

secretion of pregnant women, and, according to these authorities, douching of the vagina preparatory to labor was necessary. In 1892 the question was apparently settled by the work of Döderlein ("Das Scheidensekret," Leipzig, 1892) who divided vaginal secretion into two classes: on the one hand, a normal secretion which presented certain characteristics and contained only the bacillus vaginalis and yeast fungus, and, on the other, an abnormal secretion which presented certain differential characteristics, and which frequently contained pathogenic organisms. In the former class of cases this observer argued that douches were not necessary, while in the latter they were. In 1893 Williams (*American Journal of the Medical Sciences*, July, 1893) confirmed Döderlein's work on a small scale, and for the next few years it held good. In 1897 Krönig ("Bacteriologie des weiblichen Genitalkanals," Menge und Krönig, Leipzig, 1897) surprised vaginal bacteriologists by the statement that he had examined the vaginal secretion of 167 pregnant women, and that in none of them was he able to demonstrate typical streptococci or any other pathogenic micro-organisms with the exception of the gonococcus. He therefore concluded that the vaginal secretion should be considered aseptic, and that ante-partum douches were not indicated. Furthermore, he proved that the vaginal secretion was itself bactericidal, for chromogenic and mildly pathogenic organisms when introduced into the healthy vagina could not be recovered in cultures taken a few hours later, and that if the vagina previous to the introduction of these organisms had been douched or scrubbed the bactericidal power of its secretion was decidedly lessened. He was thus justified in concluding that the ante-partum douche was not only unnecessary but also injurious. Krönig's work has been confirmed by Williams (*loc. cit.*), who has also shown that the former discrepancy as to the bacterial flora of the vagina was due to differences in technique (*loc. cit.*). From the practical standpoint Bretschneider (*Archiv für Gynäkologie*, 1901) reports statistics from the Leipzig Clinic in which, of 2,280 cases, every alternate one was douched. The puerperium was febrile in 45.18 per cent. of the cases douched, and in 36.78 per cent. when the douche was not employed.

It is thus seen that we are justified in condemning the use of the ante-partum douche and in believing that, with the exception of those affected with gonorrhœa, auto-infection is impossible. Just so long as the obstetrician works with this point in mind will his technique be good, but so soon as he uses auto-infection as a peg upon which to hang faults in his technique will his patient suffer.

It may likewise be said that the post-partum douche in normal cases is productive of more harm than good. The natural cleansing that the genital tract gets during the birth—first the douche, from above downward, of liquor amni, followed by the tightly fitting body of the child and more fluid, and finally by the placenta—is far superior to any artificial means such as a douche. This stage of the labor, then, had far better be left entirely to nature.

(d) *The Technical Management of Labor.*—This subject will be considered under the three clinical stages of labor.

1. *During the First Stage.* When the nurse is called to a case of labor her first duty should be to dispel any possible fear on the part of the patient by her general demeanor and remarks. It is supposed that the necessary preparations, dressings, and so forth have been made some time before. Having ascertained by questions as to the duration and character of the pains, the amount and character of the vaginal discharge, she should give the patient an enema of soap suds and warm water. This emptying of the lower bowel is a very important procedure, and should never be omitted. The patient should then be directed to take a full bath, paying particular attention to the thorough cleansing of the lower abdomen, vulva, and thighs. Her hair should be braided, so that it will become as little tangled as possible when she is lying in bed. Most nurses arrange the hair in two braids on either side of the head. She should be dressed in a clean night gown and put to bed. She is now ready to see the phy-

sician, and, until he makes the vaginal examination, no further disinfection is necessary.

The first duty of the physician on entering the room is to discover whether or not his patient is in labor. Many ludicrous mistakes have been made which could have been avoided by bearing this point in mind. One of the first cases witnessed by the author as a student was watched throughout an entire night, only to find—when, in the morning, he sent for the demonstrator of obstetrics of the medical college to apply forceps—that the patient was not in labor. Many of us can recall similar instances. The three signs indicating that labor has actually begun, according to Hirst (*loc. cit.*), are as follows: (a) Recurrent pains of characteristic duration, situation, and nature; (b) the escape of a small quantity of blood-tinged mucus from the vagina, and (c) the dilatation of the os. (b) may be absent in the early stages of labor, and (c) is found only on vaginal examination, to be described later. As a rule the uterine pains will suffice for making the diagnosis, and the physician should then proceed with his examination of the patient. If she is seen for the first time, the history and the examination should be as complete and thorough as heretofore described. If, however, this has been done some weeks previously, all that is necessary will be the palpation and auscultation of the abdomen, by which he ascertains the position and presentation and condition of the child.

Vaginal examination during labor should be made only with the strictest antiseptic precautions, and after the patient and hands of the physician have been prepared in the manner heretofore described. During the first stage of labor the points to ascertain by vaginal examination are the condition of the membranes and the amount of dilatation of the os. The presenting part can be felt, but it is almost impossible at this time to obtain definite information as to its position.

Later in labor, when the cervix is completely dilated, and the presenting part has descended into the pelvis to a level with the ischial spines, the diagnosis of the presentation and position of the child can be made by noting the relation between certain anatomical structures upon the presenting part and the mother's pelvis. These structures are, in the case of occipito-iliac presentations, the large and small fontanels, and the sagittal suture; in mento-iliac, the bridge of the nose, the mouth and chin; and in sacro-iliac, the genitals, gluteal furrow, and the tip of the coccyx. It can be easily seen what relative position these structures will occupy in any of the classical presentations.

In making the diagnosis of presentation and position by vaginal examination, it is well to have a definite method of procedure, analogous to the one considered when abdominal palpation was discussed. The most practical is a method advised by Farabeuf and Varnier ("Introduction à l'Étude clinique et à la pratique des Accouchements," Paris, 1891) which consists of three separate manœuvres, as follows:

The disinfected finger is introduced into the vagina until it comes in contact with the presenting part. By this first manœuvre, which is simply feeling the part of the child in the pelvis, the diagnosis of the presentation is made, be it occiput, breech, or face. In the second manœuvre, the examining finger is made to pass from anterior to posterior over the presenting part in the middle line. In its journey it will cross either the sagittal suture, the bridge of the nose, or the gluteal furrow, and, according to the direction of either of these structures, will the operator know the direction of the antero-posterior diameter of the presenting part; in other words, its orientation. By the third manœuvre the presenting point is located and the diagnosis thereby clinched. This is accomplished as follows: The tips of the fingers again are brought to the anterior aspect of the presenting part, and are made to sweep over it first on one side and then on the other in a semicircle. In this journey the presenting point, be it small fontanel, point of the chin, or tip of sacrum, will be found, and according to the quadrant of the pelvis it occupies the diagnosis is made.

To illustrate: The operator on introducing his finger comes in contact with the hard globe of the head crossed by its sutures and perforated by its fontanels. Thus he knows he is dealing with an occipito-iliac presentation. By the second manœuvre he locates the sagittal suture and notes that it runs from left anterior to right posterior; thus his diagnosis will be: left occipito-iliac anterior or right occipito-iliac posterior, according as the small fontanel is felt at the anterior or posterior end of the sagittal suture. By sweeping the tips of his fingers around the presenting part, first on one side and then on the other, as indicated in the third manœuvre, he finds the small fontanel at the anterior end of the sagittal suture, or in the left anterior pelvic quadrant. From this he will be justified in making the diagnosis of the presentation as left occipito-iliac anterior.

In transverse presentations this rule cannot be followed. But if the operator remembers that the axillary cavity is closed in the direction of the child's head, open in the direction of its feet, bounded anteriorly by the soft pectoralis major muscle, and posteriorly by the hard border of the scapula, a mental process of reconstruction will give him a correct idea of the position occupied by the child.

In operative cases, particularly where the use of forceps is anticipated, accurate diagnosis of presentation and position is of absolute importance, and as the formation of the caput succedaneum often makes it impossible for the operator to feel the suture and fontanels, a method other than that which has been described above must be resorted to. With the patient under complete anesthesia, it is always possible to introduce the entire hand into the vagina. It is passed along the side of the head until the ear is reached. As the free border of the ear is directed posteriorly, its position will give the operator the desired information.

After he has made the examination, the physician will be asked for his opinion as to the probable duration of the labor. Hirst says on this point, it is well to be "guarded and delphic," and he is accustomed to make the somewhat ambiguous statement "that the duration of labor will depend upon the strength and frequency of the pains." If the operator bears in mind the average duration of labor in primipara and multipara as being seventeen and nine hours, respectively, from the first onset of pains, he will be greatly helped.

The duties of the physician during the first stage of labor—further than assuming an attitude of watchful expectancy—are practically nil. If his patient be a primipara with infrequent pains and slow dilatation, it is best that he should not remain in the house, but should pay frequent visits, leaving word in the interval where he can be called. If, on the other hand, his patient has had children before and gives a history of rapid labors he should be with her during the entire process. In both instances the number of vaginal examinations should be restricted, as with each one the risk of infection is increased. It is perfectly possible, if the question of time is not of importance to the obstetrician, to manage many cases entirely by external manipulation. Leopold and Spörling (*Archiv für Gynäkologie*, xlv.) and Leopold and Orb (*Archiv für Gynäkologie*, xlviii.) state that it is possible, from their own experience, to deliver at least ninety per cent. of all cases by means of external manipulation alone. Their errors in diagnosis in the first thousand cases delivered were 6.5 per cent., while in the last thousand they were only 1.77 per cent., and Moran (*loc. cit.*) states that the morbidity of cases examined is double that of cases not examined. If the obstetrician is in general practice, however, and cannot remain with his patient from the first visit, vaginal examination is absolutely necessary, for it is by this means alone that he can tell the amount and rapidity of dilatation. It is the habit of the author to examine primiparous women rarely more than twice during the first stage, and multiparous never oftener than once, and frequently not at all.

2. *During the Second Stage.* The most important point for the physician to observe during this stage of labor is

the maintenance of a rational technique, and by a "rational" technique is meant the handling with disinfected hands only such articles as are known to be sterile. Nothing has been said heretofore concerning the sterilization of bed clothes, night gowns, and so forth, it being thought far better to have these articles simply freshly laundered, for if such articles be sterilized when first used, it is a matter only of a few minutes before they become completely contaminated, and it is preferable that they be considered non-sterile from the outset than to consider them so through the entire case, and thereby contaminate not only hands and instruments, but other dressings.

When, by the rupture of the membrane or the onset of expulsive pains, the obstetrician knows that his patient has entered the second stage, she should be made to lie on her back and sterile leggings should be drawn over the legs and thighs; and the gown is rolled up so as to be well out of the way of discharges from the vagina. With each pain either he or the nurse should watch the perineum, and when it is seen to bulge, he may prepare his hands for the actual delivery, and while he is doing so the nurse prepares the patient. Having disinfected his hands, he sits on one side of the bed and surrounds the vulva with sterilized towels. To do this four towels are necessary: one lying transversely, directly under the patient's buttocks, one lying diagonally under each thigh, and one across the abdomen, exposing to plain sight the vaginal orifice. In this way the vulva and surrounding towels form a sterile field, and it should be remembered that this is the only portion of the patient or bed that is in that condition.

On a table or chair by the side of the bed and within easy reach of the operator's hand is placed a sterile towel, and upon it the following articles: scissors and ligatures for the cord, sterile gauze sponges, a basin with bichloride solution.

While the head is distending the vulva, the operator has two duties: first, to prevent contamination of the field of operation by discharge from the rectum, and second, to prevent, if possible, laceration of the perineum. The first duty is fulfilled by wiping the discharge from the rectum downward with a sponge soaked in bichloride, which sponge is, of course, at once to be thrown away. The prevention of perineal laceration, however, is a much more difficult matter and will not be successful in a number of cases. Many methods have been devised, some good, others bad. Any method that depends upon a rectal manipulation is bad for the reason that it contaminates the hand which may later have to be introduced into the uterus. If the operator bears in mind that the usual causes of the laceration are, first, too rapid expulsion of the presenting part, and second, some abnormality in the mechanism of labor, any method which has as its object the avoidance of these causes will be a good one. Too rapid expulsion of the presenting part can be controlled by a carefully administered anesthetic, and the normal mechanism of labor can be assisted by pressing through the perineum upon the fetal head so that the neck is forced upward against the symphysis pubis and extension of the head thereby assisted. A method which has been as successful as any with the author is as follows: When the head distends the vulva, the operator facing his patient's feet places the first two fingers of both hands upon the perineum, so that the finger tips of one hand are in apposition with those of the other; by this means pressure is made upward and forward, and the head when delivered slips, as it were, between the fingers and thumbs of both of the operator's hands. An ingenious device has been recently recommended by George H. Noble (*American Journal of Obstetrics*, February, 1902), by which the perineum is supported by means of three adhesive straps one and a half inches wide and eighteen to twenty-four inches long; when the head distends the vulva the end of one strap is applied in the vulvo-femoral crease while its other end runs diagonally downward across the opposite buttocks; a second one is applied in the same way on the other side of the body, and the third

running directly transversely a few millimetres below the posterior commissure. Noble has used this method in six forceps deliveries in which laceration seemed imminent, "with perfect satisfaction." The author has no experience with this method. A possible objection is the difficulty of obtaining sterile adhesive plaster.

The head being delivered, it undergoes its movement of external rotation. The operator now turns so that he faces his patient's head and grasps the fetal head with both hands by chin and occiput. Downward pressure will cause the anterior shoulder to slip under the symphysis and elevation of the head will cause the posterior one to glide over the perineum. The rest of the child's body usually follows without difficulty. Difficulty in delivering the shoulder sometimes occurs, and to relieve this Bonnaire (cited by Norris, *Progressive Medicine*, September, 1901) suggests the division of one or both clavicles by means of sharp scissors. The operation has apparently not been performed upon a living child, though Bonnaire thinks it possible, as in none of his experimental operations were the subclavian vessels or nerves injured. Happily, arrest of the shoulders is exceedingly rare.

Throughout the entire second stage the condition of the fetal heart sounds should be carefully noted at short intervals.

Anesthesia in Obstetrics.—All obstetricians agree that a certain amount of anesthesia properly administered is of greatest assistance in the majority of obstetric cases, and most individuals in private practice use an anesthetic as a matter of routine. The time for administration of the anesthetic is in the second stage of labor, and as a rule its administration should be put off as long as possible. It should never be given except in operative cases before the cervix is completely dilated, nor should the attempt be made to produce narcosis, but simply anesthesia. If this be done it is perfectly possible for the patient to be partially conscious throughout the entire process, but at the completion of labor to have no definite recollection of it. The choice of the anesthetic should be governed by several factors: in the first place, the general condition of the patient, and in the second, the individual preference of the operator. That ether and chloroform both have their dangers is clear on perusing the excellent review of recent literature by Bloodgood in *Progressive Medicine* for December, 1901. The general conclusions to which he comes are that on the whole ether is a safer anesthetic, as experiments on animals have proven that it does not produce the same amount of fatty degeneration of the internal organs as chloroform. On the other hand, late deaths from lung complications seem to be commoner after ether. That chloroform is a proverbially safe anesthetic in obstetrics has long been known, yet too much confidence should not be put in this statement. Lusk cites a case ("Text-book of Obstetrics," fourth edition) in which a patient was almost lost during the performance of version, and the author has seen several cases in which alarming symptoms due to the anesthetic have developed. In patients who are otherwise healthy, it is the opinion of the author that chloroform should be the anesthetic of choice, as it is much more easily administered and is not followed by the disagreeable after-effects of ether. Although some claim that with ether it is possible to produce the condition known as "obstetric anesthesia," in which the patient though conscious is insensible to pain, it is probable that this condition is not produced to the same extent nor with the same ease as with chloroform. In conditions of disease of the lungs and kidneys chloroform should still be used; in heart lesions, where compensation is good, and there is no oedema of the lung, ether will probably be the safer anesthetic; but if the lesion be accompanied by a lost compensation and consequent involvement of the lung, the preference had better be for chloroform. If for any reason it is anticipated that the anesthesia will be prolonged, ether will give the patient a better chance.

The effect of an anesthetic upon the contraction of the uterus has recently been studied by Westermarck (*Archiv*

für Gynäkologie, 1900) who, after an elaborate series of experiments, concludes that complete narcosis by chloroform diminishes the frequency of uterine contractions, but exercises no influence upon the intra-uterine pressure during pain; it greatly diminishes, however, the pains occasioned by the contraction. Norris (*Progressive Medicine*, September, 1901) concludes from it that the use of chloroform in obstetrics should be limited to those cases in which the suffering is intense and the control of the patient becomes so necessary that it seems best to risk some prolongation of the labor in order to control her suffering. The above statement apparently refers to complete narcosis, and for that condition it is probably correct. Excellent results, however, can be obtained if partial or "obstetric anesthesia" be used, as it appears that by this means the duration of labor is not prolonged. In the practical experience of the author it is his habit to postpone the administration of the anesthetic as long as possible. When it appears that the patient is suffering more than she can bear, an Esmarch inhaler is held over her face at the onset of each pain, and a few drops of chloroform are applied to it. She is instructed to breathe deeply, and a few drops of the drug are applied with each inspiration. It is not uncommon to notice that the first few pains after the commencement of the anesthetic are less in intensity and frequency, but that their former regularity is soon restored. The patient should be told that she will not be completely unconscious, but that the anesthetic will lessen the severity of the pains, and it will be found that if two or three full inspirations of the anesthetic are allowed at the close of each pain she will have little or no recollection of the suffering. In the interval between the pains the anesthetic is discontinued only to be given again when the patient says a pain is beginning.

In the latter part of the second stage, when the head is about to emerge from the vulva and the pains are practically continuous, the anesthetic should be pushed, not, however, to complete narcosis, but until the patient fails to answer questions. Under these conditions the abdominal and uterine muscles act with perfect regularity, and at the close of the labor the patient has no recollection of the actual birth of the child.

Medullary Narcosis in Obstetrics.—Credit must be given to Corning, of New York, a neurologist, for first having produced anesthesia of the lower half of the body by the injection of cocaine into the spinal cord. His work, however, created little comment, and it was not until a few years ago that Bier's work on this subject called the attention of surgeons in general to its possibilities. It should be stated, however, in justice to Bier, that he knew nothing of Corning's work at the time of the publication of his article. In a collective review by Fr. Hahn (*Centralblatt für die Grenzgebiete der Medizin und Chirurgie*, vol. iv., 1901) the obstetrical aspect of the method is thoroughly considered. He says, a further field for spinal cocainization appears to lie in the domain of obstetrics, to reduce the pains of labor. Kreis in Basel (*Centralblatt für Gynäkologie*, 1900, No. 28) was probably the first one to make this test. At the suggestion of Professor Bumm he cocainized the spinal cord in six cases of labor. After the injection of 1 cgm. of cocaine there was analgesia up to the navel while at the same time the mobility of the uterus was not perceptibly impaired. The pains came with the same frequency and intensity as before cocainization, and the sense of pain was so completely absent that the uterine contraction was felt only as tension in the lower abdomen. The passage of the head through the vagina and vulva, the introduction of forceps and perineal sutures were all painless. The only defect was the absence of the spontaneous reflex action of the abdominal muscles, as the patient had no desire to bear down unless urged to do so. The third stage was also perfectly normal and there were no complications. Kreis regards cocaine contraindicated only when active co-operation of the abdominal muscles cannot be dispensed with, also in frightened and excited women. In simple operative cases, according to this observer, it may replace chloroform narcosis, for the particular rea-

son that it can be administered without any assistance. Marx (*Medical News*, August 25th, 1900) reports over forty cases, all with good results. The children were all born alive and well even in serious complicated cases. The period of convalescence is smoother than after anesthesia by the old method. This author never noted any disturbance of the normal action of the uterine muscles, nor was there any inclination to hemorrhage. In one case he succeeded, by repeated injections, in keeping his patient free from pain during eight hours of labor. He also advises this form of anesthesia for examination of the pelvis. Doléris (*Bul. de l'Acad. de Méd.*, July 17th, 1900) goes still further, and according to him cocaine increases the duration, frequency, and intensity of uterine contraction, thus making the labor more rapid, and putting the uterine muscle in a condition which he designates as pseudo-tetanic. At the same time it acts as a hemostatic without, however, injuring the fetus, interfering with the course of delivery, or impeding operative intervention. He was able to observe this condition of the muscle directly in a case in which Cæsarean section was done. Working along these lines this observer tried cocaine to bring on artificial abortion, and in two cases, by the intraspinal injection of 1 cgm. of cocaine, he succeeded in bringing about such energetic contraction of the uterus that delivery followed from four to six hours later. Thus we have in cocaine a new method for the induction of premature labor, to say nothing of its possible use in atony of the uterus. A corollary to this observation is that spinal cocaine is contraindicated in general surgical operations upon pregnant women, as an abortion might result. Other observers express themselves emphatically in favor of this method of obstetric anesthesia. Dupaigne (*Bul. de l'Acad. de Méd.*, August 28th, 1900) says, in properly selected cases it is simply ideal. Others may be mentioned, as Stouffs (*Centralblatt für Gynäkologie*, 1901, No. 1) and Guéniot (*Bul. de l'Acad. de Méd.*, January 23d, 1901). This latter observer suggests the following indications as a substitute for general anesthesia in cases with severe, weak or slow, irregular pain, and in tendencies to hemorrhage. It is contraindicated, he says, in chronic heart and lung affections, and in nervous women. More sceptical as regards spinal anesthesia is Ehrenfest (*Medical Record*, December 22d, 1900), for he says the method itself is not without danger, and the significance of the unpleasant after-effects ought not be underestimated. Voluntary abdominal action, which is so important in the period of expulsion, is absent, and it is yet a question whether the new method is not followed by derangements which are worse than the normal pains of labor. Grandin and Porak (*Bul. de l'Académie de Méd.*, January 29th, 1901) are also uncertain, the latter having had four failures in ten cases. Dumont (*Correspondenzblatt für Schweizer Aerzte*, 1900, No. 19) speaks strongly against this method which, he claims, is entirely superfluous as in no other human being are conditions more favorable for general narcosis than in the laboring woman. The effect on the child has been noted by Hawley and Taussig (*Medical Record*, January 19th, 1901) who saw five cases in which the toxic effect was marked, three of which were asphyxiated.

From the above review it will be noted that the method has its friends and its enemies. The author has had absolutely no experience with its practical application, and can only call attention to Bier's latest communication on the subject (*Archiv für klinische Chirurgie*, 1901) in which he emphasizes the fact that the method is still in its experimental stage, and to the statement made by Bloodgood (*Progressive Medicine*, December, 1901) in which he says that of 1,708 operations there are 8 deaths recorded as being due to cocaine, a much higher mortality than belongs to either chloroform or ether. This being the case the writer thinks that obstetricians are hardly yet justified in advising cocaine as a safe method of anesthesia in private practice.

From a personal communication from Dr. Lynch, resident obstetrician at the Johns Hopkins Hospital, the author finds that he has used the method eight times and

does not consider it favorably, for in three of his cases anesthesia was not produced, and in one apparently no effect at all. The duration of the anesthesia was only from one hour to an hour and a half, and three of his cases had to be delivered instrumentally. The effect on the mother and child was negative.

3. **During the Third Stage.** The child having been delivered, its eyes and mouth are to be at once wiped with a solution of boracic acid. After pulsation in the cord has ceased, it is to be ligated in two places, and cut between the ligatures, leaving a stump 2 or 3 cm. long attached to the umbilicus. The infant is then handed immediately to a nurse, who should wrap a sterile towel around the abdomen to prevent infection of the cord from dirty bedclothes, etc. The operator and nurse should now turn their attention to the mother. The nurse is directed to report any relaxation of the fundus of the uterus, and the operator examines the perineum for laceration and applies sutures if necessary. The method of perineal repair is considered in another section of the work. (See *Obstetric Operations*.) Suffice it to say here that in simple cases, time can be saved by applying the sutures before the placenta is delivered, after which they can be tied. The same antiseptic precautions which have been observed heretofore should be continued.

Delivery of the Placenta.—If the uterus be watched by the hand upon the abdomen for the first fifteen or twenty minutes after the labor, it will be noted to contract and relax at regular intervals. If the relaxation is not excessive and there is no hemorrhage, no anxiety need be felt. If relaxation occur, however, a contraction may be excited by general massage upon the fundus through the abdominal wall. The hand upon the uterus will notice that in from ten to thirty minutes after labor the fundus rises and occupies a position 2 or 3 cm. higher than formerly. This is an indication that the placenta has passed from the upper portion of the uterus and lies in the lower uterine segment or vagina. If now pressure be made upon the fundus of the uterus in a direction toward the hollow of the sacrum the placenta will be directly expressed through the vagina and out at the vulva. It is not uncommon to notice at this time that the attached membrane offers some resistance to extraction, which is probably due to a spasm of the cervix. This spasm, however, will probably relax in a few moments, and the membranes will then drop from the vagina. If this does not occur it is an excellent plan to twist the placenta several times so that the membranes are rolled into a cord, general traction upon which will extract them.

If it is noted that the uterus does not rise in the abdominal cavity at the expiration of one-half hour, the Credé method of delivering the placenta can be practised. By this method uterine contractions are excited by massage on the fundus through the abdominal wall, and when a contraction is felt, downward pressure in the direction mentioned above will usually deliver the placenta.

A word of caution as to the danger of manual extraction of the placenta, or, in fact, of any intravaginal or uterine manipulations during the third stage. When examinations are made in the first or second stage of labor, they are made, so to speak, inside of the amniotic cavity, which entire cavity is cast off. On the other hand, when examinations are made in the third stage the hand comes into direct contact with the abraded placental site, and hence the danger of infection is greatly increased. The manual removal of the placenta should be considered for this reason one of the most dangerous of obstetric operations, and should never be resorted to until all other measures have failed, and only then after thorough re-disinfection of the hand. Happily, a retained placenta is a great rarity.

After delivery of the placenta the condition of the fundus uteri should be watched by the hand of the nurse through the abdominal wall and any relaxation immediately reported. If at the end of one hour all is well the physician may leave the patient. *George W. Dobbin.*

LABOR, PREMATURE, INDUCTION OF. See *Obstetric Operations*.