FOR THE

TREATMENT AND PREVENTION

OF

UTERINE DISORDERS.

By WILLIAM GOODELL, M. D.,

Physician in charge of the Preston Retreat, Clinical Lecturer on the Diseases of Women and Children, in the University of Pennsylvania, etc.

From letters of inquiry which I am receiving from widely distributed portions of this country, I am led to infer that a few hints with regard to the treatment and the prevention of the more ordinary forms of uterine disorders will not come amiss to some of the many readers of this journal. In order, however, to make these hints as practical as possible, this paper will be made up mainly of categorical answers to the leading questions of my correspondents. But for this very reason it will necessarily be somewhat dogmatic as well as desultory in its character; and will also, I fear, compel the frequent use of the first person, an egotism for which, in advance, I ask indulgence.

Instruments.—The instruments which I recommend the students of the University to purchase at the outset of their practice are as follows:—

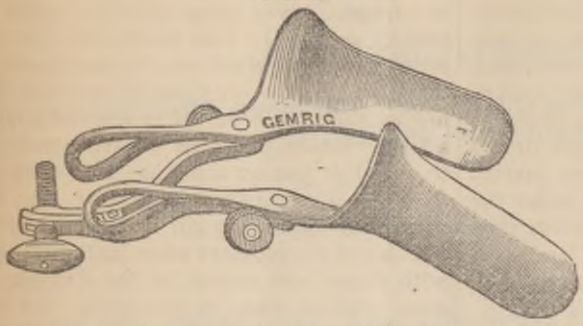
One base-expanding bivalve speculum (a modification of Smith's), whose blades are three inches and three-quarters long, and one inch and a quarter wide. Two glass speculums (Fergusson's), the one not longer than five inches and three-quarters, with the smaller aperture measuring one inch and a quarter in diameter; the other five inches long, and at the smaller aperture seven-eighths of an inch wide. Two probes or applicators, of aluminium wire, with one adjustable handle. One uterine tenaculum. One small volsella forceps. One speculum forceps. One uterine sound. One uterine repositor. One hard rubber uterine syringe with a long and flexible nozzle. One uterine dilator.

This list by no means exhausts the number of instruments required for special cases of uterine disease. But, in my opinion, no one can intelligently and successfully treat the ordinary diseases of the womb without, at least, the foregoing instruments.

At first blush the blades of the bivalve speculum (Figs. 1 and 2), may seem too short. But practically, if their tips be directed to the previously ascertained site of the cervix, it will be found that, when widely separated, they will so stretch the uterine end of the vagina as to bring down the cervix into the field of vision, not only very close to the eye of the physician but within reach of his index finger. For diagnostic or for operative purposes these are advantages not to be overlooked. In very rare cases, such as of fat women, whose vaginas are large and flabby, of those in whom, by a fibroid or an ovarian tumor, or by pregnancy, the womb is lifted up above its accustomed site, the cervix may not be well exposed by this instrument. In these very exceptional cases the larger of the Fergusson speculums may be substituted for the bivalve. The smaller glass speculum is put down in the list because it will occasionally be found useful in the examination of un-

FIG. 1.

FIG. 2.



married women, or of those in whom the introitus vaginæ is either unnaturally small or hysterically contracted. Yet even in these cases, after the slow admission of one, and then of two fingers, the parts can usually be sufficiently dilated for the admission of the bivalve speculum. Under ether this can always be done.

I feel quite sure that physicians who have once used this speculum, with the woman lying on her back, will never wish to return to their old-fashioned cylindrical or quadrivalve speculums. One hint, however, to those of my readers who do not feel disposed to give up their long-used glass speculums for a new and untried instrument. The Fergusson speculums as sold in the shops are entirely too long and too narrow. For exceptional cases it is well to have on hand the two sizes above given; but the best working speculum of this kind is, in my experience, one not over five inches in length, and with the smaller aperture not under one inch and one-eighth in diameter.

The uses of the other instruments will be indicated in the proper place; but a word here with regard to two articles on the list: The probes, or applicators, of aluminium wire, are chosen because this metal is flexible and resists the action of most of the corrosive agents employed in uterine therapeutics. A sliding and removable handle is recommended for these applicators, both because a fixed one makes the instrument too long for easy carriage, and because I have found that the wire is very liable to break off at the line of junction with the handle. The uterine sound should have merely the usual knob at the distance of two inches and a half from its tip. If otherwise graduated it will very soon snap off at one of the deep notches made to mark off the inches. It should, further, consist of one piece; else by the wearing away of the thread of the uniting screw the relation between the handle and the tip is lost. One more word with regard to the sound. It should never be introduced until the physician has first satisfied himself that the womb is not gravid; and this golden rule holds good for all uterine applications. I lay stress on this point, for I once carelessly brought on an abortion in an estimable married lady, who was quite as much surprised at the result, but not quite so much mortified as I was. Again, I have, on more than one occasion, been consulted for uterine disease by designing women, who, being pregnant, sought advice with the hope of having a cheap riddance, induced by the treatment. Once, after arranging to meet a physician who lived some twenty miles off, I received a countermanding telegram followed by a letter, explaining that the supposed uterine disease of his patient, a reputable married woman, was pregnancy, and that her sole object was the hope of having an abortion provoked by the examination. His suspicions had been aroused by mine, and by working on the fears of his patient he extorted a confession. These facts should lead one to be on one's guard.

Local Treatment.—The following agents employed at the clinic of the University are enumerated in the order in which they are ordinarily used. The undiluted commercial liquid carbolic acid (Calvert's No. 4), or a saturated solution of the crystals; a solution of one drachm of nitrate of silver to the ounce of glycerin; a saturated tincture of iodine; fuming nitric acid and the solid stick of lunar caustic.

With the exception of the last, each caustic is applied by means of a film of cotton

wool wrapped evenly around about two inches of the aluminium probe, beginning at its tip. Jeweler's cotton is the best for this purpose; it is chemically cleaned, and has a long and fine fibre. These probes are usually roughened for that distance, in order to give the cotton a hold which would prevent it from slipping off and remaining behind in the uterine cavity. This roughening, however, makes the subsequent removal of the cotton too tedious, and too liable to stain the fingers. I therefore prefer to use a smooth probe, taking care, in that case, to wrap the terminal end of the cotton very tightly. But, as this needs a skill which practice alone can give, it would be well for a beginner to make use at first of the roughened wire. The ordinary uterine sound can of course be resorted to for the same purpose; but the stronger acids soon corrode it, while the bulb at its tip makes the removal of the cotton a dirty and difficult process.

The probe thus armed, after being dipped into one of the above liquids, I *always* carry, through a speculum, *up to the fundus of the womb whenever the internal os permits it to pass.* In the great majority of cases this can be done, provided the anterior lip of the cervix is first hooked down by the uterine tenaculum (Fig. 3); a procedure which steadies the womb and straightens it out. My reasons for cauterizing the whole mucous tract of the womb are fourfold. (*a*) If the mucous coat is alone involved, the symptoms often fail to inform me how far up the disease has extended. (*b*) Owing to the absence of any sub-mucous connective tissue, the inflammation of the mucous membrane must sooner or later more or less involve the parenchymatous structure, and this must be avoided at all hazards. (*c*) Whenever the internal os is sufficiently patulous to admit the armed applicator, I accept this fact as an evidence that the disease is not limited to the cervix. (*d*) By this practice, in a measure empirical, I err on the safe side, and obtain far better results than I did when limiting my applications to the cervical canal. Nor is this bolder plan of topical medication more hazardous than the ordinary one limited to the cervical canal. Out of a yearly average of over one thousand five hundred uterine applications of this kind, at the University clinic, to say nothing of my own private patients, we have not yet heard of a death from this cause. Nor have we seen any but light and manageable attacks of perimetritis, and these very seldom indeed. The cases in this clinic consist of out-patients, who, after an application, however strong, have necessarily to go home, many to adjacent towns lying within a radius of twenty miles. In this clinic, also, we are reluctantly compelled even to insert sponge-tents, and yet the only case of mischief following their use occurred in a woman with a fibroid tumor, in whom the tents were introduced at her own home. But even in this case I am disposed to think that the peritonitis lighted up can be more fairly attributed to the repeated examinations, made with finger and sound, by the five physicians present, than to the tents. At any rate, it taught me the lesson to forbid any but absolutely necessary examinations of the uterine cavity. I have about come to the conclusion that he is the most successful gynæcologist who is the most plucky, and that, no matter how severe or mild the treatment of uterine disorders, the percentage of accidents will be about the same, and that a very low one. The only severe attack of perimetritis of which we have any knowledge followed the application of the solid stick of nitrate of silver merely to a patch of granular erosion on the cervix. In my private practice I have yet to see, from this cauterization of the whole mucous lining of the womb, any worse results than an occasional attack of uterine colic, but rarely so urgent as to require morphia hypodermically. For all pelvic inflammations induced by a uterine treatment, or, indeed, for those following labor, I am in the habit of recommending from 16 to 24 grains of quinia during the twenty-four hours; morphia in quarter-grain doses repeated frequently enough to keep under the pain; and, while the pulse runs high, from 60 to 80 grains of the bromide of potassium. From the umbilicus downward the abdomen is to be painted twice a day with the compound tincture of iodine, and then to be covered by a large mush poultice, over which is spread a piece of oiled-silk or a well-greased sheet of brown wrapping-paper. The diet is to consist of beef-tea and milk *ad libitum*, egg-nog, ar

FIG. 3.

more or less of whiskey or of brandy. When the pelvic pains are very acute the morphia should be given hypodermically until they are controlled.

With the exception of that of the fuming nitric acid, the liquid applications are to be made about once a week, and to be constantly changed about from one to another. In order to insure a thorough cauterization, it will often be advisable to make two or three applications, the one directly after the other, until the walls of the uterus are irritated into contracting down upon the probe, and griping it; and also when the cervical canal is not very patulous, first to stretch it open by the uterine dilator. In making these applications no other care need be taken than, before removing the speculum, to swab out or syringe out the redundant portion of the fluid, which has run down over the posterior lip of the cervix. But, in order to apply the nitric acid safely, greater precautions must be taken. The cervical canal, unless very patulous indeed, must be previously dilated, either by a tent or by the dilator, preferably by the latter. If the bivalve speculum be used, very great care should be observed to avoid touching the walls of the vagina with the acid. Whatever the speculum, water enough to reach to the lower margin of the os should be thrown into it, by that very handy little instrument, the uterine syringe (Fig. 4). Immediately after the application, several syringefuls of water should be projected upon the cervix. A tampon of cotton-wool, with a withdrawing thread attached, may then be dipped into water and left for twelve hours in contact with the cervix. After ten days or two weeks have elapsed, one of the milder caustics may be applied. In obstinate cases I have sometimes found it necessary to make a second application of this powerful acid. This, however, should not be done before a month has passed by, lest closure of the cervical canal should result. When granular erosion is associated with a gaping or an everted os, there is no better treatment than by this acid. In such a case it must be applied freely to the cervical canal and less so to the uterine cavity. In menorrhagia springing from a congestion or from a sub-involution of the womb; in cases of wombs too tender to bear the pressure of a hard pessary; in obstinate leucorrhœa, it does much good when boldly carried into the uterine cavity. I am very partial to this escharotic, nor have I yet found that its use is followed by symptoms more urgent than those produced by the milder caustics. In carrying this acid about, one caution must be carefully observed by the physician for his own protection. By the jolting of a carriage, or by other constant agitation, a gas is generated which, upon the quick removal of the stopper, violently forces a fine spray of the contents out of the bottle. He must therefore avert his face while he slowly removes the stopper, which, by the way, should be made of glass.

FIG. 4.

The solid stick of nitrate of silver is no great favorite in our clinic. It gives more pain than the liquid preparation, is less manageable, and often causes a brisk hemorrhage. Its prolonged use is so apt to be followed by a hard, gristly cervix, or by contraction, or even by closure of the cervical canal, that it is restricted pretty much to those cases in which the os is gaping or everted. By first warming the tips of the aluminium probes and then dipping them into fused nitrate of silver, they receive a coating of the caustic which can be readily passed up into the uterine cavity; not, however, without considerable uterine colic. A common test tube held over the flame of a candle is all the apparatus necessary for this purpose. This is an admirable way of treating sub-involution and other affections of the body of the womb. In stubborn cases of amenorrhœa advantage may thus be taken of its tendency to excite hemorrhage. Whenever this caustic is passed up into the uterine cavity the hypodermic syringe should be within reach.

A saturated ethereal tincture of iodine being much stronger than the corresponding alcoholic tincture, I have found very useful in marked cases of cervical endometritis. But the fear lest the subtle vapor of the ether should escape through the fallopian tubes into the peritoneal cavity, or should force in some of the liquid before it, has made me somewhat chary of introducing it into the uterine cavity.

The above caustics being applied weekly, in the meantime the woman should herself daily irrigate the womb with tannin, lead or zinc solutions. A very excellent one is a

strong or even a saturated solution of the chlorate of potassa. For this purpose the Davidson syringe is the best. A still better treatment is the introduction, at bedtime, into the vagina, of a suppository containing a few grains of the acetate or the iodide of lead, of the sulphate of zinc, or, what is better, from five to ten grains of tannic acid. For obstinate congestions, apart from local depletion, one drachm of the fluid extract of ergot, or an equivalent dose of one of its preparations, should be nightly introduced into the rectum, either by a suppository or by a starch clyster. As vaginal suppositories are expensive and quite difficult to make, certain very efficient substitutes can be used. For instance, the tannin or any other dry astringent powder may be projected by the woman herself upon the cervix, through the nozzle of one of those ingenious tin toys which are imported from France for the purpose of scattering "roach-powder" about. Or else—after the plan of my friend, Dr. E. L. Duer—a teaspoonful of glycerin, containing five grains or more of tannin, of acetate of lead, or of sulphate of zinc, may be poured into a hollow pressed by the thumb into the centre of a thin sheet of cotton-wool, not quite so broad as one's palm. The edges being now gathered up and securely tied, there will be formed a small and dry tampon, which the woman, after getting into bed, can herself push up against the cervix. For convenience of removal, the ends of the string should be left long enough to hang outside of the vulva. Medication by vaginal suppositories is to be preferred to that by vaginal injections, because in the former the remedy lies longer in contact with the cervix, and because it is probable that more or less of it is carried up directly into the uterine cavity, either by capillary attraction or by that reversed peristaltic or suction action of the uterine fibres so lately described. In future, when the vaginal suppository is mentioned, the term will mean, indifferently, some one of the above methods.

I am more than ever impressed with the fact that in general the caustic applications are made too continuously for nature to have fair play, and that irritation and inflammation are actually kept up by too short intervals of rest. It is, therefore, my habit, after making from four to six applications, each one a week apart, to send my patient away just before a catamenial period, with directions not to return until two such have passed. Not only will much be gained by this intermission in the treatment, but an opportunity for impregnation is thus given.

With regard to the conjugal relations during local treatment, while, as a rule, abstinence is recommended, I yet sanction the advice of the apostle, that "the husband render unto the wife due benevolence; and likewise also the wife unto the husband." While coition should always be completely performed, on the one hand the husband must not be too exacting; on the other, the wife should not restrain her own inclinations; for intercourse, then, appeases the congestive orgasm of the reproductive apparatus.

Local Depletion.—Since congestion is the essential basis, the *punctum saliens* of uterine disorders, it stands to reason that local blood-letting should be the remedy. Whenever, therefore, the cervix has lost its natural pink or gum-like color, and becomes crimson, it needs depletion. For this purpose nothing answers better in the end than two or three leeches pushed up to the cervix through a glass speculum. In leeching, the os uteri must first be well plugged by a clean morsel of cotton, with a withdrawing thread attached; otherwise a leech may creep into the uterine cavity and fasten itself there, giving intolerable anguish. The week succeeding the catamenial flux is always the best time for their application. But leeches are often capricious, always expensive, sometimes unattainable, and their application is a tedious and unpleasant job. A substitute is therefore necessary. In lieu thereof, once a week or a fortnight, the cervix may be punctured at three or more points by Buttle's spear-pointed scarificator (Fig. 5.) by a straight-pointed bistoury, or by a tenotomy knife. Not more than from two to four tablespoonfuls need be taken at one time. The difficulty usually consists in drawing blood enough, but occasionally too much will flow. I have seen it spout out as if a large vein had been struck. It is well, therefore, to watch for a moment the first puncture before making others. In a large, flabby and angry-looking cervix, in cases of retroflexion accompanied by marked con-

FIG. 5.

gestion, blood enough will often escape from but one superficial puncture. In firmer and paler cervices the punctures must be made deeper and more numerous. The point of the instrument should penetrate to a depth of from one-eighth to one-quarter of an inch, and, in order to enlarge the opening, should be withdrawn by a slight turn of the wrist. To collect the blood as it flows out of the speculum, without soiling the clothes of the patient, I have found nothing so convenient as an ordinary kitchen gravy-ladle of tinned-iron, which has its well-earned place in my leather bag.

After the bleeding has ceased, the uterine application is to be made. If it persists, a stream of cold water may be thrown upon the cervix, or each bleeding point can be touched with the solid stick of nitrate of silver. Often the mere introduction of the ordinary application into the uterine neck and cavity will so condense the tissues as to stop the bleeding. On very rare occasions I have been obliged to tampon the vagina loosely with cotton-wool dipped in a solution of the subsulphate of iron. Local depletion is a very important adjunct to the treatment of uterine diseases. It is, indeed, often the pith of the treatment. Its neglect is a common cause of failure. The condition of the cervix is not, however, always an infallible criterion as to the necessity for drawing blood, for the congestion of the womb may be limited to its body. Depletion may, therefore, in general be resorted to whenever the womb is hypertrophied; whenever its body is tender to the touch, or too sensitive to bear the pressure of a pessary; whenever pelvic pains resist the ordinary treatment, and, finally, in most cases of flexion or of dysmenorrhœa. No inflexible rule can be laid down with regard to the number of times this operation should be performed. My own custom is to draw blood at intervals of a week or two until the general or local symptoms are decidedly improved.

General Treatment.—One cardinal rule in the treatment of all uterine disorders is the internal administration of iron, and of other tonics, unless contra-indicated. To these may be added, whenever the womb, as a whole, is congested or hypertrophied, ergot, quinia, arsenic, or bromide of potassium, either singly, or more or less in combination. Whenever one of my patients can or will take cod-liver oil in conjunction with the syrup of the iodide of iron, I feel that half the battle is won. The bowels should be kept soluble. An excellent pill for this purpose, to be taken at bedtime, is:—

℞.—Ext. colocynth. comp., gr. ij;
Ext. belladonnæ, gr. ½;
Ext. gentianæ, gr. j;
Ol. carui, gtt. ss. M.
Et ft. pil., No. j.

The following tonic pills are much prescribed at the clinic:—

℞.—Acid. arseniosi,
Strychniæ sulph., āā gr. $\frac{1}{25}$;
Ext. belladonnæ, gr. $\frac{1}{5}$;
Cinchoniæ sulph., g. jss;
Pil. ferri carb., gr. ijss. M.
Et ft. pil., No. j.

℞.—Acid. arseniosi, gr. $\frac{1}{25}$;
Cinchoniæ sulph., gr. jss;
Ferri et potass. tart., gr. ij. M.
Et ft. pil., No. j.

The sulphate of cinchonia in these pills may be advantageously substituted by a proportionate dose of sulphate of quinia, the former being used simply on account of its cheapness. One pill may be given after each meal. Basham's iron mixture, with the addition of fractional doses of strychnia, will be found very admirable in its effects.

There are so many indifferent recipes for making this celebrated mixture, that I shall here give the one which seems to me to be the best:—

℞.—Tinct. ferri chloridi, fl.℥iij;
Acid. acetic. diluti, fl ℥ss;
Liquor. ammoniæ acetat., fl.℥iijss;
Curaçoa,
Syrupi simplicis, āā fl.℥j;
Aquæ q. s. ad fl.℥viij. M.
Sig. One tablespoonful after each meal.

The following formula makes another very elegant and generally useful preparation of iron:—

℞.—Tinct. ferri chloridi, fl.℥ij;
Acid. phosphorici dilut., fl ℥iij;
Spts. limonis, fl ℥j;
Syrupi simplicis, fl.℥ijss;
Aquæ q., s., ad fl.℥vj. M.
Sig. One tablespoonful after each meal.

The dilute phosphoric acid is added, both because it is a valuable nerve tonic, and because it has the property of disguising the styptic taste of the iron; so much so that children readily take this mixture.

When patients complain of nervousness, or of sleeplessness, the bromide of potassium must be given, either alone or in combination with other remedies. A cheap mixture,

much thought of at the University clinic, is as follows:—

℞.—Potassii bromidi,
Rad. calumbæ contus.,
Rad. zingiberis contus., āā ℥j ;
Ferri sulphat., gr. xxx ;
Aquæ bullientis, Oj.
Steep for twelve hours and then strain.
Sig. One tablespoonful in a wineglassful of water just before or just after each meal.

I cannot say much for the palatableness of this infusion, nor more for its pharmaceutical elegance. But it does good, and we therefore give it largely to our poor patients. For a better class of patients the following nervine can be prescribed with very general satisfaction:—

℞ Elixir humuli, ℥j.
Elixir valerian. ammoniat.,
Elixir lactucarii, āā ℥ss. M.

Sig.—One dessertspoonful at bedtime, or during the day when necessary.

When ergot is indicated it may be given continuously and in full doses, either by the mouth or by the rectum. The suppository is made by inspissating the fluid extract by a moderate heat and incorporating it with cocoa butter. Of these two modes of administration I much prefer the latter, as it does not disturb the stomach. In country practice the ergot may be given in a starch clyster.

In addition to these remedies an effort should be made to distract patients from self, to make them forget that they are invalids. Their tendency is to give too much heed to every little ailment. They should be urged to give up the recumbent posture, to take regular exercise, and to expose themselves, without veils and parasols, to the direct rays of the morning sun. Woman, as well as plants, needs sunshine. Tea and coffee should be given up, and milk or claret substituted. A wholesome diet of easily digested meats and vegetables should be ordered, pastry interdicted, and the old adage inculcated of "early to bed and early to rise." A moderately cool bath may be taken daily, provided no great fatigue is induced by it, and a healthy glow follows its use. The brisk rubbing down after a cool bath, by putting many muscles into play, is one means of furtively giving exercise to those patients who are indisposed to take it as such. The corset should be discarded; the clothes must fit loosely and be supported from the shoulders. However unreasonable this advice may have seemed to the woman while her health was good, she will now usually adopt it, but not without many a pang and many an inward struggle. No vanquished knight ever yielded up his armor with worse grace.

For obvious reasons, when young girls or unmarried women exhibit symptoms of uterine trouble, an examination by the finger or by the speculum, or a treatment requiring the use of the latter, should never be insisted upon, until other measures have first been faithfully tried. These measures will be limited to the hygienic and constitutional treatment just detailed, and to such local remedies as the patient herself can use, viz., the hot douche, the hip bath, vaginal suppositories, vaginal injections, etc.

Retroversions and Retroflexions.—For these forms of displacement, and for those forms of prolapse in which the womb is not unduly lengthened out, Hodge's closed lever pessary is one of the best. When fitting properly, it acts physiologically by propping up the dislocated fundus, and by restoring the posterior wall of the vagina to its natural length. Again, since its anterior bar plants itself firmly against the posterior surface of the pubic symphysis, or against the angle formed by the converging rami of the pubic bones, it offers a very efficient and powerful support. It will not, however, always answer. Whenever the relaxation of the parts is great, or the vaginal portion of the cervix has disappeared, as it sometimes will through senile atrophy, or through the stripping off of the vagina by the upward traction of the womb in repeated pregnancies, the physician may be driven to the globe-, or to the ring-pessary. But this alternative should be deemed a misfortune, for all pessaries which distend the vagina at the expense of its length are mere makeshifts. Such instruments cannot effect a cure, since by overstretching the vagina laterally, and by thus impairing its tonicity, they weaken this great supporting column of the uterus, and, in prolapse, tend to confirm the usual cause of the displacement. Further, the ring-pessary is not trustworthy, and needs watching, for it is liable, by its elastic pressure, to excite ulceration and to become buried up by over-arching granulations. In this manner it sometimes eats its way into the bladder or the rectum. There are few physicians with a large uterine practice who have not had to dissect out a ring vital-

ly imbedded in the vagina. Another very great objection lies in the fact that, when made of poor and brittle rubber, as these pessaries usually are, they crack at one place or more during the process of their introduction; and then, sooner or later, by the rusting of the steel wire at these points, they spring open. This accident I have so repeatedly seen as to make me timid about using them. When the base and neck of the bladder are very sensitive, or when, as in some old women, the vagina has lost its elasticity and is shortened, Cutter's pessary answers a very admirable purpose. It is practically a Hodge pessary, having an external fulcrum attached by an elastic band to an abdominal belt.

My friend, Dr. Albert H. Smith, has made a modification of Hodge's pessary to which I am very partial, the more so because it meets several very important indications. The healthy vagina is a cone-shaped tube, widening out above and narrowing down as it approaches the vulva. Its uterine portion is thin, membranous and almost devoid of muscular fibre; while its lower portion is rich in elastic and muscular tissues, and powerfully acted upon by the strong muscles of the perineum. Now, Hodge's pessary being of a uniform width throughout, in fact, a parallelogram in shape, will often unduly stretch laterally the vulval, viz., the narrowest, portion of the vagina, while it too loosely fits the uterine portion. The pressure being unequally distributed, is liable not only to irritate the points of firmer contact, but also to cause the pessary to tilt over on its side, or to become otherwise displaced. Again, its front bar, by pressing upon the pubic bones, may irritate the overlying soft parts, and may also so compress the urethra as to make micturition painful. To avoid these defects, and also to distribute the pressure in front over the surface of the anterior vaginal wall, which responds to the movements of the diaphragm, Dr. Smith slightly narrows this pessary anteriorly, and then bends the tip thus rounded sharply downwards, at almost a right angle.

The Hodge pessary is readily moulded into this shape in the following manner:—The *anterior part only* is either dipped into boiling wax or lard (the temperature of boiling water is not high enough), or else is buried in sand heated to about 350° Fahr. When sufficiently plastic, the uterine, viz., the unheated, portion of the pessary, with the concavity of its curve looking downward, is grasped by the thumb and fingers, and so compressed that the anterior portion of each lateral bar slightly converges towards its fellow. While still undergoing this pressure, the pessary is quickly carried to a deep wash-basin, one-fourth full of cold water. The tip is now bent almost at right angles by pressing it for a moment strongly against the dry surface of the basin, over which it is then made quickly and firmly to glide down into the water below. The contact with the water at once "sets" the pessary in the desired shape. The sand bath is certainly the handiest and cleanest way of moulding these pessaries, but, unless carefully watched, it is liable to overheat and spoil some of them.

This form of pessary I can confidently recommend as one that will best fit the large majority of cases ordinarily met with of retroversion, retroflexion, or of prolapse. By comparing a Hodge pessary with Fig. 6 the alterations in shape will be at once seen. A side view is given at A and a front view at C.

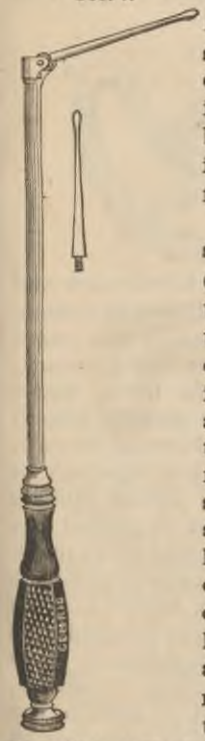
Whenever the body of the womb is too tender to bear the pressure of this hard rubber pessary, the provisional use of inflated rubber rings will be called for. These air-cushions must be used in conjunction with local depletion, with intra-uterine applications of carbolic acid as a local anæsthetic, and with the hot douche, the last, provided the woman can herself remove and re-introduce this pessary. Some stubborn cases I have overcome by a free application of fuming nitric acid to the uterine cavity. Whenever these inflated rings cannot be procured, wads of oakum or sponges dipped into a weak solution of carbolic acid will answer as very good substitutes. The dis-

FIG. 6.

tressing pelvic pains and aches which torment these patients will be greatly alleviated by passing into the vagina, at bedtime, a suppository containing one grain of morphia and two of the extract of belladonna.

In most cases of retroversion or of retroflexion it will prove advantageous to stretch out the contracted utero-sacral ligaments by the repositor (Fig. 7). This instrument is used by introducing the stem into the uterus, and then giving varying angles to it by a screw in the handle. In this manner a retroverted womb can be temporarily forced into a state of anteversion. The womb when flexed should also be straightened out, by giving varying curves to the sound; or by first seizing and drawing down the cervix with the volsella, and then pushing up the fundus by a finger passed up either into the vagina or the rectum. By this manœuvre a retroverted womb can also be readily redressed; but it is then best not to push the fundus directly upward over the jutting promontory of the sacrum, but somewhat laterally, so as to make it skirt this bony shelf. As will be seen, under its appropriate heading, the uterine dilator bids fair to do much good in obstinate cases of retroflexion.

FIG. 7.



One word here on the subject of the volsella (Fig. 8). Since it maintains its hold better than the tenaculum, it is to me one of the most precious instruments in my bag, amounting in value almost to a third hand. Apart from using it, as above described, in redressing or straightening out any kind of version or flexion of the womb, it subserves other useful purposes. By hooking down the cervix and holding it steady, it materially aids in the introduction of sponge-tents. For the same reason, upon the removal of the tent, it renders the exploration of the uterine cavity with the finger very much easier than by the usual plan of forcing the womb down upon the finger by suprapubic pressure, a procedure always painful, and in a fat woman, very difficult of execution. By thus lowering and fixing the womb, it facilitates very materially the removal of intra-uterine polypi, or the scraping away of benign or of malignant growths from the cervix or the fundus. In such cases, I usually apply it without the aid of the speculum, and generally seize hold of the anterior lip. In redressing versions, a mechanical advantage is gained by seizing hold of that lip whose name does not correspond with that of the version. Thus, in retroversions the anterior lip is seized; in anteversions, the posterior lip. But in flexions, as one object of the traction is to stretch out the flexed side the most, that lip should be seized whose name corresponds with that of the flexion. This advice is theoretically correct; but it may not always be found practicable. Let me here state that I teach all right-handed students to use the left hand for making uterine examinations and for other internal work. This leaves a clean right hand for manipulating the various instruments and for any necessary outside work.

FIG. 8.

Anteversions and Anteflexions of the Womb.—Since these conditions are more or less the natural ones of the nulliparous or of the healthy uterus, and especially so when the bladder is empty, it by no means follows that every case of hysteria or of pelvic irritation exhibiting these forms of displacement requires a uterine treatment. I am led to make this remark, because a congestive irritation, or, perhaps, an inflammation of one ovary, or of both, is often at the bottom of symptoms usually referred to the above displacements, and because many a hysterical woman has, consequently, been unfortunately subjected to a purely uterine treatment, when it should have been a moral one, or a constitutional one, or, at the most, an ovarian one. The paramount influence of the unseen ovaries over body and mind is too much overlooked. With much truth

it has been said, that anatomically we may speak of the "womb and its appendages," but that physiologically the womb is really an appendage of the ovaries. True, the contiguity of these structures, and their intimate nervous, vascular and functional relationship, make them so mutually dependent, that a disease in the one is very likely to beget a derangement in the other. But, without committing myself to the doctrine that hysteria in woman is, primarily or secondarily, always an ovarian expression, I am sure that it is often present when no lesions whatever can be discovered in the uterus proper. Hysteria is pre-eminently a disease of the unmarried, of the newly married, and of the sterile. But, since in them the womb is naturally anteflexed and anteverted, so this physiological condition is liable to be mistaken for a pathological one, and to be treated, that is to say, maltreated accordingly. The diagnosis is, therefore, not always clear, but, when dysmenorrhœa is present, when the womb is markedly tender or congested, or it exhibits other unmistakable objective evidences of disease, when, in addition, the marriage is an unfruitful one, then may the hysterical and other subjective symptoms be intelligently referred to the uterus proper as the primal cause.

Since typical examples of pure anteflexion alone, or of pure anteversion alone are rarely to be met with, the one lesion usually blending with the other, the same kind of treatment for each will often answer. By the same means as were described for cases of retroversions and of retroflexions, but of course in an opposite direction, the utero-vesical folds of the peritoneum must be forcibly stretched out, and the womb, when bent, straightened out. This should rarely be done oftener than once a week; in the meantime anodyne vaginal suppositories at bedtime will usually be very grateful. At each visit local depletion and topical remedies will also be generally called for. Since, as has been remarked, these forms of displacement more commonly occur in unmarried or in sterile women, the cervical canal is often tortuous and contracted. Tents of sponge, or of laminaria, or of slippery-elm bark will, therefore, be needed as auxiliaries to the treatment. This method of cure, however, being tedious and unsatisfactory, I have lately, with great success, been treating these cases by forcible dilatation; an operation which will shortly be described.

The treatment of this class of displacements by pessaries is by no means so satisfactory as in the former class. No two cases can in this respect be treated exactly alike. The difficulty lies in the construction of an instrument that shall lift up the body of the womb by pressure made in front of the cervix, without irritating the bladder through which the support must be communicated. By pushing the cervix forward the Hodge pessary will sometimes, in pure cases of anteversion, tilt the fundus backward off from the bladder. Sometimes in anteflexions, by sharing with the bladder the weight of a congested womb, it will alleviate the vesical distress. Again, this instrument, in conjunction with an abdominal brace, will at times give much comfort. In a few selected cases Thomas' anteversion pessary will act admirably; but in the majority it cannot be borne. It has, however, served me some very good turns, and I, therefore, give a cut of it. (Fig. 9.) It is practially a Smith-pessary armed posteriorly with a movable bow, which is added to make pressure upon

FIG. 9.

the fundus uteri. In its introduction and removal some degree of knack is needed. After closing it, it is introduced and lodged behind the cervix, just like a Hodge pessary. Then, by insinuating the index finger between the bow and the pessary proper, the former is prized up and swung forward. Since, in the removal, the bow flaps back on the posterior bar (B) and tightly pinches the cervix, the latter must be pushed upward out of the gripe by means of the index finger. This sleight of hand should be taught to the patient, so that she herself may be able to remove the pessary, or to explain the method of its removal to a physician ignorant of its peculiar construction. Otherwise, he will tug away in vain at its anterior bar (A), and be at his wits' end to know how to get it out of the vagina.

The ordinary globe- and ring-pessaries will occasionally answer when other measures fail. Of all mechanical agents, I have,

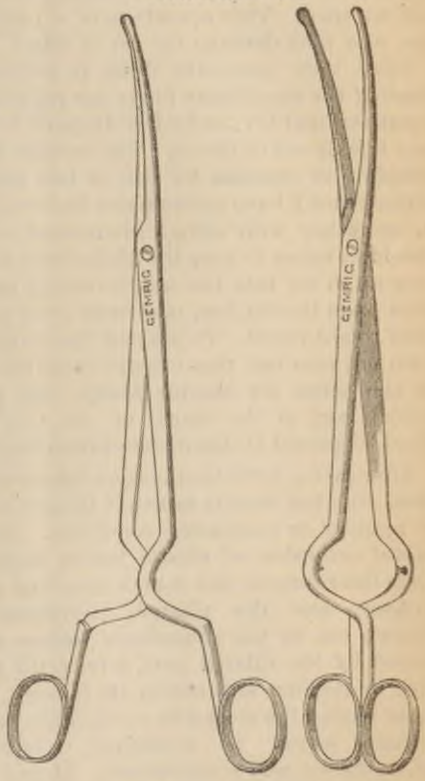
in the long run, found the inflated ring pessary to be the best. This soft-rubber air-cushion can generally be well borne, while, by the admission of the cervix into the opening in its centre, the fundus is tilted off from the bladder. This pessary has, however, three grave faults: it over-distends the vagina; it soon becomes useless by collapsing; it is very liable to generate offensive discharges. Yet, in spite of these objections, I am often driven to its provisional use, while resorting to such measures as are calculated to relieve the congestion, for after all this is the marrow of a successful treatment.

My experience with the intra-uterine stem pessary has not been very encouraging. It may be a very excellent pessary; it certainly is a very good one, to watch. In a very few cases of anteflexion it has answered admirably. In the majority the womb has resented its presence. In one case a smart inflammation set in, which kept my patient confined to bed for two weeks. In another, the agony was unbearable. Their use involves so much care and anxiety that I have pretty much discarded them from the treatment of the out-patients. In private cases I occasionally use the glass-stem pessary, which is the least irritating one, but which tends to slip out. Chambers' hard rubber stem pessary has recently been so lauded by the British medical press, that I intend to give it a fair trial. In the only case in which I have thus far employed it, so much irritation was excited that its removal became imperative within six hours after its introduction. By being split into two portions, which spread apart, this stem has the great merit of not slipping out, and that, I fear, is its sole merit. But, with regard to intra-uterine stem-pessaries, my own conviction is that they have had their day, and that, since the discovery of the method of rapid dilatation, they will in the future be occasionally used for a few days, and then only after this operation.

Before quitting this subject, I should add that Hewitt's modification of the Hodge pessary has, in my hands, occasionally given great comfort, after the failure of every other kind of pessary. It is, however, like its fellows, adapted only to single and isolated cases, cases which cannot be determined beforehand. From the foregoing record of my experience with pessaries, it is plain that he who, in anterior displacements, trusts to mechanical means alone, is doomed to disappointment. He, on the other hand, who combines the therapeutic with the mechanical treatment, will meet with the greatest success. Under the next heading I purpose to give an additional method of treating this stubborn class of flexions, which will, I believe, in the great majority of cases, yield the very best results.

Rapid Dilatation of the Cervical Canal.—This most valuable operation can, at a pinch, be imperfectly performed with the ordinary curved uterine dressing forceps. A far more efficient instrument, however, is a delicate uterine dilator, which, in shape, is like the former, but whose blades are stronger, and so constructed that they diverge as the handles approximate (Figs. 10 and 11). By the aid of the tenaculum, or of the volsella, applied

FIGS. 10 AND 11.

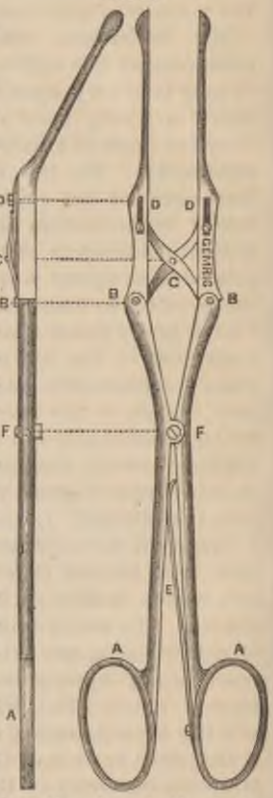


through a speculum, the anterior lip of the cervix is seized, and the dilator is introduced as far as it will go. Upon gently stretching open that portion of the canal it occupies, the stricture above so yields that, when the instrument is closed, it can be made to pass up higher. Thus, by repetitions of this manœuvre, little by little, in fifteen minutes'

time, a cervical canal is tunneled out which previously could not admit the finest probe. As soon as the cavity of the womb is gained, the blades are withdrawn far enough to lodge their tips just above the internal os, and their handles are then brought firmly together. When the cervix is cartilaginous in character, or so unyielding as to bend these delicate blades, then a much larger and stronger dilator, with a screw in the handles, must be used. For ordinary purposes I have found the more delicate instrument sufficiently strong, while it has the merit of requiring no previous dilatation of the canal by tents, and the further merit of preparing the way for the admission of the larger instrument when needed. It can very frequently be used without the aid either of a speculum or of a tenaculum; and in unmarried women this method should always first be tried. This operation is a painful one, and may demand the use of ether, but I have very generally done it without. Some of the constrictor fibres are ruptured, sometimes audibly, and a few drops of blood may trickle out of the os. The woman will complain of soreness for one or two days; beyond that I have not seen any bad results. In operating with either instrument care should be taken to keep the blades from slipping up so far into the uterine cavity as to press upon the fundus; otherwise great mischief might result. To prevent this danger, I am not sure but these instruments would be the better for shorter blades, say two inches long at the most, or for a broad shoulder placed at that distance from the tip.

After such a forcible dilatation the cervical canal does not usually return to its previously angular or contracted condition. Since lateral extension of elastic bodies antagonizes their length, the cervix shortens and widens; and the plasma, provisionally thrown out by the submucous lesions sustained by the dilated part, serves still further to thicken and stiffen its tissues. In other words, the stem-like neck of the pear-shaped womb is shortened, widened, strengthened and straightened. Hence for straightening out anteflexed or retroflexed wombs, and for dilating and shortening the canal in cases of sterility or of dysmenorrhœa, arising from stenosis or from a conical cervix, the dilator will be found to be a most efficient instrument. In its results it is not infallible; but, by it I have, at one sitting, cured cases of long-standing dysmenorrhœa, and relieved absolutely all the distressing symptoms of several very obstinate cases of anteflexion, and thus far of every stubborn case of retroflexion. Dr. John Ball (*New York Medical Journal*, October, 1873, p. 363) recommends the use, for a few days after dilatation, of an intra-uterine stem. I have not yet found it necessary to splint the womb in this manner; but his suggestion is plainly a valuable one, and not to be forgotten. Chambers' intra-uterine stem, or a tent of slippery-elm bark would then be my preference. A few notches cut in the latter will prevent it from slipping out. Dr. Ellinger also states (*Archiv für Gynäkologie*, Vol. v., Part II, 1873, p. 268) that he has found forced dilatation to be a very efficacious remedy for flexions. The blades of his instrument (of which a front and side view are given in Fig. 12) are made short, so as not to reach, and thereby to injure, the fundus uteri. They also open parallel to one another, and therefore, do not tend to slip in or out. In these respects it is an instrument superior to those previously described. But, on the other hand, the latter are more simple in construction, and, consequently, less expensive. I have been surprised at the improvement following a forced dilatation made, in cervical endometritis, for the easier introduction of remedies. Perhaps this may be explained partly by a change produced in the nutrition of the parts, and partly by the temporary paralysis of the constrictor fibres, just as fissures of the anus are cured by forcibly dilating the sphincters. Since the cervical canal tends to remain open, good results may be expected from this operation in the hemor-

FIG. 12.



rhages caused by sub-involution, or by fibroid tumors of the womb. In metrorrhagic attacks and in other cases requiring the injection of fluids into the uterine cavity, I have obtained a free avenue for the escape of the liquid by first dilating the canal with this instrument, and then by introducing the nozzle of the syringe between the expanded blades. Hitherto, the great danger of the fluids being forced into uterine vessels or through dilated fallopian tubes into the abdominal cavity, by spasm of uterine fibres and coarctation of the internal os, has deterred me from often resorting to the use of intra-uterine injections, even in stubborn cases of endometritis. But now, the conjoined use of the dilator, as described above, has, by robbing the operation of its greatest risks, inspired me with more confidence, and I shall certainly try these injections in all cases which other means have failed to relieve. The uterine dilator will also be found very efficient in preparing the cervix for the admission of the armed applicator, and for the reception of a stem-pessary or of a large tent. What is better still, it will often obviate the necessity for using a tent. It is but just to add, that to Dr. Ellwood Wilson is the profession of this city indebted for this method of rapid dilatation, a method which bids fair to revolutionize the treatment of many uterine disorders.

Uterine Tents.—Tents may be made indifferently of sponge, laminaria, or of slippery-elm bark. By glueing together two or three slips of the last, very good-sized tents can be constructed. Sponge and laminaria tents ought not, as a rule, to be left in longer than twenty-four hours. The cervix, while they are in, should be irrigated every two or three hours, during the waking hours, with a strong solution of table salt, or, what is better, with a saturated solution of the chlorate of potassa. I reject carbolic acid, because it does not ordinarily mix well with water; and the permanganate of potassa, because it weakens the elasticity of the sponge-fibres, and stains the clothing. Such detergent injections saturate the sponge and correct the fetor. They also, by imbibition, and by capillary attraction, pass up into the uterine cavity, and thereby lessen the risk from septicæmia. When a tent is put in as a cervical plug to arrest a uterine hemorrhage, then these detergent injections are not necessary, for the blood that will ooze past or through the tent, by washing away the putrid secretions, keeps it sweet. It then can be kept in for over twenty-four hours. For this reason a tent may, with comparative safety, be put in the day before that one on which the catamenia are expected, and be kept in during the flow. This has been repeatedly and successfully done for sterility arising from stenosis; but for this purpose, the dilator would now be my choice. The slippery-elm tent can be left in much longer, as it softens down, and becomes dissolved by the discharges. Although inferior in expansive power to the other two, yet it will be found of great value in cases requiring no very great dilatation, and a prolonged treatment, such as in flexions. The introduction of tents will be much facilitated by the previous use of the uterine dilator, and by the fixation of the cervix with the tenaculum or the volsella. By this means they can often be slipped in without the use of the speculum. Much time and safety will be gained if, after the introduction of one large sponge-tent, it is surrounded by a fagot of smaller tents, made of laminaria.

Let me here impress upon my readers the importance of dilating the cervical canal with but one introduction, or, at the most, with but two introductions of tents. It is not, save with rare exceptions, the tent, or the batch of tents, crowded in at the first visit, that is attended with risk, but those inserted at the second or at the third visit. The history of the reported fatal cases shows that the danger increases with every fresh installment of tents. It is *greater* at the second; *greatest* at the third. This is probably owing to the fact that the removal of the first tent, or batch of tents, more or less abrades the now irritated mucous coat of the canal, and by this raw surface are absorbed the putrid discharges generated and retained by the subsequent tents. It is especially in cases of previous pelvic inflammation, and in those of interstitial or of submucoid fibroids, that I dread the effects of a series of tents, and avoid such a use of them as much as possible. Let me, however, add that, since adopting the plan of injecting the above-given detergent solutions, I have yet to see the slightest ill-effects from the introduction of tents.

Abdominal Supporters.—Within a few months I have become convinced that much advantage can be gained from a judicious use of braces as adjuvants to the treat-

ment of uterine disorders. Alone, they may not cure, but they certainly will often palliate those symptoms which are referable to pressure upon the pelvic organs. They seem to me to be especially indicated whenever a pessary fails to relieve the woman of the feeling that the lower portion of her abdomen needs an external support, a support which she instinctively seeks to give by pressure with her hands. There certainly is, in my experience, no surer way of getting a bed-ridden, hysterical woman on her feet again than by their use. The moral effect of their adjustment is, in such cases, good; and by interposing a shelf upon which the abdominal viscera partly rest, they relieve a congested womb or an irritable ovary from undue pressure. The proprietary character of these instruments has very naturally prejudiced the minds of the profession against them; but *fas est ab hoste doceri*.

The *rationale* of their action is briefly as follows: From the oblique inclination of the pelvis to the spinal column, which is produced by the natural hollow in the back and by the more or less sigmoid shape of the spine, the axis of the trunk does not coincide with that of the pelvis. The womb and the ovaries, therefore, lie in a measure under the shelter of the sacral promontory and of the lower lumbar vertebræ. For the same reason, the sum of the weight of the supernatant abdominal viscera is spent upon the smooth surface of the pubic bones, and upon the adjacent abdominal wall, but not upon the womb, although it is the lowest of the pelvic organs. The little pressure to which it is subjected is not in a vertical line but in an oblique one.

A displaced or a flexed womb may in itself give rise to no unpleasant symptoms whatever; but let it once take on a congested or an inflamed condition, and the weight of the abdominal viscera at once becomes oppressive. If now, pessaries being found inadmissible, a suitable brace is put on, a portion of this load is taken off by its pad, which, by pressing the abdominal wall upward and inward toward the sacral promontory, forms a shelf upon which the viscera rest. Further, by this virtual shortening of the conjugate diameter of the superior strait, the space into which the viscera tend to settle is lessened, and consequently, the womb is to that extent the more protected from sudden succussions.

Again, whenever the retentive power of the abdomen is lost, say by the absorption of the fat-packing in the omentum and in the abdominal walls; by the general decrepitude of old age, or by the muscular debility of ill-health, the woman's figure often becomes greatly changed. Her spine now loses its double curve and becomes bow-shaped; her shoulders droop, her chest bends forward, she stoops; the pelvis, departing from its obliquity, becomes more nearly at a right angle to the spine; and the axis of the superior strait, instead of striking a point in the *linea alba* below the umbilicus, tends now to coincide with that of the trunk. As a consequence the intestines crowd down into the pelvic cavity, and the sum of their weight now converges, not upon the pubic bones and their adjacent muscles, but directly and vertically upon the nicely poised reproductive organs. But since the womb and the ovaries were never intended by nature to be the atlas of the abdominal organs, the one resents the burden, and the other bends and sags down under it. A pessary, by shoring up the womb, gives some relief; but common sense points clearly to the necessity of bringing back the erect carriage, of restoring the sigmoid curve to the spine, and of swinging the pelvis back into its oblique position. To meet these indications a brace is needed, one which is both abdominal and spinal.

Guided by these hints, I feel sure that some of my readers will be able to get once more upon her feet a patient who has been doomed by her friends to a bed-ridden life, on account of some supposed spinal affection. For let me here remark that, since most women in delicate health exhibit one or two very tender spots in the spine, difficult locomotion dependent upon uterine or ovarian trouble is very liable to be mistaken for "spinal irritation" or "spinal inflammation."

Prolapse of the Womb.—For a clear understanding of this lesion, and for its better treatment, it should be divided into three distinct varieties: (*a*) prolapse of the womb proper, viz., a descent of the womb as a whole; (*b*) prolapse of the cervix from growth (hypertrophic elongation) of its vaginal portion; (*c*) prolapse of the cervix from elongation (by traction) of its supravaginal portion. In the first variety there is a descent of the whole womb, together with its furniture of ovaries and ligaments;

and but little, if any, increase in the length of the uterine cavity. In the other two there commonly is, although unessential, a more or less sinking down of the fundus, either from the newly acquired weight of the cervix, or from traction upon the cervix, and there always is a marked increase in the length of the uterine cavity.

The degree of displacement in the first variety, being proportionate both to the weight of the prolapsing body and to the relative relaxation of its supports, the womb will be found either more or less low down in the vagina, as in incomplete prolapse, or else wholly extruded from the vulva, as in complete prolapse. The terms *complete prolapse* and *incomplete prolapse* are, to my thinking, preferable to those of *prolapsus uteri* and *procidentia uteri*, because no two writers agree as to the meaning of the latter terms; for by some they are used interchangeably, as if they were synonyms, and by others in a contradictory sense. An incomplete prolapse is a common accompaniment of retroversions and retroflexions; in fact, the latter are but transitional stages of descent modified by the firmness of the vesico-uterine attachments which sling the womb from its middle. The complete prolapse can be readily discriminated from the other two varieties, by noting the inversion of the vagina, and the distinctness with which the whole of the projecting pyriform tumor can be outlined by the grasp of the fingers. The uterine cavity will not be found unduly lengthened out, and the tip of the sound can be felt in the mass outside of the vulva. To clinch the diagnosis a rectal examination will show that the womb and vagina have vacated the pelvis. Although not so frequently met with as the third variety, *prolapse of the cervix from elongation of its supra-vaginal portion*, yet it will occasionally be found in old women, whose vaginas have become lax and wrinkled through the absorption of the fat-packing of the pelvis, or whose spines have lost that important double curve. In younger women, sub-involution, or such congestions as increase the thickness of the uterine walls in every direction, long-continued vomiting, tight-lacing, the wearing of skirts unsupported from the shoulders, lacerations of the perineum, and last, not least, the prolonged use of the obstetric binder, are the usual factors in the production of this kind of displacement.

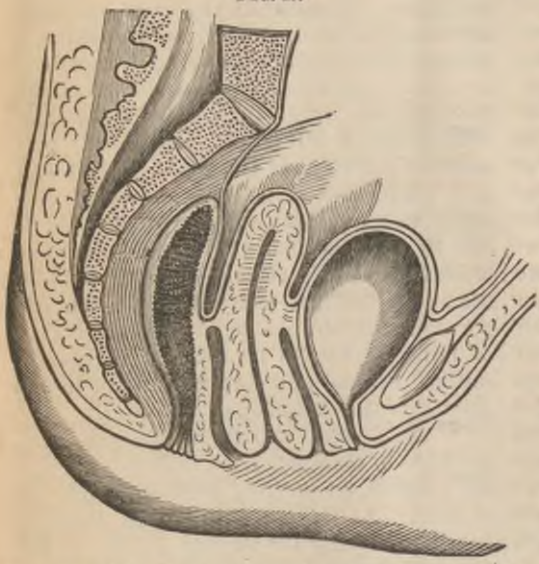
In the treatment of this variety of prolapse, whether complete or incomplete, the same kinds of pessaries are to be used as are mentioned under the heading of retroversions and retroflexions. In some cases Cutter's or Spooner's pessary answers best. In very rebellious cases the proprietary cup-and-stem pessaries will sometimes, although very rarely, be found useful in propping up the womb. In addition to its replacement, the womb, when congested, must be treated by local depletion, by the hot douche, by vaginal injections of solutions of common salt, of the chlorate of potassa or of the astringents, and by the topical remedies previously described. The patient must be enjoined to keep the contents of the bowels soluble, to avoid the lifting of heavy weights, and to wear loose clothing supported from the shoulders. To maintain the erect carriage, and to restore the sigmoid curve to the spine, a suitable brace will often be found an excellent adjuvant to the above treatment. Of course, the perineum, when torn, must be restored. This operation will of itself temporarily prevent the extrusion of the womb; but it can give permanent relief only when it furnishes to the pessary a firm base of support. For, by this time, the uterine supports have become very much relaxed or stretched; and the uterus itself, from friction and from exposure to the air, has acquired some degree of hypertrophy, in its totality, however—fundus, corpus, and cervix—and not in one portion to the exclusion of the other.

In the second variety of prolapse, viz., *prolapse of the cervix from growth of its vaginal portion*, an entirely different condition obtains. As its name indicates, through nutritive activity the vaginal portion of the cervix becomes larger and longer than natural. Although its increased weight drags down the womb somewhat, yet this is so unessential a sequence that this affection has, by Virchow, been termed "prolapse of the womb without locomotion of its fundus." A very marked degree of growth is uncommon. Whenever the vaginal portion of the cervix is so long as to protrude from the vulva, it is, as a rule, either a congenital condition, or an exaggeration of a congenital condition, and is therefore found in nulliparæ. One of its modifications, the conical cervix, is interesting from its bearing upon dysmenorrhœa and sterility. In child-bearing women, through cervical metritis excited by the contusions of repeated labors,

the vaginal portion takes on a hypertrophy, but this is less an elongation than a general increase in every direction. There is yet another form of hypertrophic elongation which involves one lip of the os, usually the anterior. From its resemblance to the snout of the tapir it has gained the name of *tapiroid*. All these acquired forms of hypertrophy are usually traceable to the injuries sustained in labor or to defective involution.

By consulting the diagram (Fig. 13) it will be seen that the diagnosis of this affection is not difficult. Its character is sufficiently marked by the unnatural length of the uterine cavity, by the absence of vaginal inversion and of vesical prolapse, and by the presence in the vagina of a cone-shaped

FIG. 13.



tumor evidently prolonged out of the cervix, and bearing at or near its extremity the os externum. This form of prolapse needs no treatment unless the growth of the cervix is excessive, or unless it interferes with the comfort or the fecundity of the woman. Whenever the cervix is unduly voluminous it may be amputated, and that by the scissors, the écraseur, or the galvano-cautery. The merely conical cervix, however, rarely needs shortening. Slow dilatation by sponge-tents just before the catamenial flux, or preferably, rapid expansion by the dilator just after, will usually be followed by conception, and parturition then completes the cure.

The third variety of prolapse, *prolapse of the cervix from elongation (by traction) of its supra-vaginal portion*, is entirely distinct from the other two, and is, perhaps, the most commonly met with. Essentially it is a hernia of the bladder and of the vagina acting mechanically upon a tensile womb. In other words, the initial event is a prolapse of the conjoined bladder and vagina, which, by traction on the cervix of a congested or of a subinvoluted womb, draws out the then ductile supra-vaginal portion, viz., that portion of the neck and body which lies between the uterine ligaments above, and the vesico-vaginal attachments below. The lower portion of the corpus participates in this elongation, because its muscles are less strongly developed than those of the upper portion. But the elongation is greatest at and about the internal os, because, from the absence of muscular structure at this point, the resistance there is least. By impeding the circulation of the vaginal portion, this traction begets an eversion of the os and a circular hypertrophy of its lips.

By examining figure 14, it will readily be seen that the term *prolapse of the womb*, as applied to this kind of elongation, is a misnomer; becaure, although the cervix protrudes from the vulva, it does so more through elongation than from displacement. There is a descent of the cervix, a prolapse of the cervix, if you please, without necessarily any sinking down whatever of the fundus.

Protruding from the vulva there will be found a large boggy tumor, looking very like the snout of a pig or the penis of a horse. In shape like a truncated cone, its apex will be occupied evidently by the vaginal portion of the cervix, which is clubbed, hypertrophied, but not much elongated. Theopening at the apex is usually funnel-shaped through the eversion of the lips of the os, and the cervical canal thus lies exposed to view for some distance up; so that the internal os becomes almost an external one. Upon grasping the tumor it will be found that only a portion of the womb is outside of the vulva, and that the apex, which corresponds to the vaginal portion, is soft and spongy; while, running through the base of the tumor, as far up as it can be reached, may, on firm pressure, be felt the wire-drawn supra-vaginal portion of the cervix as a hard stem or cord, not thicker than the little finger. Very commonly, from expo-

sure to the air, from friction, and from the contact of the urine, which can no longer be projected in a stream, the tumor is the seat of two or more true ulcers, always excavated, sometimes covered by a croupy exudation, and usually liable to bleed. The fundus may, or may not, descend very materially; and upon this circumstance depends the kind of treatment. The sound, by a little coaxing and by raising its handle, will, in the great majority of cases, pass in to a distance of not less than five inches When the protruding mass is pushed back into the vagina, the sound always gives a much shorter measurement. This behavior is worthy of note, because it is one of the proofs that the supra-vaginal portion of the cervix is lengthened out by traction; and that, when relieved of the weight of the bladder and vagina, it shrinks back like an overstretched rubber band.

On sounding the bladder it will be found so greatly prolapsed as to form a large portion of the hernial mass, for the tip of the sound will be felt outside of the vulva, very near to the apex of the tumor. The vagina is turned completely inside out, forming a hernial sac which contains (see fig. 14) the supra-vaginal portion of the cervix uteri, a very large pouch of the bladder, the vesico-uterine and the recto-uterine peritoneal folds, and occasionally a small pouch of the rectum. In exceptional cases the whole womb will, in a state of retroflexion, finally overcome the resistance of its ligaments, and get entirely outside of the vulva and wholly in the vaginal sac. The weight and size of the tumor will then make the woman straddle widely as she walks, and cause her to lead a very miserable life. The appearance of the tumor under such circumstances is so peculiar as to be hardly mistakable. It is very faithfully represented by figure 15, which I have copied from an admirable paper by Dr. Isaac E. Taylor.* The bulge of the retroflexed fundus makes the posterior wall of the vaginal sac hang down below the snout-shaped cervix, like a dewlap.

In this third variety of prolapse pessaries are usually of no avail whatever. They cannot keep up the prolapsed cervix without bending almost double its elongated and stem-like portion, and the pain is, therefore, liable to be unbearable. Even a perineal pad

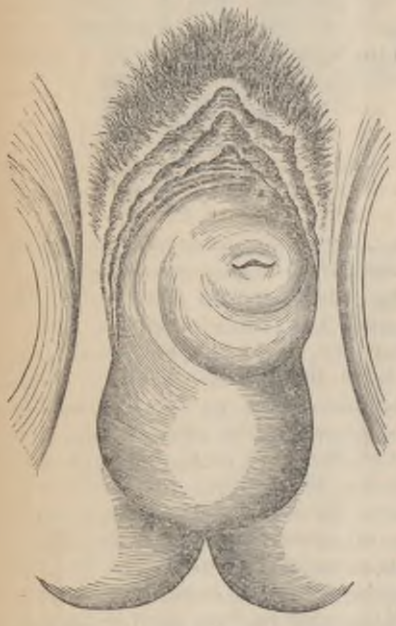
Fig. 14.

is generally insupportable. Rest in bed for a few weeks, by taking off the weight of the prolapsed bladder and vagina, will cause the overstretched cervix to shrink back very materially; and a suitable pessary, such as Hodge's, Cutter's, Spooner's, or a cup-and-stem pessary with an external base of support, might then be adjusted, which would, perhaps, keep the prolapsing organs in their proper position. But at best, the womb is too ductile, the vagina and perineum too relaxed, even when contracted by appropriate operations, to render this treatment other than tedious and unsatisfactory. The desideratum here is something that can furnish a support to the unstable pelvic organs, and, at the same time, consolidate the ductile womb by giving a fillip to the now dormant process of involution. Whenever, therefore, the fundus uteri has barely sagged down, that is to say, the uterine ligaments have been strong enough to resist the traction, a radical cure is attainable by the ablation of the vaginal portion of the cervix, and this should be done either by the wire-écraseur, or by the galvano-caustic loop. The long continued suppuration from the open wound sets up such nutritive changes as permanently contract and consolidate the elongated portion of the cervix, and cause it, by virtue of the uterine stays, to sustain *in situ* the bladder and vagina. Before amputating the cervix, for fear of injury to the bladder, its lower boundary line must be accurately defined.

*On Amputation of the Cervix Uteri; Bellevue and Charity Hospital Reports, 1869.

This can be done by the sound, or better still by stretching open the urethra with the dilator, and then introducing the little finger into the bladder. The chief danger attaching to this operation is the risk of invading the abdominal cavity by accidentally removing, along with the cervix, a piece of the recto-uterine pouch; for unfortunately there are no diagnostic marks for ascertaining the depth of this fold of the peritoneum. When the fundus is low down, or is wholly extruded, as shown in figure 15,

FIG. 15.



then, in addition to the ablation of the vaginal portion of the cervix, must the vulvo-vaginal opening be contracted. This is done by paring from the labia and the vagina a horse-shoe strip of *mucous* membrane, about an inch wide and extending to points a little below the level of the meatus urethræ; and by bringing together the raw surfaces by wire sutures, just as in the secondary operation for lacerations of the perineum. By combining these two operations I have succeeded in finally curing cases which every other method had failed even to relieve.

Fibroid Tumors of the Womb.—The treatment of this class of growths may be divided into the *palliative* and the *radical*. The former aims to accomplish the following ends: 1. To stay the hemorrhage; 2. To allay uterine colic and pelvic pains; 3. To lessen the inconveniences arising from the weight and bulk of these tumors; 4. To check their growth.

To stay the hemorrhage is the most imperative of all the indications in the treatment of these growths, and as such I shall dwell on it at some length. For this purpose, a day or two before the one on which the menses are expected, relieve the precursory engorgement of the pelvic viscera, by a saline cathartic, and put your patient to bed, where she is to stay during her sickness. Such rest, and I mean functional rest as well as physical rest, will alone often check the flow. If it fails, give a teaspoonful of the fluid extract of ergot every two, three, or four hours, according to the urgency of the symptoms. In the long run ergot is, here, our sheet anchor. Next to ergot ranks gallic acid, given in doses of from twenty to thirty grains, repeated every two, three, or four hours. I know nothing better to check the most alarming hemorrhages, either from the womb, as in menorrhagia, or from the bowels, as in typhoid fever. When serious emergencies of this kind arise, to give smaller doses is mere trifling. Any table syrup will disguise its taste and reduce its bulk. Sometimes one will succeed best by combining ergot with gallic acid, to which must often be added morphia enough to allay the severe pelvic and uterine pains. Quite recently Spencer Wells and others have highly lauded a free exhibition of an infusion of Vinca major, the greater periwinkle of our flower gardens, in the proportion of two ounces to twenty of boiling water. I have no experience with it; but such recommendations make it worthy of trial. I have seen an old woman's remedy of cinnamon boiled in milk act like a charm, when other medicine failed. Leeching or scarifying the cervix a day or two before the menstrual flux will relieve the local congestion and very materially lessen the bleeding.

During the intervals between the hemorrhages iron in some form is indicated; not given alone, but in combination with such medicines as lessen the congestion of the womb. For this object ergot and the Indian hemp sustain the greatest reputation. Digitalis and arsenic have many advocates, and so has ipecacuanha. All these remedies must be given in doses as large as can well be borne. A favorite mixture of my own,

which, by the way, I often give in every kind of uterine engorgement, is—

℞. Tinct. ferridi chloridi
Acid. phosphorici dil.
Ext. ergotæ fluid. āā.fl.℥j.
Aquæ cinnamomi fl.℥v. M.

Sig.—One dessertspoonful after each meal, in a wineglassful of water.

If, by these means, the hemorrhage is not checked, then inject subcutaneously a hypodermic syringeful of the fluid extract of ergot, or an equivalent dose of a concentrated infusion of the powdered ergot. Should there be no response, then the physician may proceed in the usual way to tampon the vagina. He will, however, find it a far better practice to plug up the canal of the cervix; for not only will he thus least inconvenience the woman, and also more effectually control the existing hemorrhage, but, further, he will lessen the tendency to future ones. For this purpose squeeze into the os the largest sponge-tent possible. Or else, expose the cervix by a speculum, hook down the anterior lip, and then, with a sound, pack, little by little, into the os and cervical canal all that is possible of a long and narrow strip of lint. First dip the lint into a saturated solution of Monsel's salt, and also, for convenience of removal, leave a short tail outside of the os. Of these two methods, I much prefer the former; because, since some blood will always ooze out by the side of the sponge and through its substance, it can be kept in for two or three days without becoming fetid; and because it is a fact that whatever dilates the cervical canal of a womb containing a fibroid tends to lessen the frequency and duration of the hemorrhagic attacks. Repeatedly, after using a sponge-tent, either for diagnostic purposes or as a tampon, have I seen the hemorrhages much diminished for weeks and even months.

Let me advance a step further; for, to combat this most formidable of symptoms, to confront, what Homer calls, "the purple death," we must be armed at all points. A woman cannot be always kept tamponed, or for an indefinite length of time, and yet, when the tent is removed, she may bleed as badly as ever. Stretch open, now, the cervical canal by the dilator, and after introducing the slender nozzle of the uterine syringe between the open blades, inject into the uterine cavity one or two drachms of the tincture of iodine, or as much of a strong solution of Monsel's salt. Or else push up into the uterine cavity, as far as it can be made to go, a piece of lunar caustic weighing from five to ten grains, and let it dissolve there. Another way is to swab out the uterine cavity with fuming nitric acid, in the manner previously described. Any one of these plans is, for the time being, usually very efficacious. But supposing it fails; or the hemorrhage, after being arrested for a few days, returns with renewed violence. The canal of the cervix must now be so opened as to admit the index finger. This is done by incising the whole canal, either bilaterally with the hysterotome (Fig. 16), or at several points with a probe-pointed and curved bistoury. In performing the latter operation, it is best to expose the cervix with a speculum, and to steady the anterior lip with the volsella. Whenever the cervix is thinned down to a mere rim, a strong pair of curved scissors will readily slit up the margin. In case the cervix is long and uneffaced, my own plan is to stretch the canal open by the dilator, and crowd into it a fagot of laminaria tents, before resorting to cutting instruments. My reason for this is, that, very commonly, after such a dilatation of the os, the further descent of the tumor prevents the opening from closing. The mode by which a permanent expansion of the canal controls the hemorrhagic tendency is not yet clearly understood. It is not the only empirical fact in medicine which has to be taken on trust. But experience teaches, that, after such an expansion, the hemorrhages often remain for months in abeyance.

FIG. 16.

Stripped of its power to bleed, a fibroid is shorn of much of its power to do harm; but there will remain for treatment pelvic pains, and vesical and rectal tenesmus. More commonly at the menstrual periods, but also at other times, the womb is excited to extrude the foreign body. These pelvic pains and these uterine colics will often tax one's skill and tact. Much can be gained

from rest. Frequent warm baths may assuage the vesical and rectal irritation. Anodyne suppositories, either rectal or vaginal, always give much comfort. Two grains of the watery extract of opium will be enough for a rectal suppository; and one grain of morphia with two of the extract of belladonna, for a vaginal one. This method of giving anodynes is better than that by the mouth, which leads sooner or later to the habit of opium-eating.

To lessen the inconvenience arising from the weight and bulk of these tumors, various forms of pessary may be tried. But they are only available when these fibroids are small enough to move about pretty freely in the pelvic cavity. Whenever they are too bulky to sink down very low into the pelvis, or, having been artificially pushed up, the indication is to maintain them above the brim, external support must be resorted to. An elastic broad belt, stiffened by slips of whalebone, and kept in position by a perineal strap, will then give much comfort by relieving the pelvic viscera from pressure. I have been able to send on a jaunt through Europe a patient with a very large fibroid thus supported.

To check the growth of these tumors, it will be necessary to advise total abstinence from sexual intercourse, more or less of the recumbent posture, loose dresses, a somewhat sedentary life, and a spare but wholesome diet. Such medicines must be given as are known to lessen the flow of blood to the reproductive organs. This class of remedies comprises ergot, digitalis, cannabis indica, borax, cinnamon, and the bromide or the iodide of potassium. Every means must be used to prevent portal and pelvic congestion. With this object in view, the contents of the bowels must be kept soluble, and rest strictly enjoined before, during, and after the menstrual flux. Broken down constitutions fearlessly build up by vegetable and mineral tonics; by stimulants very exceptionally. All growths thrive best in a cachectic soil. By these means, and by those previously noted, the physician will very generally succeed in tiding his patient safely over the perils of the menstrual period of her life; and, the climacteric once reached, her future will thereafter be one of comparative comfort.

So large a measure of success cannot be promised of the radical treatment of these tumors. Hitherto very many different remedies have been tried, but with such indifferent success, that it would be a waste of time to enumerate them. The most feasible and rational plan is that proposed by Prof. Hildebrandt, of Königsburg (*Half-Yearly Abstract*, January, 1873, p. 248), which bids fair to prove of great value. He reports that he has successfully treated nine cases of fibroid tumors of the womb by daily injections of the aqueous extract of ergot under the skin around the umbilicus. By this treatment one fibroid, reaching above the navel, entirely disappeared. Another, which so filled the entire abdominal cavity as to press upon the false ribs, was much reduced in volume. In the other cases the tumors were greatly diminished in size; and in each one all the alarming symptoms, such as menorrhagia, metrorrhagia, leucorrhœa, and uterine colics, disappeared. The duration of the treatment was from two to four months, the daily injections being intermitted only during the catamenial period. In one case only did the toxic effects of the ergot compel a discontinuance of the treatment. For these injections, Prof. Hildebrandt uses an ordinary hypodermic syringeful of a solution containing three parts of ergotin to 7.5 parts each of glycerine and water. The mode of action of the ergotin in these cases was, probably, its property of contracting the uterine walls, whereby the nutrition of the tumor was interfered with. It is, therefore, very questionable whether any but interstitial and submucoid tumors can be acted upon. For the subperitoneal fibroid would be outside of the grasp of the uterine fibres. From this treatment so many successful cases have been reported in the journals (See Report on Obstetrics in the *Trans. State Med. Society of Pennsylvania*, for 1873, p. 86), and I have seen such good results from it, that I can confidently recommend its adoption. Headache, severe uterine pains, and a spurious hectic fever evinced the constitutional action of the ergot in the cases of which I have cognizance. The local effects of the injections were at first great pain and redness of the skin at the seat of puncture, and an occasional small abscess. The last, however, can be generally avoided by carrying the nozzle of the syringe deeply down to the level of the muscular parietes of the abdomen. As there is no standard preparation of ergotin at all trustworthy, I should recommend from ten to fifteen minims of the officinal fluid ex-

tract of ergot, diluted with enough of water to fill the hypodermic syringe; or the same amount of a concentrated infusion of powdered ergot, of equivalent strength. Or else, Squibb's solution of ergot, which is double the strength of the officinal fluid extract, may be used. When the subcutaneous treatment cannot be borne, an enema of one, two, or three drachms of the officinal fluid extract, in an ounce of thin starch-water, may be given every night at bedtime. By inspissating the fluid extract by very moderate heat, large amounts can be incorporated with a rectal suppository.

Prof. Hildebrandt's method promises so large a measure of success, that it seems hardly worth while to advert to the surgical treatment of these tumors. Yet time may show that there are interstitial and submucoid fibroids not amenable to the hypodermic treatment. Of course all pedunculated submucous growths are to be treated like polypi. Before the appearance of Prof. H's article, there were reported several successful cases of enucleation of these fibroids by forcible traction with volsellæ and powerful supra-pubic expression, after the division of the capsule. But, more in accordance with nature and less rude, does a partly expectant plan seem to me, viz., after the incision into the capsule, to depend for the further extrusion of the fibroid upon the expulsive action of ergot, and upon repeated attempts with the finger at enucleation, resorting to avulsion only after the fibroid begins to project from the os, or to show other signs of commencing dislodgement.

The treatment by ergot may also in some cases so increase the peristaltic action of the uterine fibres, as to force an interstitial fibroid towards the abdominal cavity, where it becomes subperitoneal, and then loses much of its power to do harm. In this manner, also, an originally interstitial or submucous fibroid may be more and more forced into the uterine cavity, until it is converted into a fibroid polypus, which is amenable to surgical treatment. It is, however, doubtful whether an interstitial fibroid ever becomes polypoid, without first losing its muscular or mucous investment; that is to say, without the process of spontaneous enucleation. The simplest and safest method of effecting such an extrusion is to dilate the os by several incisions, and to keep up a persistent contraction of the uterine fibres by the continuous hypodermic use of ergot. If, however, there should be no disposition on the part of the fibroid to become polypoid, then may its capsule be divided. But not unless the case is an urgent one, the hemorrhage uncontrollable, the bulk-pressure unendurable.

Cancer of the Cervix Uteri.—Whenever the cervix is the seat of a malignant or of a quasi-malignant growth, the indications are to check excessive serous or bloody discharges, to correct the fetor, to allay pain, and to prolong life. Very fortunately, that physician who diligently carries these out will often give a new lease of life to his patient, and sometimes bring about her cure.

A plan which covers these indications is, to remove all of the cervix possible as soon as the disease has been discovered. The best instrument for this purpose is the galvanic battery, with its caustic loop and porcelain burners. Since, however, on account of the expense, the bulk, and the limited range of usefulness of this apparatus, few physicians will care to purchase it, I shall confine my remarks to the wire-ècraseur (Fig. 17), which is very generally adopted as its substitute. In the adjustment of the loop of this ècraseur certain very necessary precautions must be taken. The cervix should be noosed only while the womb lies in its natural position; for if the latter be first dragged down by the volsella, as is often recommended, the vagina becomes partly inverted, and the cervix is made to appear longer than it really is. Hence the operator is very likely to slip up the wire-loop higher than it should go, and may, therefore, include in its bite a portion of the bladder and of Douglas' pouch. To still further insure their safety, it is advisable to pass up the shaft of the ècraseur in front of the cervix, where the insertion of the vagina is lowest, and then, by it to push up the womb before the loop is tightened. On account of the excessive vascularity of a cancerous cervix, the screw of the instrument should be turned very slowly.

FIG. 17.

If, upon the ablation of the cervix, any

portion of the growth remains behind, it should be scraped away or dug out by the finger nails, or by sharply edged curettes or scoops. The instruments that I use have been made after Simon's pattern, but a very efficient curette can, it seems to me, be extemporized by heating red-hot the tip of a long and narrow spatula, and then bending it to a slightly oblique angle. If the surface is a large one, the hemorrhage attending this scraping process is somewhat free until healthy structures are reached, but the risk to life is trifling if care be taken not to encroach upon the peritoneum. Should the womb be movable, this operation will be much facilitated by holding the stump of the cervix steady by means of the volsella forceps. A cotton tampon, such a one as described at page 5, is then charged with the dry subsulphate of iron, or with a glycerole of the same, and pushed up against the raw surface, where it is to remain for twenty-four hours. Vaginal injections of warm and saturated solutions of the chlorate of potassa should be made twice or thrice daily. I prefer warm water to cold, because it dissolves a far greater amount of this salt. During the healing process, any tendency to cicatricial closure of the cervical canal is to be met by the occasional use of the dilator. After one or two weeks have elapsed the speculum should be introduced, and every vestige of the disease thoroughly cauterized with fuming nitric acid. If need be, this application must be repeated over and over again at intervals of about a week. For many consecutive months the patient should be put on the use of iron, arsenic and ergot—the iron to build up the system; the arsenic to repress the tendency to reproduction and to systemic poisoning; the ergot to starve out these growths by shortening their rations of blood-pabulum. From this treatment much cannot be expected in the way of absolute cure. But the immediate effects have been extremely satisfactory to all the parties concerned. Life has been prolonged and rendered endurable; the hemorrhage has been stayed; the fetid discharge arrested; the appetite restored, and a bed-ridden patient once more put on her feet. Even when the womb is firmly fixed, from extension of the disease to points beyond operative reach, yet much will be gained by the removal of all the growth possible.

Whenever the wire-écraseur cannot be made to encircle the diseased structures—as for instance, when the ulcerations are too deeply excavating, or too extensive, or the cervix does not project sufficiently—then the friable portions of the mass should be broken off or scraped away by the finger nail or the curette, and the surface well swabbed with nitric acid. The previously given form of constitutional treatment should be adopted. Sexual intercourse must be absolutely forbidden, for attempts at coitus are frequently followed by serious hemorrhages. From the very repulsive nature of this disease, this caution may seem unnecessary; but the fact is, that the sexual appetite of the woman is often greatly increased by a pruritus vulvæ and by the excessive vascularity of the reproductive organs. With regard to other local treatment besides the nitric acid, Dr. Burow, of Königsberg, has given such unqualified praise to the continuous application of the chlorate of potassa in substance (*Lancet*, April 12th, 1873, p. 525), that I shall certainly give this drug a fair trial, and meantime, recommend it on his authority. He sprinkles the sore with the chlorate, and then covers the whole with a wet compress. As the crystals exert a more powerful action than the powder, he first uses the latter, and replaces it by the crystals when sensibility has abated. With alleged success, pepsin in powder has lately been applied to these cancers in pretty much the same way, but with it I have no experience.

In addition to the means employed by the physician, the patient herself should be taught how to check the constantly recurring hemorrhages. This she will very generally be able to do by injections of ice-water into the vagina, by cotton-wool tampons containing tannin, or the subsulphate of iron, either in the form of a dry powder or in that of a glycerole, or charged with a paste made by thickening a saturated solution of alum with tannin. These tampons or suppositories should, by the way, be removed, as a rule, in from two to three hours; for if left in longer, they may become so adherent to the warty surface of the cancer, as in their removal to tear off the more friable portions, with a renewal of the hemorrhage. Vaginal injections of any of the astringents, as strong as they can be borne, will also prove of service. When pain is present, morphia may be incorporated with any of the above washes and suppositories. A very handy instrument for the woman

to use, in making a prolonged contact of styptic or deodorant fluids to the cervix, is a glass tube like the vaginal portion of a Fergusson speculum, to one end of which is attached a rubber bulb.

To correct the horrible odor, vaginal washes containing alum or carbolic acid, the hydrate of chloral, or the chlorate or the permanganate of potassa, will be found extremely useful. Of these the hydrate of chloral has my preference, because it is not only an admirable deodorant and antiseptic, but a very prompt local anæsthetic. The plan by which I have best succeeded in making my patient the least disagreeable to herself and to her friends, is the frequent use by day of some one of the above washes, and at night the introduction of a suppository containing a few grains of chloral, or of the chlorate of potassa. Whenever the disease is far advanced, and the patient's sufferings are very acute, her euthanasia is all that is left to the resources of art. Anodynes should, therefore, be given without stint, in any way, shape or form the sufferer may prefer. For the agonizing pains in the back, so common in advanced stages of the disease, the promptest relief will be gained by a hypodermic injection of morphia, but a more permanent one sometimes follows the use of dry or wet cups over the sacrum, or the application of a few leeches. For the suppression of the secretion of urine, occasionally seen in women suffering from this cruel disease, Martin, of Berlin, states that there is nothing better than small doses of the iodide of potassium.

Polypus of the Womb.—For all practical purposes, a uterine polypus may be defined as a stalked or sessile tumor, hanging from the mucous surface of the womb, and partaking of the same histological characteristics as the stroma from which it springs. It usually occurs singly, but I have removed two from the uterine cavity, which, like gall stones, were flattened on the surface of impact. It is most probably the result of a perverted nutrition, brought about by some congestive or inflammatory action of the womb, just as a nasal polypus owes its being to a chronic catarrh.

The most common symptom evoked by a polypus is hemorrhage, but the amount bears no proportion to the size of the tumor. At times the menstrual flux appears at the usual period, but is excessive; more frequently the interval shortens; then, again, blood may dribble away more or less all the time. Other symptoms are leucorrhœa, vomiting, and expulsive pains, the last two as the result of uterine distention.

The polypus ordinarily met with is the small glandular variety, which appears to consist of one ovule or more of Naboth. In size it rarely exceeds a marrow-fat pea, and is found just within the os externum, or hanging out of it. Since it retreats before the finger into the cervical canal, and thus escapes detection, a speculum should always be used. A bivalve is here the best, because, by making the os gape widely open, it may reveal one so high up in the canal as to be beyond the reach of the finger. From its soft and slippery nature, it eludes the grasp of any ordinary forceps, and, therefore, should be either snipped off with a pair of scissors, or twisted off with a fenestrated forceps (Fig. 18.) Any tendency to hemorrhage can be controlled by an application to the stump of fuming nitric acid.

FIG. 18.

Polypi that start from the uterine cavity grow to a much larger size, and, when first discovered by the physician, are rarely smaller than a hickory nut. Varying much in size, they will be found either wholly in the vagina, or partly in the vagina and womb, or wholly within the uterine cavity. Whenever they hang loosely in the vagina, or dangle partly out of the dilated os, like the clapper of a bell, there is no difficulty or hazard in their removal. They can often be twisted off, but no great force must be used for this purpose, lest the root of the stalk should wrench off a portion of the uterine wall. They can be snipped off with a pair of scissors curved on the flat; or the stalk can be first put on the stretch, and then scratched through with the nicked nail of the index finger just as a blunt knife severs the strands of rope when tightly stretched. The safest,

and therefore the best plan, is, however, to noose the pedicle with the loop of the écraseur. Should the polypus prove so large as to fill up and greatly distend the vagina, it may be impossible to reach the pedicle. In such a case different plans may be pursued, but the tumor must be got away by hook or by crook. One method is to cut off as large a slice as possible by a very strong wire loop slipped up as high as it will go. On the removal of this slice the rest of the polypus will descend still lower, so that at a second or third trial the pedicle will be reached. The risk from hemorrhage is not very great, even when the tumor is of large bulk. Before the écraseur came into use, I once assisted at an operation in which a very large polypus was removed with a curved pair of scissors. Although the pedicle was not reached until two large slices had been cut off, each after an interval of a week, no hemorrhage requiring a tampon took place.

Another plan consists in seizing the growth with the midwifery forceps, or by two very strong volsellæ, and in dragging it outside of the vulva. The wire loop of an écraseur can then be thrown around the pedicle. If this instrument is not attainable, the pedicle can be sawed off by a fine but strong piece of hempen twine, in the same manner as a bar of soap is often cut into uniform pieces. If knotted at two or three points, the twine will sometimes cut better. Either method reduces the risk of hemorrhage to a minimum. As these very large tumors often spring from the cervix, care must be taken to follow down the reflected fold of the vagina upon the cervix, so as not to apply the twine or wire so high up as to include a portion of the womb or of Douglas' pouch. One hint with regard to the wire écraseur: Whenever no great power is needed to cut through the noosed pedicle, each end of the loop may be fastened to the traveling button. But when the object to be cut off is large, the one end of the loop should be fastened (as represented in figure 17) to one of the immovable bars projecting from the shaft near the handle, and the other end twisted around the traveling button. Since only one end of the loop now travels, the movement is slower, but the half-sawing action thus gained greatly increases the power, and lessens the chance of having the wire snap.

Inversion of the womb being a very rare accident, is for this reason very liable to be mistaken for a polypus. When a polypus, partly projecting from the uterine cavity into the vagina, has contracted adhesions with the margin of the os, the diagnosis between it and an inversion of the womb may be very difficult. Sometimes the womb is partly inverted by a polypus, and the inverted portion may be mistaken for the pedicle. To make out this diagnosis, remember, first, that, unless directly after labor, the tumor of an inversion is scarcely larger than the non-gravid womb. Hence, a voluminous tumor distending the vagina cannot be simply an inverted womb. Next, pass up the sound, and if it indicates a length of two inches and a half, or more, beyond the edge of the os, the tumor is not an inverted womb. If it cannot be made to enter more than an inch, the womb is probably partly inverted. If no cervix and no uterine cavity can be discovered, and the tumor is not larger than the non-gravid womb, it is very likely to prove an inversion of the womb. To confirm the diagnosis, give ether, pass up the index finger, or even half of the hand, into the rectum, and try to reach above the tumor. If inversion be partial, a cup-like depression, like the bottom of a bottle, will be found where the fundal vault should be. If inversion be complete, the womb will be absent from its accustomed site. Sometimes, however, in spite of these methods, the diagnosis will still be doubtful. Stab now the tumor with an acupuncture needle, and if the woman flinches, it is the womb, and not a polypus, for the latter is not sensitive. Again, to make sure of no error in this matter, withhold all anæsthetics, and tighten the loop of the écraseur very slowly. If now the woman complains of great pain, some portion of the womb has been noosed. Hence, in doubtful cases, the inference is plain never to use anæsthetics while the pedicle is being cut through.

When a polypus, starting from the fundus, contracts adhesions with the os, these must be broken up by the fingers or cut through with the scissors, before the true pedicle can be reached. The *tapiroid* cervix, adverted to under the subject of prolapse, may be mistaken for a polypus. But as the remedy in each is the same, no harm will accrue from a false diagnosis. The tale told by the existence of an os externum, and of a uterine cavity, should never permit a completely prolapsed womb to be mistaken for a polypus.

The intra-uterine polypi are by no means so easily disposed of as the other two varieties. The first difficulty in the way is to discover the growth; for it may be so small as not to enlarge the womb appreciably; the cervix may not be effaced or the os dilated; or the sound may impinge upon the polypus and deceive the physician by a false measurement. Since the most prominent symptom is hemorrhage, the first thing to be done, when this persists, is to explore the uterine cavity with the finger. For this purpose the canal of the cervix must be dilated by tents, and in the manner previously described; due heed being paid to the caution of effecting this dilatation, if possible, with but one batch of tents. This method of gaining the cavity of the uterus will not, however, always be necessary, and here is a hint worth remembering. During the catamenial flux, the temporary increase in the bulk of the tumor, through congestion, together with the resulting labor-like pains, so opens up the canal as often to permit the passage of the finger. This fact should be explained to the woman, else her innate feeling of delicacy would cause her to shrink from an examination at such a time.

An intra-uterine polypus having been discovered, how is it to be removed? By adopting the following plan, somewhat modified from that of Dr. Kidd, of Dublin, I have not yet been foiled: The woman is first etherized, and afterwards brought in the dorsal decubitus to the edge of the bed, where each leg is supported by an assistant. The operator now seizes the anterior lip of the os with a volsella, drags the womb down as low as possible, and then entrusts the instrument to one assistant, with the injunction to hold it steady. Meantime the other assistant renders efficient aid by keeping up a firm supra-pubic pressure upon the fundus. The operator next introduces the index finger of his left hand into the uterine cavity, and by it as a guide seizes hold of the polypus with a second volsella. He now tries to twist the tumor off, but, for reasons previously given, with no great force. Failing in this, he, in order to gain more room in the vagina, removes the first volsella, and then slips the wire loop of an écraseur over the handles of the second. This volsella is now put in the hands of an assistant, who makes firm downward traction with it, while the operator proceeds to slide the loop up beyond its claws and over the polypus. When the pedicle is reached, he draws in the slack of the loop, but, before tightening it, causes the traction of the volsella on the polypus to be relaxed, and then pushes up the fundus of the womb with the shaft of the écraseur. The object of this manœuvre is, not only to restore the vault of the fundus if it has been partly inverted by the traction on the polypus, but also to get the loop close up to the root of the pedicle. A few turns of the windlass in the handle of the écraseur now cuts off the polypus, which, being still held by the volsella, is finally extracted. In like manner may the projecting portion of a submucoid fibroid be shaved off flush with the uterine wall. The remaining portion is then usually expelled later by the process of spontaneous enucleation. Should the physician not possess an écraseur he may, perhaps, be able to scratch through the pedicle with the serrated nail of his index finger, or sever it either with a curved and probe-pointed bistoury, or with a long pair of scissors curved on the flat. Sometimes he may be able to saw through the pedicle by a piece of twine carried up and worked by means of Gooch's double canula.

A polypus once removed never returns, but a second one dwarfed by the pressure of the first may now rapidly grow. There is, however, a sarcomatous growth of peculiar malignancy, hitherto referred to by writers under the name of "recurrent fibroid," which may deceive the physician into the impression that he is dealing with a simple polypus, and lead him to give, as I once did, a favorable prognosis. It bleeds very freely, emits a very bad odor, and feels much like placental tissue. The structure is so friable as to break down under very slight traction. The constriction of the portion protruding from the os gives the idea of a pedicle; but on following it up with the finger, it will be found to have no circumscribed uterine attachment, but to lose itself in an analogous intra-uterine mass. It invariably returns, and the woman always perishes eventually, but life may be prolonged by scraping and gouging away all of the growth possible, by cauterizing the surface from which it springs, and by using the remedies recommended for cancer of the womb.

In concluding this subject, let me urge the importance of removing a polypus found in the vagina during either gestation or labor, or in the uterine cavity after delivery. For, from the injuries it will sustain, or has

already sustained from labor, it is very liable to become gangrenous and to kill the woman by putrid or purulent absorption.

PART II.

Hitherto the treatment of the more common forms of uterine affections has been briefly considered. I now purpose to suggest some means for their prevention. To stamp them wholly out may be impossible, but the alert physician can do much towards balking their approach. On the one hand, by prudent forethought and by watchful care, he can guard his puerperal patients from disease. On the other, by forewarning, he can forearm.

For the furtherance of these ends, I shall group my remarks under two heads; the first exclusively medical in character; the second less professional than laical. To this division I shall with less scruple sacrifice strict continuity, both because there is no sharp dividing line between that which concerns the physician and that which concerns his patient; and because I humbly hope that my readers may deem the lay-portion of sufficient importance to justify its perusal by their friends, neighbors, and patients.

SPECIAL HINTS.

Puerperal Convalescence.—Let the physician see to it that his patient has a good getting up, as well from a miscarriage as from a natural labor. Lactation should be encouraged, and from the first day the diet should be generous. The canonical purge on the third day should be dispensed with; it weakens the body needlessly, and tends to promote the absorption of septic matter. Premature exertion must not be allowed. On the other hand a recumbent posture ought not to be too rigorously enjoined. I feel persuaded that this tradition of the lying-in chamber does more harm than good, for nothing so relaxes muscular fibre as a confinement in bed. In my experience, women feel stronger on the fifth day after labor than they do on the ninth or fourteenth, if kept in bed. Among the ancient Greeks, those models of physical strength and beauty, the women took a bath on the fifth day. That this was also a custom of the Romans is evident from a play of Plautus, entitled "Truculentus, or the Churl." Since labor is in general a strictly physiological process, there can be no sound reason why a woman should not sit up in bed, or even slip into a chair, whenever she feels so disposed. These are not idle phrases, but the conclusions of a long and well-sifted experience. Such movements excite the womb to contraction and empty it and the vagina of putrid lochia which may be incarcerated by a clot or by the swollen condition of the soft parts. When, therefore, the lochia are offensive, these upright positions should be insisted upon, as being, in fact, better deodorants than any detergent vaginal injections. By equalizing the circulation and by increasing its force, they also tend to lessen the passive congestion of the womb as a whole, the engorgement of the placental site, and especially that blood-stasis kept up by the dorsal decubitus in its now thickened posterior wall, which is, in my opinion, a very common cause of posterior displacements.

The prolonged use of the obstetric binder is another factor in the production of female complaints. The binder may be useful for the first four-and-twenty or forty-eight hours after labor; for it fills up the void left by the emptying of the womb; it gives a grateful feeling of support; it hinders the occurrence of a concealed hemorrhage, and presents a bar to the ingress of air into the uterine cavity. But when kept on simply for the purpose of preserving the shape, by paralyzing those abdominal muscles which it is intended to strengthen, it not only defeats the object so dear to the heart of every woman, but it weakens the retentive power of the abdomen. It also does harm by crowding the intestines upon the womb, and the womb down into the pelvic cavity. Again, by forcing backward upon the vena cava and upon the pelvic veins so hard a body as the womb, making it, in fact, the pad of a tourniquet, it impedes the freedom of the circulation in that organ, and greatly impairs the process of involution. Pharaoh could have devised no surer way of overcoming the fruitful health of his Hebrew subjects, than by an edict enforcing the prolonged use of a tight obstetric binder.

The lochia must be watched. If, in the third week after delivery, they still linger on, the inference may safely be made either that the cervix is the seat of unhealed lacerations, or that the process of involution is interrupted; or that both conditions may co-exist, for the former usually determines the latter. Astringent vaginal injections or

suppositories will now prove to be important therapeutic agents. To this local treatment may be added a constitutional one of iron and quinia, the former according to previously given formulæ, the latter in suitable doses, amounting in the twenty-four hours to from eight to twelve grains. Apart from its undisputed tonic properties, quinia firmly constringes uterine fibre, and, therefore, greatly aids the process of involution. Ergot and strychnia are also useful remedies to fall back on; wine or beer must not be forgotten. If, after the puerperal month, pains in the back, leucorrhœa and other well-known symptoms indicate the presence of some uterine disorder, it is evident that involution has been retarded. The speculum must then be used, and the usual uterine applications made, beginning with the milder ones, for now, if ever, is the time by such means to treat the condition of subinvolution, or to cure other puerperal lesions. If a patient has previously suffered from uterine disease, she should, after delivery, be at once put on a treatment of ergot and quinia. By shortening the excursions of uterine fibres in their alternate contractions and relaxations, these medicines proportionately lessen the diastolic engorgement of the womb. I am not sure but Credé's method of placental delivery, by supra-pubic expression, acts in an analogous manner. It certainly empties the womb of all clots and squeezes it down to its mininum capacity. Such a patient also needs the timely aid of the forceps. For it prevents that laxness of uterine fibre following a long and weary labor, and hence provokes a more complete involution. But for that matter, no lying-in-woman should be allowed to linger on in the expulsive stage of labor, when her physician possesses the requisite skill to shorten it.

Lacerations of the Perineum.—The immediate closure of the rent in lacerations of the perineum ought by this time to be fully recognized by the profession as a very important means for the prevention of future mischief to the reproductive organs. As I have elsewhere shown (*Trans. of the State Med. Society of Pennsylvania, for* 1873), and here take the liberty of repeating, the loss of every fibre of muscle in the perineum entails a corresponding loss of power in the floor of the pelvis, and a consequent impairment of support to the reproductive organs. The sustaining power of the vaginal column depends upon the integrity of its perineal abutments. It is the tonicity of the vaginal walls, and the pelvic connections of the womb that mainly keep it in place. These, in a case of torn perineum, may not at once yield, but will sooner or later; for air gains access to the womb, irritating and congesting it to such a degree that it ultimately prolapses from an acquired hypertrophy. Unless, therefore, the rent is simply cutaneous, or very slight indeed, it should not be left to nature. Further, it is far more rational to take advantage of the necessary confinement in bed after delivery, and to close the wound at once, while its surface is raw and the maternal soft parts are comparatively numb and insensible, than to postpone the operation to a time when the woman shall be nursing, when the cicatrized flaps shall demand quite a formidable operation for their denudation, and when a special confinement in bed for two weeks or more will be needed.

My own method is, immediately after the delivery of the placenta, to pass deeply two or more wire sutures, securing each one by merely twisting its ends together. In bad rents, the first stitch is entered not quite half an inch below the lower angle of the wound, and about an inch from its margin. When the sphincter ani is torn, the cutaneous points of entrance and of exit of the first needle should then be nearly on a level with the lower margin of the anal orifice, and the suture should pass around the whole wound. This purses up the tissues from below upward, and secures complete coaptation. Enough opium must be daily given to keep the bowels quiet for a week.

In severe lacerations the woman's knees must be kept bound together for a week, and her urine drawn off for three or four days. On the third or fourth day, but not earlier, lest the process of immediate union should be interrupted, vaginal injections of weak solutions of carbolic acid, or of the permanganate of potassa, are made twice in the twenty-four hours. These soothe the parts and correct the bad odor of the discharges. Without reference to any special time, the sutures are removed as fast as they become loose, usually from the seventh to the ninth day. On the eighth or tenth day a seidlitz powder, or one dessert-spoonful of castor oil, is given every four hours until an inclination to go to stool is urgent; then an injection is given in order to liquify the con-

tents of the lower bowel. This method of uniting the parts, both in the immediate and in the secondary operation, after the cicatrized surfaces are denuded, I can warmly recommend, as I cannot recall but one case, and that a very unruly one of puerperal mania, in which there was failure in obtaining a very good union. It ought, however, to be stated, that in secondary operations superficial sutures should be placed between the deep ones, and that the latter should be clamped with perforated shot. In order also to pare each side of the rent with unerring uniformity, after freshening the surface of one side, its exact print in blood can be got on the other by pressing the nates together for an instant. A very troublesome symptom in these cases is flatus. If it does not yield to valerian, a gum catheter should be very carefully passed up into the rectum.

Many lacerations are, in my opinion, owing to the common mistake of making so firm a pressure upon the perineum as to prevent it from undergoing an equable dilatation. The portion thus compressed cannot take its share of the general tension, and the strain is thrown on the fourchette. Further, the pressure of the hand, by obstructing the free circulation of blood, impairs the vitality of the perineum. Bruised and benumbed, it is no longer a living tissue, capable of responding intelligently, so to speak, to the requirements of the occasion—when to repel, when to solicit the advance of the head—and this nice point nature can very generally determine far better than the physician. Again, the word "*support*," as applied to the perineum, is a misnomer. No "support," in the ordinary acceptation of the word, is afforded to the perineum by direct pressure. If such a method ever accomplishes any good, it is by retarding the advance of the head, in other words, by *supporting* the head through the interposed perineum, and not by supporting the perineum itself. Why not then support the head by pressure directly applied to it, instead of through a medium which requires perfect freedom from all restraint in order to undergo the requisite and inevitable amount of dilatation? Finally, a majority of the advocates of "support" contend that it is most needed at the very moment of expulsion. But the woman, in the agony of the final throes, is very likely to jerk herself away from the hand of the accoucheur. Of course, then, the perineum, being abruptly released from the counter-pressure, is more liable to yield to a strain suddenly sustained for which its fibres are unprepared. Obstetric teachers recognize this danger, and in vivid language caution the student against it.

Although I believe that in the vast majority of labors the perineum does best when let alone, yet cases do undoubtedly arise which demand an intelligent assistance, nor can the line of demarcation be always drawn between natural and morbid conditions. Whenever the head in an occipito-anterior position is too much flexed and the vertex bears on the perineal centre, threatening perforation; whenever, in an occipito-posterior position, the head is too little flexed, the forceps is urgently needed. For cases of extreme rigidity, or of an under-sized vulval opening, ether will be found a potent remedy. Apart from a direct and retarding pressure upon the presenting part itself, the only manual aid that I permit myself to render is as follows:—Insert one or two fingers of the hand into the rectum, the woman lying indifferently on her side or on her back, and hook up and pull forward the sphincter ani towards the pubes. The thumb of the same hand is then to be placed upon the fœtal head, scrupulously avoiding all contact with the fourchette. For this method I claim the following advantages:—(*a*) By pulling up the sphincter ani toward the pubes not only is nature imitated, which always dilates the anal orifice, but the perineum is brought forward without direct pressure, and its dilatation is diffused over its entire surface, causing a corresponding relaxation of the strain on the posterior commissure in the line of its raphé. In addition, its muscular fibres are crowded up to, and consequently strengthen, the line of greatest tension; just as a prudent general hurries up reinforcements to the point of attack. (*b*) The same force which dilates the sphincter ani compels the occiput to hug the pubes and favors extension, especially if the fingers in the rectum are hooked over the prominences of the fœtal face or over the chin. (*c*) This aid is not liable to sudden interruption from the movements of the woman. (*d*) The thumb of this hand, together, if necessary, with the fingers of the free hand, can, by direct pressure upon the presenting part, restrain its too rapid advance, without exciting that reflex uterine action which is so frequently evoked by the irritation of contact with the perineum. (*e*) The

circulation of the blood remains free; the nerves are not benumbed by a double pressure, and the perineum, therefore, continues in its natural condition, that of a living, elastic and sentient tissue. This method I have more fully described in an essay published in the *American Journal of the Medical Sciences*, January, 1871, p. 75. To it I beg leave to refer those of my readers who are interested in the subject of the management of the perineum during labor.

Misdirected traction on the after-coming head, viz., too much in a downward direction as the head is about to emerge, is very commonly followed by a very bad rent of the perineum. Even in head-presentations, requiring apparently but slight traction, the use of the forceps will often occasion a slight tear in the vagina, which the passage of the shoulders prolongs into the perineum. From too hurried a delivery, or from faulty traction, I have seen so many bad lacerations following the use of this instrument, even in practiced hands, that I cannot withhold the opinion that, in the majority of cases, nature can accomplish the final delivery of the head through the soft parts much better than the physician. In the essay previously adverted to, I use the following language, which the riper experience of three years more has not induced me to change:—"Delivery by the forceps, even in skillful hands, will often produce laceration; for the head is liable to be brought down too quickly upon the unprepared soft parts, and it becomes a very nice point indeed to determine the exact moment when delivery may be ended with impunity. The cautious physician is liable to be caught, as it were, 'on the centre.' He sees the perineum stretched out to a perilous thinness, and the fourchette almost cracking under the strain. In doubt whether the moment has arrived to raise the forceps-handles and turn out the head, or to depress them and thus restrain its advance, he wavers, and in a twinkling the fibres part. On the other hand, the impatient physician is tempted to turn out the head before the parts are sufficiently dilated. Finally, what is still more frequent, at the last moment the physician's courage fails him, and he depresses the forceps-handles just as the head has begun to emerge; a course equally fatal to the integrity of the perineum." My advice is, therefore, that, other things being equal, as soon as the perineum is well dilated, the forceps should, as a rule, be removed, unless the blades are so firmly imbedded in the child's tissues that their withdrawal requires a force which might hasten the delivery of the head. This practice, if not so brilliant, will, I believe, in the long run be found much the safer.

At the risk of becoming prosy on this subject, I wish to add my conviction that, through sentiments of delicacy, many lacerations of the perineum escape the notice of the physician. After the delivery of the placenta, he should, therefore, make it a rule to introduce the index-finger into the rectum and the thumb into the vagina. By bringing them together he can estimate the thickness of the intervening tissue, and thus determine whether any extensive laceration has taken place. If a rent be discovered he should decently inspect the parts. By daylight this examination can usually be made without the knowledge of the patient. When candle-light is needed, he will be compelled either to make some excuse or boldly explain his object.

GENERAL HINTS.

One potent cause of invalidism in our women is that keeping up of appearances which infects every class of society. In other countries, where the wall of exclusiveness is insurmountable, each class accepts the situation, and lives and moves in accordance with the requirements of its position in life. Here, every one feels, or tries to feel, "as good as" one's neighbor; but this feeling of equality, in one sense a virtue, is such no longer when the poor ape the extravagances of the rich. The man asserts his equality by his ballot; the woman, by her needle. In the one this self-assertion is a periodic explosion, and he feels the better for it. In the woman it is a life-long, heart-wearying struggle. Hence that endless cutting, and basting, and turning; that perpetual needle-plying, which is the canker of so many of our households. Our very servants catch the folly, and spend all their wages and all their leisure in vying with the toilets of their mistresses. By this foolish rivalry the mothers and daughters of this land destroy the little health that a false system of education has left to them. What physician is there who has not seen ambitious mothers break down under the burden; or who does not expect some of his patients to be at least laid up by their spring and autumn dressmaking? One word here

about the sewing-machine. While I do not believe all that is laid to its charge, yet its treadle motion does undoubtedly lead to pelvic and portal congestions. In spite of myself I have become convinced that no woman who operates on this machine as a trade can long escape from some uterine derangement. Even its family use is not unattended with risk, because, although intermittent, it is liable to be too prolonged.

Were not the subject already too hackneyed, I might enlarge, as other causes of ill-health, upon late hours and social dissipations, upon that false and restless philanthropy which neglects home, and upon that unhappy discontent which forgets that to be loved one must be loveable. Woman shines best and thrives best, not in the adulation of society, not in obtrusive self-assertion, but in the quiet and faithful performance of her home duties. The heat and stir of life is food for man's more rugged nature. The wholesomest passages of her life are those which, like the thesis of a symphony, are unpercussed and unaccented.

The banishment of the corset from the waists of those who have attained to years of discretion would be a great boon to the sex; but the profession is powerless against the Moloch of fashion. Their disinterested warnings in that direction are like those of Cassandra, truthful, but unheeded. The family physician can, however, do the nex best thing, and that with some show of success. He can solemnly adjure the tightly harnessed mothers of the land not to allow their growing and romping daughters to put on the maternal armor. He can earnestly plead for the support of their underclothing by the use of shoulder straps or of "skirt-supporters." This advice is not untimely, for I am assured, on the good authority of a fashionable corset-maker, that even the school-girl of the period has an ideal waist. A waist to which she squeezes, and laces, and tortures herself down, for the simple reason that it is always more slender than her own.

Too much brain-work, too little housework, is another crying evil of our land. Precocious cleverness is attainable only at the cost of physical and sexual development. Manifold diseases, many of them of a uterine complexion, date from the recitation room. Under the high pressure system of our public schools, even a class which ought to live by manual labor is made unfit for it. Hence an inability to work attaches degradation to domestic labor, and town and city teem, therefore, with pale-faced and flat-chested women, who seem to have no other hold on life than a capacity for momentary enthusiasm; no other aim in life than the absolute Nothing, the Nirvana of the Buddhist. Our great-grandmothers got their schooling during the winter months, and let their brains lie fallow for the rest of the year. They knew less about Euclid and the classics, than they did about housekeeping and housework. But they made good wives and mothers, and bore and nursed sturdy sons and buxom daughters, and plenty of them at that. From the age of eight to that of sixteen our daughters spend most of their time either in the unwholesome air of the recitation-room, or in poring over their books when they should be at play. As a result the chief skill of the milliner seems to be directed towards concealing the lack of organs necessary alike to beauty and to maternity, and the girl of to-day becomes the barren wife or the invalid mother of to-morrow. Surely a civilization that stunts, deforms, and enfeebles, must be unsound! To reform these abuses, to reclaim woman to womanhood, to make wives *helpmates* in the true sense of the word, is then one great mission of the physician, a mission which he must cheerfully and dutifully accept.

Marcus Aurelius, St. Augustine and other great and noble men wrote with tender affection of what they owed to a mother's love, to a mother's care. If that imponderable essence, the mind, can be moulded and shaped by a mother's heed, why not the body? Why should not the culture of the one be as much an object of maternal solicitude as the culture of the other? To preserve, then, the priceless gem of health, let the physician teach mothers how to preside over the physical education of their daughters, how to pilot their frail bodies safely through the shoals and quicksands of girlhood; for at this time of life an ounce of mother is worth a pound of doctor. To this end, girls should be early made to throw back their shoulders, to maintain an erect carriage, and to walk with toes pointed outward. This attitude puts into action muscles which increase the obliquity of the pelvis to the trunk, and consequently lessens the downward pressure of the abdominal viscera upon the pelvic organs. Their clothing

should be thick and warm; their shoes stout and roomy; their brains not overtaxed. Candies, doughnuts, and hot biscuits must be struck out from their fare; such trash has made our dentists world-renowned. Habits of regularity in sleep, as well as in the evacuations, should be scrupulously enforced. Over-work in a constrained position, especially that at the sewing-machine, must be forbidden. Let them daily take sunshine and exercise in the open air. But, on the other hand, let them, during their monthly sickness, avoid picnics, sleigh rides, dancing parties and other like imprudences. The risks from suppression should be vividly pointed out, else they could hardly be persuaded to forego pleasures which, at such times, are fruitful sources of mischief. Mothers should, therefore, diligently supervise the catamenial week of their daughters, and at that time forbid all over-work of brain and body. Would that all women could be taught to look upon the law of periodicity in their nature not as an affront to womanhood, not as the mark of a curse, but as a dower of health and beauty if respected, as the leaven of life-long invalidism when abused!

Let mothers select the books which their daughters read. None of the namby-pamby trash of our circulating libraries, none of the prurient literature of the day, should cross the threshold of a well-ordered home. It heats the blood; it inflames the passions; it goads on to precocious pubescence; it throws a halo of false and sickly sentiment around the day-dreams of youth. Let mothers themselves be implored neither to buy nor to borrow those vile pamphlets which flood the length and breadth of this land; a literature which, while professing in good faith to treat of the conjugal relations, covertly panders to our worst instincts, and defiles with the slime of an impure fancy. While on the subject of books, let me here urge upon my readers the perusal, and the circulation among their patients, of two most excellent works; the one, "Wear and Tear," by Dr. S. Weir Mitchell; the other, "Sex in Education," by Dr. E. H. Clarke. A timely essay by Dr. Nathan Allen on "Physical Degeneration" (*Psychological Journal*, October, 1870), can also be read with much profit. To these authors I am indebted for some of the thoughts embodied in this paper.

Certain causes of uterine diseases there are, which I would gladly leave unnoticed, for it is hard, in acceptable language, even to allude to them. But so wide-spread are the evils resulting from them, that to pass them by would be a flagrant sin of omission. "Two things come not back," said the Caliph Omar, "the sped arrow and the spoken word." Deeply impressed by the wisdom of this saying, I shall try so to write on these delicate subjects, as never to regret what I have written.

Arguing from a strictly practical and not from a sentimental point of view, but with all reverence, the love interchanged between man and woman is no mere operation of the mind, no sheer intellectual process. However pure this passion may be, it is necessarily twofold in its nature. It is an alloy, made up, like ourselves, of body and mind; the grosser mould so interfluxed with the more ethereal, that the one finds its most passionate expression in the fruition of the other. Abstract love between the sexes cannot, therefore, exist in any other sense than that engendered by blood ties. Forgetful of this absolute law of our being, sentimentalists have judged too harshly of Abelard, and lavished too one-sided a sympathy upon Heloise. Without further comment, the antenuptial relations, at least such as custom commonly sanctions in this land—and, I believe, in no other—are therefore, when prolonged, very disturbing elements to a young girl's health. Long engagements, by keeping up a wearing nervous erethism, are not only recognized, but even classified, by alienists, as one of the causes of insanity in women. Much more frequently the nervous exaltation is spent upon the reproductive organs; for there follows an awakening of sense which is not, as in man, appeased by the distractions of business pursuits. Uterine trouble from this source any open-eyed physician will over and over again see. Now, it is true that in love affairs the physician must be no meddler; match-making is certainly not his business. But, as a tried and valued friend, as a brother beloved, he can speak out when others may not even hint. Or, when consulted by the anxious mother about symptoms in her daughter plainly referable to the reproductive organs, he can disclose the cause, and thus be the means of hastening on the cure.

If the caresses of lovers are prejudicial to good health, every like relation between the sexes must be exposed to like dangers. I...

too many rural districts, and in the lower classes of citizens, such license is tolerated in the social intercourse between the youth of each sex as must be destructive both to good health and to good morals. But, since it is not to my present purpose to appear as a social reformer, I shall confine my remarks to the hygienic aspect of the subject. The "old folks" are shelved too soon. Young people are left too much to themselves, and thrown too much together. Their social gatherings are too rarely presided over by their mothers or their seniors. As a very natural consequence, their games become coarse, their forfeits immodest, and little by little this freedom from restraint is liable, finally, to degenerate into such gross familiarities as would be improper between even affianced lovers. An unnatural sexual excitement is thus kept up, which must do physical harm. Of the moral harm I say nothing; the fathers who read these lines must draw their own conclusions. In this matter I am plainly at a loss to see how a physician can interfere in any other way than by setting a good example in the order and decorum of his own household. A nimbler wit than mine may work out some better way; if so, his be the credit; I do but throw out hints.

The excesses of the honey-moon journey, conjoined with its fatigues and its discomforts, are too often the starting-point of uterine disease. Here, again, will the family physician delicately proffer his counsel. In chosen words he can hint at moderation in all things, and suggest the avoidance of the usual exhausting round of travel and of sight-seeing. Such words will then, indeed, be words spoken in season. He must, still further, take cognizance of the sexual relations between husband and wife, relations which, when abused, are productive of much mischief. All excess in that direction he will discountenance. Unmastered importunity and too submissive an affection must be met by separate beds, by uncommunicating rooms, and if need be, by strong expostulation. Criminal abortion he must denounce, and that boldly, if he values the health and happiness of his fellow-creatures, and a clear conscience before God and man. The evils of incomplete coitions and of other detestable arts practiced to frustrate conception, he will paint in no neutral colors. Space forbids more than a brief allusion to these secret sins, which, like the plague of the frogs, creep into our "houses, and bedchambers, and beds." Suffice it to say that outraged Nature is resentful, and makes fierce reprisals whenever woman receives "the seed of another life" in any other way than that by which it tends to become fruitful. As West has pointed out (*Diseases of Women*, Lect. VI.), and as I have tried to show (*Philadelphia Medical Times*, February 1st, 1872, p. 16), no woman who deliberately thwarts the plain intention of the institution of marriage can long escape from the very worst forms of uterine disease. There is, moreover, a disastrous connection here between these sinful practices and immorality. Dishonor the body, the temple of the soul, and you dishonor the soul. The artifices and accoutrements borrowed from the brothel inevitably do damage, not only to good health but to good morals. Blunted pleasures lead to estrangement, to unfaithfulness, to divorce; the wife lapses, so to speak, into a mistress; and the marriage tie is degraded into a carnal contract which regards alone the necessities of the flesh. Much sad experience, alas! has proved irrefragably two axioms: that pregnancy is a necessary condition to healthful and happy marriages; and that there is no innocuous expedient whereby maternity can be shunned; no safe stratagem by which man can balk God's first blessing and first command to man.

The sympathy between the mammary glands and the uterus is so close as to have, in the treatment of post-partum hemorrhages, a positive therapeutic value. By condensing the womb and diverting the blood from it, lactation up to a certain point acts beneficially. But by exhausting the woman's strength and producing morbid impressions upon the womb, over-lactation becomes in itself a cause of uterine disease. It also very seriously compromises the health of the sucking child. Whenever, therefore, a nursing woman finds that the act of suckling is followed by a pain in the back, or by other symptoms of uterine irritation; whenever she suffers from dizziness, dimness of vision, sore mouth, shortness of breath, palpitations of the heart or night-sweats, she should be urged by her physician to wean her child. I use the word *urged* designedly, because lactation is often prolonged beyond all reason, simply as an antidote against conception.

Nothing so certainly undermines the ute-

rine health as the wear and tear of nursing the sick. The unwholesome air of a sick chamber, the close confinement, the selfish exactions of the patient, the broken rest, all tend to enfeeble the system. Then the undue exertions made at arm's length, such as in lifting or in turning a helpless invalid, so violently strain the diaphragm and the abdominal muscles as to force down and permanently displace the womb. Forewarned by the physician, the nurse, be she kin or stranger, will daily take a stroll in the open air, and in some way make up for loss of sleep.

The proverbial constipation of the poorer class of women in our cities, and of those women who live in the country, is another cause, and an exceedingly common one, of uterine disease. Such defective sewerage of the body, by the resorbtion of foul gases and of effete matter, degrades the blood, starves nerve-centres, breeds dyspeptic ailments, and begets pelvic and portal congestions. In this chain of sequences there is no missing link. Uterine congestions are also produced mechanically by the irritation or the pressure from hardened fæces; uterine flexions and displacements brought about by the straining efforts to empty the bowels. Over-distention of the bladder, by drawing up the cervix and thrusting the fundus over backward, is, undoubtedly, a very important factor in the production of retroflexions and retroversions of the womb. Yet what poor woman is there who is not thus daily exposing her womb to these displacements?

These irregularities of habit in our sallow-hued women are in a great measure owing to the discomfort, inconvenience and indecent exposure of their closet accommodations. Where is the privy that invites, rather than repels an operation of the bowels? When is it ever sheltered from the rude blasts of winter; or not poisoned by noisome stenches, acrid vapors, and unclean flies? Where is the privy that is not overlooked by the back buildings of all the neighboring houses, or not placed at such an embarrassing distance from the house as to be, in bad weather or in dark nights, absolutely inaccessible? Where, in the country, and for that matter, in cities also, is not to be found the privy made up of rough boards rudely spiked together, with cracks wide enough to destroy all privacy, with a door without a bolt, and generally hanging by one hinge, with a crescent-shaped hol for a window, and with its sole article furniture a barrel of rasping corn-cobs After such an unsightly but truthful pic ture, can we wonder that the calls of nature are looked upon as grievous dispensations o Providence, as hateful duties which are to be put off as long as possible, and obeyed as seldom as possible? To a delicate woman the exposure to the weather is a serious risk; to one who is menstruating it is a constant menace; while to the refined woman the exposure to view compels the postponement of her physical duties to night-fall, or until driven to them by a sheer necessity which knows no law.

Now, what is the remedy? Clearly such closets as civilized Christian beings, living in the nineteenth century, are not degraded by using; closets that are decent, comfortable and accessible. To educate the community up to the reception of this wholesome truth is the duty of the physician. He must tilt his lance against everything in the shape of a privy, and set a good example himself, by using, when water closets are not available, an earth closet in his own family. Such a closet, not larger than an old-fashioned arm-chair, can be moved about from room to room, or be put where it will be both private and accessible. Nor will its presence poison the surrounding air, for there is no better deodorizer of organic refuse than the dry earth contained in its hopper.

As a fit ending to this series of papers, justice to myself prompts me to remind the reader that, as the title indicates, I have thrown out mere hints, which he must develope; bare outlines, which he must fill up. The fullness of a great and important subject cannot be compressed within even the generous space allotted to me in this Journal. The most that I have attempted has been to "vulgarize" what has hitherto been monopolized by specialists. Nor have these papers pointed out all the sources of mischief to the female reproductive organs. Other unsuspected correlations undoubtedly exist, for life is complex, and woman "fearfully and wonderfully made." These every physician will search out for himself, and when discovered, wage an unending war against. To heal sickness is noble, to prevent sickness is nobler, for thereby is suffering most lessened, and thereby does o profession best show its disinterestedness.