lochial discharge, nor was lactation established, showing the controlling influence of the uterus over this important secretion. Another interesting physiological fact—inquiries instituted two years after the recovery of my patient convinced me, that the accident had not entirely deprived her of sexual propensities; yet both the ovaries were removed with the uterus." (July, 1840.) C. G. BALLARD."

I have recently come into possession of some additional facts concerning the unfortunate (?) woman through Dr. E. D. Foree, now of this city, but who was then practicing medicine in her neighborhood. Dr. Foree imforms me that this woman lived upwards of twenty years after the mutilation, in the enjoyment of good health, looking in every respect as she did before the injury, and that no differencecould b observed in the relations between her and her husband. Towards the latter part of her life she was affected with some disease of her urinary organs,

which made it necessary to relieve the bladder with the catheter. In performing this service for her, Dr. Foree took the opportunity to explore the vagina by the touch, and found the canal amply capacious and terminating in a cul-de-sac, which was smooth and soft, and without any discoverable marks of cicatrization. He found no trace of the os uteri.

Enough has been said, I trust, to dissipate all prejudice against amputation of the inverted uterus, considered merely as a surgical operation, save that which may remain on account of the loss of fecundity, which is necessarily involved.

The time was, and that not remote, when amputation of the uterus was the only resource in cases of chronic inversion, threatening life by the frequency and profuseness of the hæmorrhagic and other discharges attendant upon them.

It had been settled as a cannon in obstetric medicine, that an inverted uterus cannot be reduced by any kind of manipulation, when any considerable time has elapsed since the displacement occurred. Few were bold enough to make the attempt, after the lapse of a week or two; but after the lapse of months, when involution had restored the organ to its unimpregnated size, none had the hardihood to venture upon such an experiment. The profession were aroused in this country, from servile submission to authority, by the publication of a case of chronic inversion of the uterus of six months' duration, successfully reduced by Prof. James P. White, of Buffalo. Dr. White accompanied his report of the case with remarks on reduction in chronic inversion, illustrated by four wood-cuts, making the manipulation, by which he succeeded, easy to be understood.

*The American Journal of the Medical Sciences, for July, 1858.

It is necessary to my purpose that the method of manipulation, pursued by Dr. White, and the various modifications of it, which other operators have adopted, should be described. Before I proceed to do this, however, it is meet that I should pay a tribute of honor to our countryman, Prof. James P. White, who has not received the credit he so well deserves, for his leadership in the revolution of gynæcological practice, which he inaugurated. Even a superficial reading of his report must satisfy any one that he regarded himself as a pioneer in his attempt to reduce, by the taxis, chronic inversion of the uterus; and that he was wholly unconscious that such a surgical feat had been performed either at home or abroad. Neither had it been so much as thought of at home, much less performed, nor had it been performed abroad in such a way as to attract professional attention or inspire confidence in it, until Dr. Tyler Smith, of London, published a case of twelve years' duration in the London Medical Times and Gazette, April 24th, 1858, which of course could not have been known to Dr. White, whose case was successfully treated on the 12th of March, immediately preceding, though not published until July following, the earliest time that it could be published in a quarterly journal.

According to the method of manipulation practiced by Dr. White, the patient was placed upon an elevated, firm bed, "with the hips brought quite to its edge, the knees separated, the feet resting in the laps of assistants, with directions to each to support a knee and hand of the patient, and prevent her from moving about." She was brought moderately under the influence of chloroform. Having placed himself upon his knees between the limbs of the patient, the operator introduced his right hand completely into the vagina and forcibly grasped the entire body and neck of the uterus; and at the same time

a large rectum bougie was carried up and received into the palm of the hand and held firmly in contact with the fundus of the uterus. "Continuous, gentle pressure was now made upon the external extremity of the bougie with the left hand, whilst the right compressed the uterine tumor and kept the upper extremity of the instrument directly upon the fundus; and with the dorsum of the hand in the concavity of the sacrum, directed the force in the axis of the pelvic cavity, putting the vagina completely upon the stretch. This pressure was exerted and this position unintermittingly maintained, although the force was not to such a degree as to endanger laceration of the utero-vaginal connection, until my strength was nearly exhausted from continuity of effort. At length, and when about to relinquish the task, the uterine tumor began to shorten *at its neck*, and the mouth of the organ to push upon the upper surface of the hand. No depression or dimpling of the fundus was at any time perceptible. Ascending more and more rapidly as the neck diminished in length, the fundus finally passed out of the hand, and was easily pushed by the bougie through the mouth and neck of the organ up to its proper position."

The method of manipulation contrived by Dr. Tyler Smith, in his case, consisted in passing the right hand into the vagina, night and morning, and with it squeezing and moulding the uterus for about ten minutes at a time. In the intervals between these manipulations, the vagina was distended and firm pressure exerted upwards by a large air pessary. These means gradually dilated the os uteri to such an extent as to allow of the partial return of the uterus, and on the eighth day from the commencement complete reïnversion took place.

It will be observed, that although the force in Dr. White's method was made to bear specially on the fun-

dus, by the rectum bougie, yet he distinctly says that there was no dimpling or depression of the fundus, but the uterine tumor began to shorten at its neck. The cervical resistance was then overcome by the pressure exerted upon it by the manipulations of the fundus, and the parts which last escaped were first returned. It has been doubted whether or not the fundus uteri, in chronic cases, can be indented; but another method, that of Dr. Noeggerath, proceeds upon the assumption that it can be. This method, as we learn from Dr. Thomas, who highly approves it, "consists in compressing the uterine body, opposite to each horn, so as to indent one of these and thus offer to the cervical canal a wedge which passes up and is followed rapidly by the other horn and the whole body."

There is yet another method, which has been successfully practiced by the ingenious and skillful surgeon of the New York Woman's Hospital, Dr. Thomas Addis Emmet As described by him, "it consists in passing the hand within the vagina, and while the fundus rests in the palm, the five fingers are made to encircle the portion within the cervix, as near as possible to the seat of inversion. While this portion is thus firmly grasped, it is pushed upward, and the fingers are immediately afterward expanded to their utmost.

When the reduction is so far advanced that the fingers cannot be passed fully up to the seat of inversion, steady pressure is applied to the fundus, by means of the tips joined together, while an increased effort is made with the other hand to roll out the parts above, by sliding the the abdominal parietes over the edge of the ring near the seat of the inversion."

Yet another method has been proposed by Dr. Thomas, which is not so much a distinct method of manipulation as it is a manœuvre—a strategic movement—which seems

to be designed to take the stricture by surprise. Taking the fundus in his fingers, he draws it down outside of the vulva and rapidly pushes it up to the highest point possible in the pelvis. This manœuvre is only available, as the Doctor informs us, after the uterus is partially replaced by other manipulations.

We are now prepared to institute a comparison between the treatment of chronic inversion of the uterus by amputation and by manipulation. Before we proceed to do so, however, I think it proper to caution the reader not to allow his predilections to bias his judgment in favor of manipulation. In the investigation of all subjects, we need to be on our guard against the warping influence of our predilections as well as our prejudices. It is so much more gratifying to our feelings to save than to destroy—to restore a distorted organ to its pristine shape than to lopp it off—that we may be tempted to undue and unsafe perseverance in our manipulatory efforts. Moreover we may be led to prefer manipulation where, under all the circumstances of the case, amputation ought to be performed.

This being premised, I will now compare amputation and manipulation in the following points of view: 1. Their respective mortality and success, so far as the attainment of the object of the operation is concerned. 2. The validity of the cures effected by them respectively. 3. Their respective range of applicability and success, so far as regards the attainment of their object.

1. *The respective mortality of amputation of the inverted uterus and replacement by manipulation.*

The mortality from amputation of the uterus, *in cases where the inversion succeeded to parturition*, is stated by Dr. West* to be fifteen out of fifty-nine cases, or nearly one in every four. To show the results obtained by the

*Lectures on the Diseases of Women, third American edition, p. 197

different modes of operating in these fifty-nine case, he has compiled the following table:

		Recov'd.	*Died.*	*Operat'ns abandoned.*
Uterus removed by ligature,	45	33	10	2
" " " knife or ecraseur, : : : : :	5	3	2	
Uterus removed by knife or ecraseur and ligature :	9	6	3	
	59	42	15	2

With these results exhibited by Dr. West, in cases where the inversion followed parturition, it will be profitable to compare other cases *where the inversion was complicated with, and caused by polypus* of the uterus, for such complication cannot be regarded as insignificant and unworthy of our attention. In the American Journal of Obstetrics, etc., for August, 1868, there is a "Record of removal of the inverted uterus by ligation, excision, and by both combined," translated from *Beitraege zur Geburts, Kunde und Gynækologie*, which Dr. Thomas copied into his paper for no other purpose, so far as it appears, than to show the increased rate of mortality from amputation of the uterus, eigthteen out of the fifty-eight—nearly one-third—dying from the operation. I will not swell my pages by copying this record, but endeavor rather to extract some useful lessons from it that may serve to throw light upon the often obscure pathway of our practice.

The first lesson taught us by this German record is, that polypus is a more frequent complication of inversion of the uterus than has been generally supposed. According to the statistics of Mr. Crosse, it occurs once in every eight cases, the remaining seven being sequelæ of parturition. But from the record before us, it appears that it was met with fourteen times in fifty-eight cases, being once in every four and one-seventh.

The *second* lesson is, that amputation of the uterus, by

all the modes of operation, issued more unfavorably where polypus complicated the inversion. The operation was successful in nine out of the fourteen cases and fatal in five, rather more than one-third of the number submitted to it. This is, perhaps, no more than we might have anticipated, the uterus being diseased as well as displaced.

The *third* lesson is, that the operation by excision is less successful than by the ligature, or the ligature and excision combined. Of eight patients treated by excision six died, while of twenty-three treated by the ligature, sixteen were saved and seven were lost; and *of twenty-seven treated by ligation and excision, twenty-two recovered and five died—i. e., one death in five and two fifths* cases. Shall we not profit by such a lesson as this? Even if we had not been taught by experience, speaking through this "record," the fatality of excision, we ought to have dreaded it on account of the hæmorrhage that must unavoidably accompany it, and over which we can have but little control. I shall never forget my first and only case of excision, which happened many years ago, before I had thought much about the operation, or consulted many authors concerning it. The patient was a poor, wasted creature, who was anæmiated by profuse losses of blood, and whose sufferings made her pray for death. She was most anxious to submit to any operation, that promised either to cure her or to release her from the bonds of life, apparently indifferent whether she lived or died. After a consultation with my friend, Dr. S. D. Gross, who was at the time my colleague in the University of Louisville, it was concluded to amputate the uterus with a bistoury, which was made for the purpose. The operation was easily performed, with the able assistance of my friend; alarming hæmorrhage immediately ensued; a speculum was introduced in the hope

that the bleeding vessel might be secured. But to my great surprise, on bringing the cut surface to view, there was a great circular ring, into which the tips of two or three fingers might have been inserted, and through which the intestine could be seen. It was plain that hæmorrhage was going on apace, but it was equally plain that the bleeding vessel could not be ligatured, and that there was no hæmostatic, which could staunch the flow The patient sank rapidly and in a few hours died.

If amputation by excision endangers the life of the patient by hæmorrhage, ligation may destroy it by septicæmia, arising from the putrefactive decomposition of the strangulated portion of the organ. From fifteen to thirty days after the application of the ligature, this decomposition is going on, and the parts are immersed in acrid and fetid discharges, which undermine the strength and poison the blood. We are not surprised, therefore, that ligation, though it yields better results than excision, is yet not so favorable as ligation and excision combined; for, by this method, hæmorrhage is avoided on the one hand and septicæmia on the other, together with most of the discomfort arising from the nauseous odor of the discharges.

It should be a rule of practice to allow the ligature to remain on a sufficient time for the strangulated portion to begin to putrify, as evinced by some odor from the genitals, before excision is made. Within this period, inflammation will have been set up above the ligature, by which adhesion of the parts involved in the inflammatory process will be secured, and there will no longer be danger of hæmorrhage. What interval there should be between the ligation and excision has not been settled, and to me it seems that the rule adopted by Dr. M'Clintock,* after consultation with Dr. Johnson, is a safe one, namely,

*Op. cit, p. 89.

that the ligature should not be removed and excision practiced under forty-eight hours. Dr. M'Clintock relates two cases in which he amputated the inverted uterus, by the ligature and écraseur with the most satisfactory results. His practice was to apply a ligature of silk fishing-line, prepared in oil, round the neck of the uterus, by means of a Gooch's canula, and to tighten it as often as necessary, and after the lapse of forty-eight hours, to draw down the uterus with a vulsellum until it appeared between the labia, just enough to permit of carrying the chain of the écraseur around it; "the chain having been securely lodged in the sulcus made by the ligature, this and the canula were withdrawn: the écraseur was worked very slowly, and eight minutes passed over before the uterus was severed."

If, by the combination of ligation and excision, the mortality was reduced to one in five and two-fifths cases, there is reason to hope that, under more skillful surgery and improved after treatment, the mortality will become still less. We are encouraged in this hope by the information, communicated by Dr. M'Clintock, that the operation has been performed eight times in Dublin—five times by Dr. Charles Johnson, once by Dr. Joseph Clarke and twice by himself, the first two using the ligature only—and in all of them with complete success.

What has been said leads me to inquire whether or not any other capital operation in surgery can boast of a less rate of mortality than amputation of the uterus? Sir James Simpson,* pleading for the recognition of ovariotomy as a legitimate surgical operation, (such recognition having been persistently flouted), proved by the irresistible logic of figures that ovariotomy is less fatal than some of the other capital operations in surgery,

*Clinical Lectures on diseases of women, Amer. edit., 1863, p. 378.

and but slightly more formidable and dangerous than others.

The mortality from various capital operations "which," as Sir James says, "are not only considered as legitimate, but which surgeons count it a glory to perform," is set forth in tabular form, showing the results, as they have been reported by different surgeons, or as occurring in different hospitals. It is not necessary for my purpose to copy this table in full: I shall merely name the different operations and affix to them severally the rates of their mortality, appending to those included in Sir James' table, amputation of the uterus:

Ovariotomy, one in three and one-fifth; *amputation at hip-joint* for chronic diseases, one in one and one-third; *herniotomy*, one in two and one-sixth; *amputation of limbs*, one in two and one-half; *ligature of innominate artery*, all died; *amautation of thigh*, one in one and three-fifths; *ligature of subclavian*, one in two and seven-tenths; *amputation of the aterus for chronic inversion*, one in five and two-fifths; *ligature of other large arteries*, one in three.

Some of the reports in the table are omitted, as they relate to amputations in different hospitals and they coincide very neary with those retained. It will be seen from the above list that amputation of the uterus has been attended with less mortality than any of the other operations, not excepting ovariotomy.

I do not find, however, that the operation has taken a place among other amputations, in any of our treatises on surgery, or that it is so much as noticed, except incidentally, in any of them 'except in Dr. Gross' System of Surgery, where it is dismissed upon short notice. He says: "When the tumor is hopelessly irreducible, it is not only a source of mechanical inconvenience, but of almost incessant hæmorrhage, draining the system of

blood and keeping the woman constantly at death's door. Under such circumstances, as a dernier resort, amputation is occasionally practiced. The operation, however, is generally fatal, the patient dying from shock, hæmorrhage, peritonitis, or pyæmia. In a case in my hands, some years ago, death occurred in less than forty-eight hours from inflammation; and in another, in which I assisted Prof. Miller, the woman perished from hæmorrhage in less than three hours. From the results of these two cases, I should certainly have no desire to repeat the operation."*

When, according to the author's statement, the patient is at death's door, or rather before she reaches so near her goal, why not give her a reasonable hope of escape by an operation, which, as I have shown, is less fatal than *any* of the operations which he is in the daily habit of performing? Is it a less boon to snatch the poor woman from death by the sacrifice of her womb, than it would be to rescue her from the same fate by the amputation of her limb at the hip-joint?

Dr. Marion Sims (op cit.) has as little desire, as Dr. Gross, to repeat the operation. He too has performed it only once, and then by excision, the écraseur alone having been made use of instead of the knife. The consequence was that the most fearful hæmorrhage he ever encountered took place, and in an instant the vagina was filled with arterial blood. "Fortunately," he tells us, "the bleeding was from that part of the broad ligament still adherent to the severed uterus," and the undivided portion of it, with the artery was tied. Had the broad ligament been severed with the rest of the uterus, his patient must have bled to death. This case is but another warning against excision, whether by the knife or écraseur, for experience has abundantly shown that the

*System of Surgery, Second Edition, Vol. II., p. 902.

écraseur is no sure guarantee against hæmorrhage after any surgical operation. Had Dr. Sims, Dr. Gross and myself operated as Dr. McClintock did in his case, the result might have been different: at least there would have been no hæmorrhage.

I will now inquire into the mortality and success of manipulations practiced with a view to the replacement of the uterus, in cases of chronic inversion. Previously to doing so, however, it is necessary to define the meaning of the term "chronic" in this relation. I shall apply it only to cases of three months' duration and upwards, which is not an arbitrary distinction founded on time only, but on the period that must elapse after parturition before the involution of the uterus is probably complete. Boivin and Dugés affirm (1) as I think, truly that the reduction of the uterus, after parturition, to the volume and density natural to it in one who has borne children, does not take place in less than about two months, and I think it fair to allow an additional month for the retarding influence exerted by the displacement upon the process of involution. No case of inversion ought, therefore, to be considered as chronic, which has not existed at least three months, and not even then, if the uterus be found larger and softer than it should be at that period after parturition. In such a case, reinversion might be comparatively easily effected by manipulation, whereas had involution been complete, the operation would have been difficult, if not impossible. On these grounds I reject from the category of chronic cases not only all such as were only of a few week's duration, but also such as were of longer continuance, when we are told by the reporter that the uterus was not completely involuted Thus, in Dr. Belcombe's case, (2) the womb was found, 12

1 Traite Practique des Maladies de l'uterus. Tome 1, p. 35.
2 Med. Gaz., 1841. Vol. VII., p. 783, quoted by Dr. West.

weeks after delivery, a large spherical pouch, and in Dr. Miller's patient, (3) at the end of three months, it like wise admitted readily the introduction of two fingers into its cavity.

The cases of chronic inversion of the uterus, in which manipulations have been tried, are not numerous: still I have collected a sufficient number to enable us to form an approximate estimate of the danger, if any, and the success or failure of the practice.

Experience has taught us that Dr. Tyler Smith was over-sanguine when he declared, in his paper reporting a case of nearly twelve years' duration successfully treated, that while no amount of force will suddenly reduce a case of chronic inversion, yet by air or fluid pressure, so as to convert the fundus and body of the uterus into a wedge, the os uteri may be slowly enlarged, in any case, so as to admit of reinversion. We shall presently see whether or not this prediction has been verified.

The following is a list of cases of chronic inversion, which I have collected:

M. Valentine's case of 16½ months standing.

Mr. Barrier's case of 15 months.

M. Canney's case of 5 months. (4)

Dr. James P. White, of Buffalo, 6 months. (5)

Dr. James P. White, 15 years standing. (6)

Dr. Tyler Smith, nearly 12 years. (7)

Mr. T. P. Teale, Jr., of Leeds, 2½ years. (8)

Dr. Charles West, nearly 12 months.

Dr. Charles West, 7½ months. (9)

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3 Ed. Monthly Journal, Dec. 1851, quoted also by Dr. West.
4 For these I am indebted to Dr. Churchill's Diseases of Women, New Amer. edit., revised by the author, 1857.
5 American Journal of the Medical Sciences for July, 1858.
6 Amer. Jour. Med. Sciences, for Jan., 1859.
7 Med. Times and Gazette, April 24th, 1858.
8 Med. Times, Aug. 20, 1859, quoted by Dr. West.
9 Lectures on Diseases of Women, p. 195.

M. Brockenthal, 6 years. (10)

M. Aran, duration not stated, but doubtless chronic, as evinced by the intractableness of the inversion. (11)

Dr. Nœggerath, of New York, 13 years. (12)

Dr. McClintock, 14 months' standing. (13)

Dr. Thomas Addis Emmet, 7 months.

Dr. Thomas Addis Emmet, 8 months.

Dr. Thomas Addis Emmet, 18 months. (14)

Dr. Thomas Addis Emmet, 14 months. (15)

Dr. T. Gaillard Thomas, nearly 2 years.

Dr. T. Gaillard Thomas, 10 months. (16)

Dr. Joseph Worster, nearly 4 years. (17)

Dr. Marion Sims, 9 months.

Dr. Marion Sims, 12 months.

Dr. Prothero Smith, 13 months. (18)

The late Prof. John Hardin, several years. (19)

I will now analyze these twenty-four cases to ascertain the results of manipulatory treatment of chronic inversion of the uterus. And, in the first place, it is to be remarked that *two of the patients died:* one of Dr. West's, and one of Dr. White's. In the former, replacement was not accomplished, in the latter it was; but peritonitis supervened in both cases, which proved fatal. It is worthy of remark that different methods of reposition were practiced in these cases; Dr. White used the rectum bougie and greater manual force than did Dr. West, who employed the air pessary, as recommended by Dr. Tyler Smith, which has been supposed to be milder and safer in its operation, but yet it was not less lethean in its

10 Zeitschr. f. Gebertskunde, Vol. XV., p. 313, quoted by Dr. West.
11 Quoted by Dr. West.
12 Amer. Med. Times, 1862, p. 230.
13 Clinical Memoires, p. 85.
14 Amer. Jour. Med. Sciences, for Jan. and April, 1866, and Jan., 1868.
15 Amer. Jour. of obstetrics, for Aug., 1869.
16 Amer. Jour. of obstetrics, &c., for Nov. 1869.
17 Amer. Jour. Med. Sciences, for Oct. 1867.
18 Transactions of the London Obstetrical Society, Vol. X.
19 This case has never been published, but I saw it in consultation.

effects, in the hands of Dr. West. Dr. West's account of this case is instructive and may serve to abate the confidence with which we might assail an inverted uterus, in full assurance of success. He had replaced the organ, in his first case, in four days, notwithstanding that it had been inverted nearly twelve months: in his second case the pressure of the air pessary continued for twelve days, "while it failed to replace the womb, gave rise to peritonitis, of which the patient died, four days after the pessary had been removed. The instrument had produced complete dilatation of the os uteri, but had had no influence on its fundus, the uterine tissue at the point of inversion being hard and puckered, so that the little finger could with difficulty be pressed into the cul-de-sac formed by it."

In Dr. Aran's case the presence of the pessary in the vagina produced abdominal pain, shivering and febrile symptoms, and the operation was abandoned. Of his case Dr. McClintock* says: "Having entertained sanguine expectation of success, in consequence of the relaxed condition of the os uteri, it was with much reluctance I abandoned the attempt to restore the organ to its natural position. But after giving the taxis what appeared to be a fair trial, I felt it was quite needless, if not highly dangerous to persevere any longer."

In Dr. Marion Sims' case, notwithstanding that he had just said that reinversion is "quite practicable," after steady efforts of four hours continuance, the uterus was only partially replaced, i. e. the fundus was pushed up within the os uteri, but it could not be passed farther. On examining a day or two afterwards he says that he was horrified to discover that the vagina, particularly at its posterior cul-de-sac, had an ecchymosed appearance,

*Op. cit.

as if it had been stretched almost to the verge of being ruptured. About eighteen days afterwards another effort of an hour's time was fruitlessly made, and yet another after a proper interval, and all hope of replacing the organ was abandoned. "After this," we are told, "she and her husband begged to have the organ removed, as we promised to do it with the écraseur without pain." Of the operation I shall speak further on.

In one of Dr. Emmet's cases the operation was not accomplished, except partially, and after a peculiar fashion, of which I shall speak more anon. Dr. Thomas failed to reinvert the uterus by ordinary manipulations in one of his two cases, and the late Dr. Hardin failed in his case, and by the usual progress of the disease, the patient died. The comparison between amputation and manipulation brings out, therefore, this result, namely, amputation, when performed by the best method, is attended with a mortality of 1 in 5 2-5 cases, but it never fails to accomplish its object—the ablation of the uterus. Manipulation shows a mortality of 1 in 12 cases, and it fails to attain its object—the restoration of the uterus—in seven cases, while in three out of the seven, it had to be abandoned on account of the alarming symptoms to which it gave rise.

2. We have to inquire, into *the validity of the cures effected by amputation and manipulation respectively.*

It is to be regretted that, in respect to these operations as to all others in surgery, there is a deplorable lack of information touching their sequences. After the operations, satisfactorily and, it may be, brilliantly performed, surgeons are too apt to lose sight of their patients and cease to take much interest in them. Perhaps they are not to be blamed: the daily pressure upon them of new cases absorbs all their time, and they cannot pursue the patients, whom they have dismissed. Be this as it may,

they hear but little, and that only of a few, whom they have lost sight of.

Of the sanitary condition of a few women, who have been submitted to amputation of the uterus, I have already given an account, and that account is satisfactory in the highest degree. Their health was good, even robust, and in no respect did they differ from what they were, save that they were incapacitated for child-bearing. How is it with the women, who have had their wombs restored to their rightful position? In a few cases, the gestative function has been resumed. Dr. Tyler Smith tells us that since the presentation of his paper, he has been informed that his patient was in the fifth month of pregnancy. Equally gratifying information was conveyed to Dr. Emmet by the husband of one of his patients, and Dr. Worster says of his patient that she returned home "with a complete aptitude for conception."

The joyful news of prospective children was sure to find its way to the ears of the happy operators: but what became of the remaining twenty-one or twenty-two? Indeed, should Dr. Worster's confident prediction be not fulfilled, of whom we hear nothing. In the absence of information, we cannot refrain from speculation.

Knowing, as we do, the proneness of the uterus to all manner of disease, we are slow to hope that, after having gone so far astray as to be turned inside out, and then be violently pushed back to its place, it will settle down in a healthy condition. If not diseased previous to its inversion, as it is, where polypus exists and has caused the displacement, is it not extremely liable to become so after what it has undergone?

And ought we not to expect that congestion, inflammation, or ulceration, or some other kind of displacement,

such as flexion, or version, or prolapsus may invade it? We know too well how difficult such diseases are to cure, how chronic they are, how they embitter the lives of multitudes of women, so that they might gladly purchase immunity from them, even by the loss of their wombs, provided that the price could be paid without suffering or risk.

3. *The range of applicability of amputation and manipulation respectively.*

It scarcely needs to be said that amputation is applicable to all cases of chronic inversion of the uterus, where it is judged to be the proper remedy. It is conceivable that the organ might be found to be in such a diseased condition that it would be the height of imprudence to attempt to restore it or to save it. In such a case, there could be no hesitation in removing it by the proper operation. Then again, manipulation, however perseveringly tried, may fail, as we have shown that it has failed in nearly one-third of the cases in which it has been practiced, and then amputation is, or at least, has hitherto been, our only alternative, and it is applicable here, just as it is in cases where it is called for on account of disease of the uterus accompanying inversion.

Is manipulation equally applicable to all cases of inversion? This is a question which I propose to discuss for a few moments. In cases of inversion, complicated with polypus of the uterus, and we have seen that they are not infrequent, my own opinion is, that an attempt to restore the uterus to its normal position by manipulation is not admissible, because it is in a diseased state, and, if restored, would most likely prove to be a plague rather than a blessing.

I cannot but sanction the course pursued by Dr. McClintock, in such a case as this, in the person of Mary O'Hara, aged 66, a charwoman, who was never married,

and her changes had ceased fifteen years before there was complete procidentia and inversion of the uterus, with a polypus growing from the fundus. Says Dr. McClintock. "The completeness of the inversion, and the patient's extreme intolerance of any squeezing or manipulation of the tumor, altogether excluded the hope of doing any good by attempts at reposition." And I admire the good sense as well as the pluck of the poor woman, who, when informed that the womb must be extirpated, plainly told her medical advisers "to whip it off as soon as they liked." The extirpation was performed, and the patient recovered, being one of the eight in Dublin, all of whom were saved by the operation. What use had she for the womb, and why should she care to have it put back, supposing that it could have been done, only to give her trouble in future? This case is, judging from the figures representing them, the counterpart of Dr. Emmet's fourth case.*

His patient, Mrs. Conklin, was 54 years of age, had been married but was sterile, the uterus was found inverted with a fibro-cystic tumor at the fundus, which presented just within the labia. "The tumor was as large as a pigeon's egg, but had evidently undergone a reduction in size from cystic degeneration," and on the right side of the uterus, the shrivelled remains of a mucous polypus existed. Dr. Emmet further stated, in the discussion which followed the reading of his paper before the New York Obstetrical Society, that there had existed quite a number of glandular cysts in the uterus itself, some of which he had emptied out by pressure after the removal of the tumor. Dr. Emmet's treatment of this case consisted in the removal of the *tumor* by the écraseur, and then attempting the reposition of the uterus. With

*Amer. Jour. of Obstetrics, &c., for Aug., 1869.

much skill and ingenuity he succeeded in pushing the fundus within the os uteri and up to the plane of the vaginal junction, so that a sound could be passed within the cavity a little over an inch. It was found impossible to make any further advance, and recourse was had to a devise which Dr. Emmet had found to succeed in a previous case, viz: the introduction of three silver sutures into the cervix, without denuding it of its mucous membrane; the steady pressure thus maintained against the fundus would, it was hoped, overcome the resistance and complete the reposition. The patient was sent home but returned in six weeks, when it being found that the partial inversion still continued, a portion of the inner face of the os uteri was denuded, and three deep interrupted silver sutures brought the sides together in the centre, leaving the line open at each extremity. "The sutures were removed on the eighth day, the union was found perfect, and shortly afterwards, she was discharged from the hospital."

In this case, as it appears to me, amputation was more clearly indicated than in Dr. McClintock's case. The patient had as little use for a womb as Mary O'Hara, and certainly Mrs. Conklin's was the most diseased, for besides the polypus of the fundus there was extensive disease of the utricular glands of the mucous membrane of the uterus. The renowned Surgeon-in-chief of the New York State Woman's hospital, I must think, displayed the qualities of the ingenious and skillful operator more than those of the profound pathologist. Why should a uterus, rioting in disease, be stored away in a receptacle, specially provided for it? Filled with the germs of disease, as it seemed to be, is there not reason to fear that these will multiply, as in a hot bed, and bring forth fruit unto death? Time alone can give a satisfactory answer to these questions.

These "Thoughts" have been scattered over a wider expanse than I had intended, and must now be concentrated upon the substitute for amputation of the uterus, proposed and practiced by Dr. Thomas. His substitute, as we have seen, is a grave surgical operation, supplemental to manipulations, by which their deficiency may be made up, and so the much-dreaded amputation be altogether dispensed with.

We will now let Dr. Thomas introduce his patient: "I found Mrs. B. to be a delicate, fragile blonde, weighing about ninety pounds, very pale and exsanguinated from profuse menorrhagia, which had occurred at intervals for twenty-one months. Taxis had been tried fourteen times, some efforts lasting from five to six hours, and only one less than an hour. The constriction which resisted reduction had been cut at infinite risk, and all had failed. The only recognized operation which now offered itself was amputation, and at the thought of this the patient revolted." Having had a steel dilator, made on the principle of a glove-stretcher, fabricated for the occasion, Dr. Thomas was ready for the novel operation, which he shall describe. "The patient having been put under the influence of ether, Dr. Metcalfe introduced his hand into the vagina, and lifted the uterus so that I could detect the cervical ring against the abdominal wall. I then slowly cut down upon the median line, as for an exploratory incision in ovariotomy, and leaving the wound exposed to the air until all oozing had ceased, cut into the peritoneum. I then inserted my finger into the uterine sac, and found no adhesion whatever to exist. Replacing Dr. Metcalfe's hand by my left hand, I now inserted the steel dilator, and dilated the stricture. *The dilatation was exceeding easy and rapid*,* but I found that as I withdrew the dilator, the tissue of the organ would at once contract. After dilating the stricture fully, *I partially returned the uterus after some effort.* Drawing it down to the vulva, I rapidly pushed it up, and was gratified at finding that it was nearly replaced. Drawing it down again, *this time outside of the body*, to my dismay, I discovered that the artery, cut one week before, was spouting freely. I now saw that success must be attained

*The italics are mine.

at once, or that it would elude my grasp when just within it. Actuated by this feeling, I rapidly returned the organ, and was delighted to find one horn rise into its place. *But the additional force employed was a little more than the vagina could bear, and one finger passed through between the uterus and bladder.* One horn was still inverted. Passing the dilator into this, I stretched it open, and instantly the uterus resumed its normal position."

Nothing can excel the graphic description of the operation contained in this extract, while perfect truthfulness and candor are conspicuous in every line of it. Whether or not the operation will eventually establish its claim to be a substitute for amputation, experience alone can decide; but in the mean while it is allowable for us to judge between them according to all the collateral light that can be made to shine upon them, so that gynæcologists may be encouraged to repeat the operation or to avoid it, according as their verdict may be favorable or unfavorable to it.

To express my thoughts fully, beforehand, on the important question, which has just been referred to the arbitrament of experience for its final decision, I shall have to explain the nature of inversion of the uterus, and what is involved in it. This is a rather intricate subject, which is but poorly illustrated by drawings or models, and which can be clearly comprehended only by fixing the attention upon it and getting it delineated, as it were, in the mind. Few, I apprehend, take the trouble to get it thus mentally mapped out, and yet unless this is done, I shall fail to make myself understood.

To proceed with my explanation.

Inversion is the turning of the uterus inside out, by the falling of the fundus into its cavity and its descent until it reaches the os uteri, through which it passes into the vagina and thence escapes at the vulva, appearing outwardly as a red, vascular and bleeding tumor between the thighs of the patient. Such is the lapsus of the uterus

and such its appearance, in recent cases, when it occurs as a sequela of parturition. If only the fundus and body have escaped through the os uteri, it is *incomplete* inversion, and the part that last escaped will be found encircled by the os uteri, and at the point above the os where the inversion was arrested, there will be a ring formed by the folding of the lapsed wall of the uterus upon the stationary wall, which is the outermost. This ring I shall call the "parietal duplicature," and it is an important point to be noted. This duplicature may take place at the internal os of the cervix, or above or below it, and it becomes the bottom of the *cul-de-sac* into which the cervix is converted, whose depth, measured from the os uteri, varies according as the parietal duplicature is near or remote from the os uteri. It is a mere assumption to limit this parietal duplicature to the os internum of the cervix, for in the recently emptied gravid uterus, the cervix is quite expanded, and no cause can be assigned why the duplicature of the uterus should be opposite to what will be the os internum, when the division into body and neck is restored by the tonic contraction of the organ.

If not only the fundus and body, but also the cervix, have become inverted, the inversion is *complete*; then there is no *parietal duplicature*, and the os uteri is the summit of the uterine tumor, and the cervix, in being inverted, draws the upper portion of the vagina along with it, the vagina being then attached, funnel-shaped, to the inside of the inverted cervix. The os uteri is now continuous with the vagina, and its orifice cannot be reached, for it opens upwardly into the cavity of the abdomen.

This displacement necessarily produces a *cul-de-sac* or pouch of peritoneum above the entrance to the abnormal cavity of the womb.

It has been disputed whether complete inversion of the uterus ever occurs, and certainly it is rare, much rarer than the perusal of cases narrated by incompetent and careless observers might lead us to believe. Nothing is more common, especially if the uterus should protrude through the vulva, than for such an observer to say that it is completely inverted, mistaking the size of the uterus and the degree of protrusion for completeness of inversion. Then again, the inversion may be arrested just at the os uteri, (the third degree of the displacement of Boivin and Dugés*) and without a very careful examination by a practiced touch, the os uteri might not be felt. It is, nevertheless, true that complete inversion does sometimes, though rarely, take place, as the well-authenticated cases, cited by the authors just quoted, fully attest.

When complete inversion happens at the time of parturition, the tumor formed by the uterus is larger than it should be at such time, for it is distended by portions of intestine lodged in it as well as by the ovaries and Fallopian tubes. In the cases referred to, this was proved by post-mortem examinations. In the first of these cases, by Stalpart Van der Wiel, the intestines were brought to view by an incision of the tumor hanging between the thighs of the patient. Not to refer to others, a case, by the celebrated Levret, shows that the sac, formed by the inverted uterus and vagina, was filled with a portion of the rectum, the bladder, the small intestines and the tubes and ovaries: the patient, in this case was seventy years of age, and of course the inversion was chronic.

Observe now that, when inversion takes place, it is by a movement of the uterine walls inwardly, and when reinversion occurs spontaneously, if it ever does, or is effected by art, it is by an opposite movement. The

*Traité des Maladies de l'Utérus, tome 1, p. 220.

morphological changes that arise from inversion are curious and worthy of notice. If the inversion be incomplete, the cavity formed by the inverted portion of the uterus is a preternatural one, lined by *serous*, and covered by *mucus* membrane, and it has a preternatural mouth, looking upwardly towards, and communicating with the cavity of the abdomen. This mouth is formed by the *parietal duplicature*, and might be called the *os præternaturale*. Beneath this cavity is the natural cavity, or so much as remains of it, of the cervix, lined of course by mucous membrane, and it continues to communicate with the vagina by the os uteri which is now only the mouth of the cervix. In becoming, whether completely or incompletely inverted, the uterus probably draws along with it not only portions of the broad ligaments, but also the Fallopian tubes and ovaries; and likewise portions of small intestines; for the womb is so large and its walls so flaccid, that there is ample room for their reception.

So much for a brief description of the changes the uterus undergoes, in recent parturient inversion. But when the inversion has become chronic, the uterus has returned to its non-gravid state: it has retreated within the vagina, its walls have resumed their previous density; its cavity has contracted down to the small size, which it had, before parturition seriously distorted it. In this process of involution, the ovaries, etc., are ejected from the uterine cavity and lodged above the uterus in the peritoneal pouch.*

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* *Note on the Operation of Amputation of the Inverted Uterus.*—The admitted fact that loops of the small intestine are contained in the recently inverted parturient uterus, taken in connection with Levret's case, where these were found, in a case of chronic inversion, in a woman aged seventy years, may be regarded by the timid as counter-indicating the operation of amputation. But Levret's case is an unique one: I know not that a parallel one can be found on record. It must have been produced by a paralysis of involution, for certain it is, that when that restorative process is duly performed, the

In other words, the uterus has become, as it was in 's non-gravid state, a thick-walled and small-cavitied organ, the walls possessing but little flexibility, and stubbornly refusing to yield to any force that tends to indent them or to change their shape. To such an extent is this true of the unimpregnated uterus, that it is generally admitted by authors, that it cannot be inverted, by any force that can be brought to bear upon it. The late Professor Charles D. Meigs expresses his convictions very strongly on this point, when he says,* speaking of a case of chronic inversion of six month's duration—"It was inverted at the time of her confinement, six months ago. Mrs. Lucina inverted it by pulling at the cord before the placenta was detached, and either did, or did not know what she had done. The hæmorrhage was terrible. The woman ceased to bleed, and did not die, because she fainted so badly that the vascular injection by the heart was too feeble to kill her by hæmorrhage. She slowly recovered, in a measure, but bleeds still upon the smallest excess of exercise or labor. Well now, my young friend, you have made your diagnostic. What are you to do for your patient? Will you reposit or reinstate this womb? *You can't. You might as well try to invert one of the non-gravid uteri on my lecture-room table as to reposit*

uterus is contracted down to something like its non-gravid size and condition, and such contraction excludes the ovaries and intestine from its cavity and lodges them in the peritoneal pouch above. It is barely possible that, in cases of complete inversion, the pressure of the bowels upon the os uteri might prevent its firm closure and allow a slight insinuation of a knuckle of intestine a short distance within the cervix. But this, should it occur, will not add to the danger of the operation, unless the ligature should be applied to the base of the tumor, which never ought to be done. In cases of incomplete inversion, the ligature must needs be applied to the inferior part of the body of the uterus, at or just below the os uteri, and only the body is severed by the ligature, aided by the écraseur. The body is the source of all the hæmorrhagic and other exhausting discharges, and therefore only it need be extirpated. And so in complete inversion, only the body should be extirpated, and it will prove a good and safe rule of practice to apply the ligature about two inches above the fundus, which will leave the cervix intact. If this rule be observed, there can be no risk of including the inverted vagina or peritoneal pouch in the ligature.

*Letters to his Class, pp. 231 and 232.

*this one.** *The time is gone by. You have no art or skill nor no power equal to the performance of such a miracle of surgery as that.*" The miracle in the case of the inverted uterus, has, nevertheless, been performed, but with exceeding great labor, and the attempt to perform it has been frustrated in nearly one-third of the cases, while in two it proved fatal.

Now, whence all this difficulty? Dr. Thomas and others tell us that it arises from a stricture at the os internum. But when the abdomen was opened and the dilator was inserted in this so-called stricture, did it resist like a veritable stricture? Dr. Thomas answers, "the dilatation was exceedingly easy and rapid." Then we may reasonably inquire, is this the way that other strictures behave—strictures of the œsophagus, of the urethra, of a hernial sac, for examples? One of the marks of a stricture, as I understand it, is, that being overcome by the knife or a dilator, all resistance ceases and the obstruction is removed. The stricture in hernia, for instance, being cut, the strangulated intestine can easily be returned into the abdomen. After fully dilating his so-called stricture, as he says he did, did Dr. Thomas easily reposit the womb? No, but on the contrary, so great was the difficulty yet to be overcome, that he had to resort to his favorite but, I must think, violent manœuvre, and draw down the uterus once and again, the last time, outside of the body, and pushing it up again with a force that sent one of his fingers, tearing its way through the vagina, and into the space between the uterus and the bladder.

Do surgeons have to use so much force in the operation for strangulated hernia? Or after dividing the stricture, is the intestine easily replaced in the abdominal cavity? The difference in the two cases is readily ex-

*The italics are mine.

plained. The stricture being divided, in the case of hernia, the thin-walled intestine may have the gas, that inflates it, pressed out of it and its walls, being thin and yielding, it can be moulded to the aperture through which it is to pass. Not so with the uterus: it is, in a great degree, inflexible and insusceptible of being moulded. Besides, the problem for the gynæcologist to solve is, not to make an aperture through which the uterus may be pushed bodily, but to start the process of reïnversion, by first unfolding the parietal duplicature—the *os præternaturale*—and when that is done, the body and fundus follow with their outward movement, and so they resume, though slowly and stubbornly, their proper places. The difficulty, I repeat, consists not in a stricture, formed by the os internum, but in the inflexibility of the parietes of the uterus and the smallness of its cavity, and therefore if we could dilate the so-called stricture ever so widely, we shall still have the intractable walls of the uterus to deal with. There are, and, I doubt not, there ever will be cases where there is so great rigidity of these walls that nothing short of a miracle can reinvert them. This was the trouble in Dr. Emmet's case, as I regard it, and not adhesions of the broad ligament, which have never been proved to exist, and which, if they existed, could not hinder the reposition of the organ by any mode of action that I can imagine.

To express my views a little more fully here, I should say that the difficulty, amounting to impossibility, in some cases, of reïnverting the uterus, depends upon perfect involution of the organ after parturition. We know that a variety of causes may impede involution, and among them we may reasonably reckon so serious a disturbance of the uterus, as inversion must give rise to. If there be imperfect involution of the uterus, superadded to its inversion, then its parietes will be more succulent

and pliable, and its cavity larger, and its mouth more patulous, than in the normal non-gravid state. It must then be much easier to reinvert it than when its walls are compact, and its cavity small. If I am right in this opinion, I have satisfactorily accounted for the total failure of the most eminent and skillful operators to replace the inverted uterus, in the cases which I have cited.

From the considerations which have now been presented, the deduction appears to be warranted, that Dr. Thomas' substitute will not prove to be a trust-worthy supplement to manipulation, in the treatment of chronic inversion of the uterus, and that it will not, therefore, abolish the necessity of amputation in certain cases.

I shall endeavor finally, to estimate, as well as I can, what additional mortality will ensue from gastrotomy and the dilatation of the so-called stricture of the uterus, as helps to manipulation. Here we have to deal with probability only, while nothing is more certain than that there must be increased mortality, except it be true that the abdomen may be opened, and the serous membrane of the uterus irritated with impunity. All surgical writers agree that penetrating wounds of the abdomen, even though none of the viscera may be implicated, are attended with danger. The peritoneum is ever ready to take on inflammation, and this, when kindled, spreads with alarming rapidity, and is often fatal in its termination. Besides these causes of inflammation—the wound and the irritation of the uterus—there must be nearly as much handling of the parts contiguous to the uterus as in the operation of ovariotomy, unattended with complications, such as adhesions, &c. Peritonitis must, therefore, come in for its share of victims, in all operations performed within the cavity of the abdomen. Whether or not the increased rate of mortality from manipulatory treatment, caused by gastrotomy, will make the operation

more or less fatal than amputation of the uterus, cannot be predicted. In view of the whole drift of this discussion, I will venture, however, to assume this position: Should it be proved by experience that manipulation, surmounted by gastrotomy, is more fatal than amputation, it ought to be altogether rejected, because it is of far more consequence to save lives than wombs. Better that a score of women should lose their wombs, with the chances of saving their lives, than that one should die, when the life of that one might have been saved by a different surgical proceedure. I do not expect that Dr. Thomas will concur with me in this sentiment, because his opinion is widely different from mine, in respect to the *defeminizing* consequences of ablation of the uterus. Could I believe with him that the loss of the womb unsexes a woman, and makes her a mockery, a caricature of her former self, I should turn from so degrading an operation, as I would from the mutilating processes of the *comprachicos*, who, as Victer Hugo says, made monsters of hapless children for the amusement of the happy.