

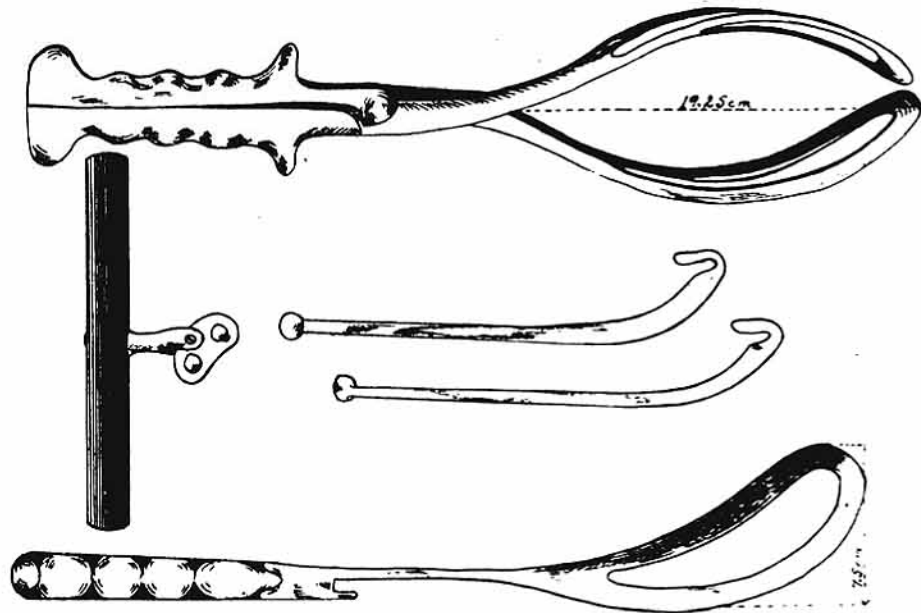
OBSTETRICAL TECHNIQUE FOR THE GENERAL
PRACTITIONER.

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The trend of modern medical practice is undoubtedly along the lines of specialism and accordingly it may be assumed that this would also develop a considerable number of physicians devoting themselves entirely to the practice of obstetrics. However, owing to the popular belief that an unskilled person may confine a woman, this in general has not been the case and in the opinion of the writer never can be, because of the nature of the work which, if honestly performed, must of necessity limit the number of cases that any one individual physician may attend.

That a very large proportion of the women of the poorer classes, both in the cities, the smaller towns and the country districts, are still cared for by midwives, is to be regretted. The question of the activities of the midwife has not as yet been seriously taken up by the public because they have not been made to realize how vitally it affects their welfare and they do not know among other things, that eighty-five hundred women die in confinement each year in the United States. A large proportion of these deaths are entirely uncalled for and the lives of many women are wrecked or invalidated by the short-sighted policy of employing an obviously incompetent midwife or doctor who may leave the mother with lacerations or other complications which are prone at a later period to result in mal-displacements or become the seat of malignant disease. As the general practitioner must necessarily attend the majority of confinements, it is the writer's belief that we must look to him to educate the people in the necessity for better obstetrical care. This he must do by improving his own technic and care of these women and by

the results thus obtained will present to their notice, the advantages of better scientific care and attention during this critical period of a woman's life. We all know that the tuberculosis and cancer questions have within the last few years been taken up by the lay public with splendid results and we believe that the solution of the midwife problem and that of the unskilled doctor can only come from just such coöperation of the public, especially the women, when they once realize that the safe-guarding of their health depends in a great measure upon their employing only such physicians as can be vouched for to take proper care not only of normal cases but also the ordinary complications which may arise. Doctor's must likewise be able to recognize their own limitations and when the



Figs. 1 and 2.—Elliott Forceps with Reynold's Axis-traction Attachments.

case develops unusual features that are beyond their knowledge and skill, that they will seek the aid of those whose special experience will prove of assistance and this may be done without in any way diminishing the standing of the attending physician in the eyes of the patient or family.

This paper has been written for the purpose of bringing to the attention of the profession a few suggestions which may be easily adopted by any graduate in medicine, whether resident in one of the great cities with every facility at hand, or on the frontier where he is limited to materials and instruments contained in his outfit, supplemented by the necessary training to employ the same. An experience of many years in the out-

door service of the Lying-In Hospital and in private practice, have impressed upon me the necessity of simplifying this obstetric outfit so that the instruments will be few in number and easy to transport. Every physician has his own ideas as to what instruments he can best use but in the set here proposed, there is included all that is necessary for any obstetrical operation that is likely to come up in the work of the general practitioner and which he would be in a position to carry out. Cesarean section, pubiotomy, etc., are in a class of operations which should



Fig. 3.—Smellie Scissors.

not be attempted by any one who is not especially trained and skilled in their performance.

The set of obstetrical instruments herewith presented, is contained in a canvas case which may be sterilized by boiling and contains the following: 1. The obstetrical forceps of Elliott, modified so as to be best adapted to the female pelvis and the head of the child (Fig. 1). 2. The axis traction rods and handles as devised by Edward Reynolds of Boston and adapted to the Elliott forceps (Fig. 2). 3. Instruments for cran-

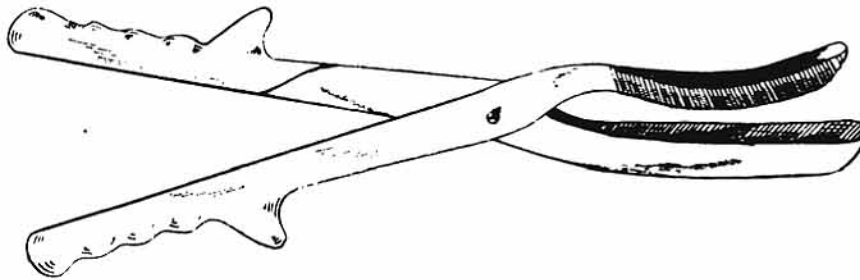


Fig. 4.—Simpson's Cranioclast.

iotomy including the perforating scissors of Smellie (Fig. 3), and the cranioclast of Simpson (Fig 4). In this group also belongs the embryotome of Meigs (Fig. 5) and embryotomy scissors (Fig. 6) and blunt hook (Fig. 7). 4. Instruments for the repair of the cervix and perineum, including two ribbon retractors (Fig. 8), a Mayo needle holder (Fig. 9), two volsella forceps (Fig. 10), two sponge holders and suturing material. These instruments are characterized by simplicity and comparative inexpensiveness. They are all hand forged and accurately

made, compact, and light in weight, weighing less than eight pounds when contained in a canvas case.

The practitioner should not however, be merely acquainted with the proper use of the instruments referred to but must be thoroughly acquainted with each of his cases and this acquaintance should include a thorough knowledge of the woman's pelvis and its contents. This must in every case be determined before labor so that if any abnormalities are present, they may be recognized and provided for. A knowledge of pelvic deformities is essential for every practitioner who undertakes the conduct of a labor case and it is only by carefully studying the normal pelvis that variations from the latter may be determined.

The examination of the patient at the time of labor must be con-



Fig. 5.—Meig's Embryotome.

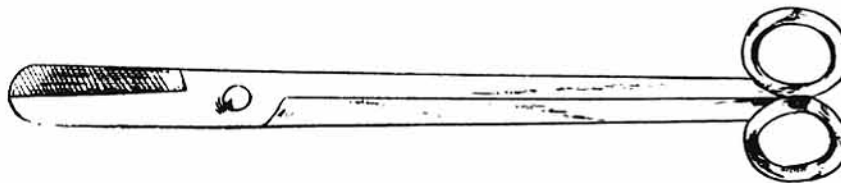


Fig. 6.—Embryotomy Scissors.



Fig. 7.—Blunt Hook.

ducted according to a definite system and the method employed in the Out-Door Service of the Lying-In Hospital may well be used as a basis for the same. The following description of such an examination as taken from the "Book of Instructions" distributed to the doctors on the Out-Door Service of this institution. Upon arrival at the case the patient is questioned as to her pains, etc., while preparations are made for a complete abdominal and vaginal examination. The former must include the palpation of the fetus with respect to its position, size and condition of the uterus as regards its contractions. Auscultation of the fetal heart includes rapidity, character and position. At the same time a note is taken of the woman's general condition and the character of her pains. When this has been done, preparations for the vaginal

examination are made. All out-door garments should be removed before entering the lying-in chamber, and the shirt sleeves always rolled up to a point above the elbows. The patient is told to empty her bladder and is then told to go to bed, removing all her clothes except the chemise. She is then directed to draw up her legs and separate them and the Kelly pad properly inflated is placed under the buttocks. The doctor then scrubs his hands and forearms up to the elbows for five

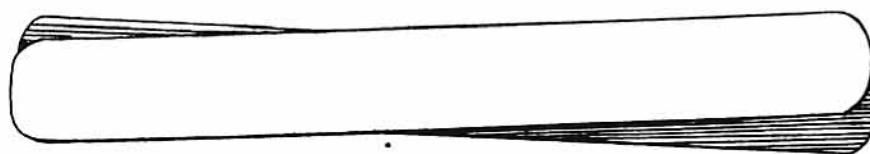


Fig. 8.—Ribbon Retractors.

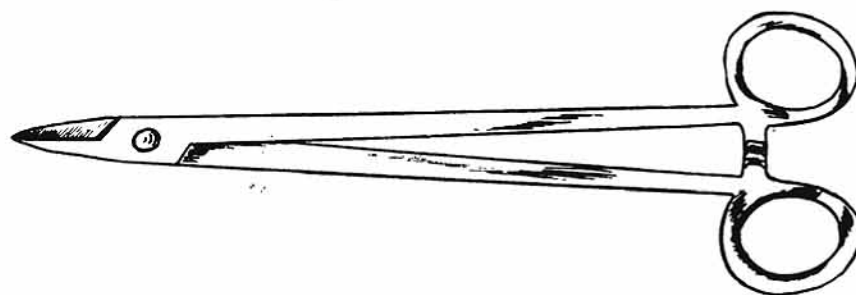


Fig. 9.—Mayo Needle Holder.

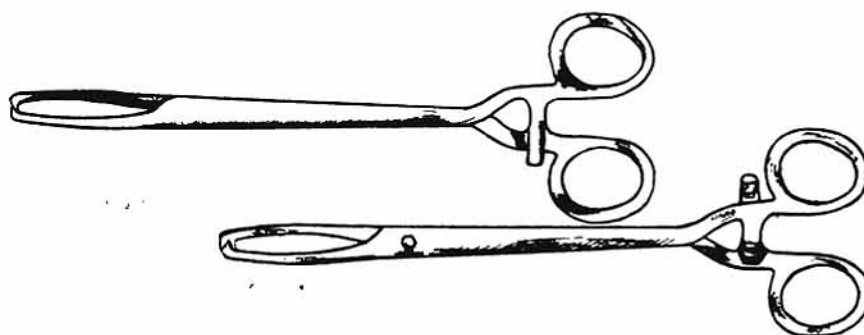
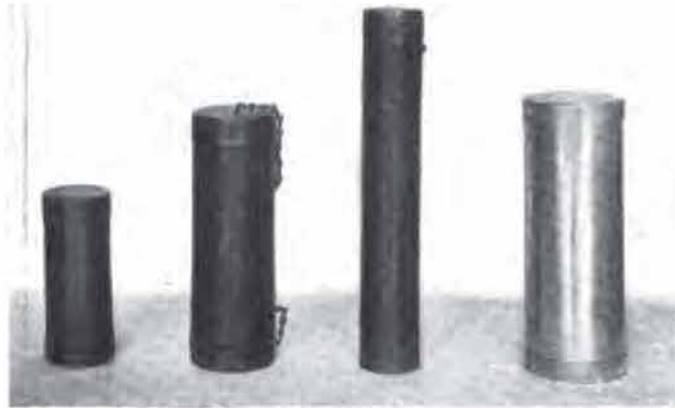


Fig. 10.—Volsella Forceps.

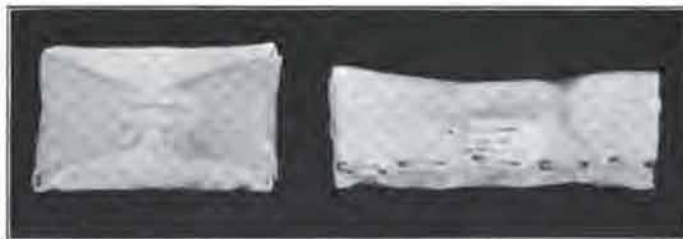
minutes, using a sterilized brush and soft soap provided in the labor bag, employing running water if possible and removing the dirt from under the nails with the wooden pick provided for this purpose. When this portion of the scrubbing is completed, the nail brush is laid on the open brush case and not at random anywhere else. The patient's genitals are then washed with soap and water after the pubic hair has been clipped and are rinsed with whatever antiseptic solution is pre-

ferred; in our case a 1-2000 bichloride of mercury. The doctor's hands are again scrubbed for two minutes and rinsed with the solution. The patient is now ready for the introduction of the fingers of the examining hand into the vagina, previous to which the labia must be held apart by the fingers of the free hand so that no foreign material is carried



Metal containers for sterilized nail-brush, cotton douche-tubes, and vulvar pads, as used in the Out-door Service of the Lying-In Hospital.

into the vagina by the examining fingers. In making the vaginal examination, the following points are to be noted: condition of the external genitals, including dilated veins, venereal lesions, etc., patency of the vaginal canal (obstructive bands, etc.,) the mobility of the coccyx, the position of the ischial spines, the outline of the pelvic brim as far as this



Wrapped up sterile towels and perineorrhaphy instruments.

can be determined, the sacral promontory, the degree of cervical softening and dilatation, the ruptured or unruptured condition of the membranes and the position and engagement of the presenting part and if this is a vertex, that of the sutures and fontanelles.

Cleanliness is the secret of success both in surgery and obstetrics and there are many methods laid down for obtaining the same. One may adopt which ever seems best, but it should always be remembered that surgical cleanliness must be absolute and that not the smallest break must occur, for it is evident that washing the hands with the utmost care and attention to detail will be of no avail if these hands become contaminated at any time during the conduct of the case. The rules for surgical cleanliness of the Out-Door department in the Lying-In



Kelly pad and special douche-bag with wide open top.

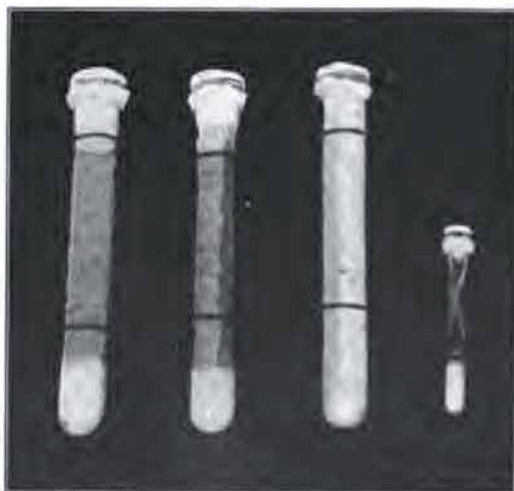
Hospital have worked well in over eighty thousand cases and we have no hesitation in quoting them as a safe procedure.

When the physician assumes the care of a woman who expects to be confined, he should feel that he is responsible for her welfare, not only until the child is born, but until the woman has completely recovered. He must therefore make a careful antepartum examination of each case and likewise guard against the numerous complications of pregnancy which may arise, such as toxemia, etc. He must also make

certain that the general health of the patient is such that she will be able to bear the added strain of motherhood and he must likewise warn her against various complications of pregnancy that may occur. He must likewise instruct the patient when to send for him and have her prepare the room in which she expects to be confined. An abundance of hot water, clean linen and towels must always be provided by the pa-



Containers for cord dressings, boric acid wipes, and umbilical tape.



Sterile gauze and silk-worm gut in glass tubes.

tient. A good sized fish-boiler makes an excellent sterilizer for instruments, etc. During the course of the labor much time may be saved by adopting for the patient the postural treatment recommended by Dr. King of Washington which is especially valuable during the first, and a part of the second stage. Kindly sympathy and encouragement will do a great deal to alleviate the patient's suffering during labor and

aid her confidence in the attending physician, so that she may make the best use of all her own efforts, both mental and physical to shorten the actual time of her labor.

Normal labor cases are best delivered in their own beds. The Kelly pad serves to protect the bed from the patient's discharges and also the patient from the bed. The lateral position may be used at the time of delivery as it raises the patient's genitals from the bed and thus improves the asepsis of both patient and attendant. The position of the patient during the delivery may, however, be a matter of choice with the physician.

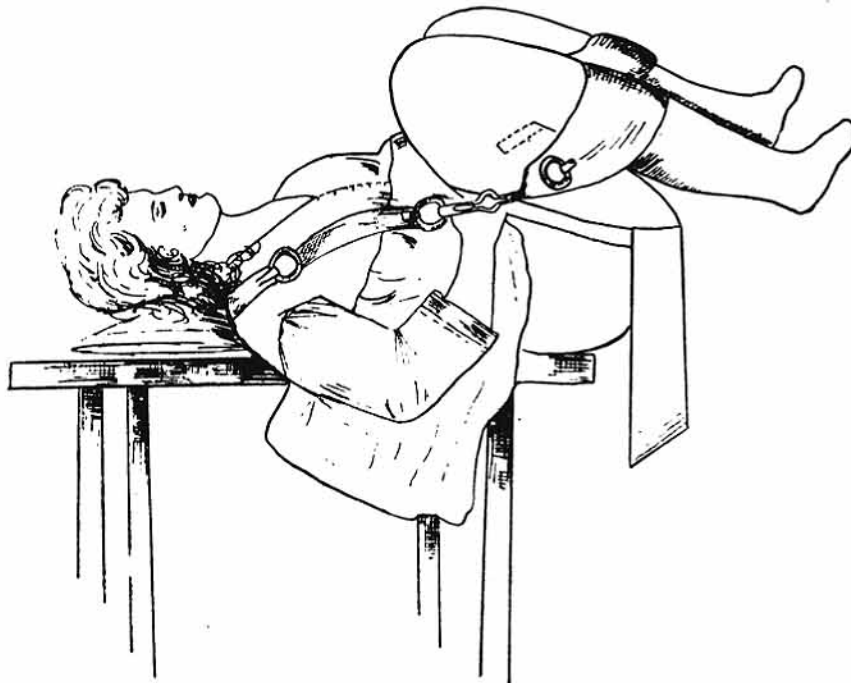


Fig. 11.—Method of draping patient for operative delivery, showing leg holders.

When an operative procedure becomes imminent, the necessary instruments are sterilized by boiling after wrapping them up in towels. The patient is removed to the kitchen table and after anesthesia is properly induced, she is put into the lithotomy position with the assistance of a small canvas leg holder or twisted bed sheet. The application of the same and the draping with sterilized towels is shown in the accompanying illustration (Fig. 11). The towels are draped as follows: one across the perineum suspended from a strip of adhesive plaster passed around the thighs. One is pinned around each leg and one laid across the abdomen. This procedure insures quite thorough asepsis of the immediate field of operation and the surroundings, which together with the care

bestowed in cleansing the hands, affords a satisfactory method of guarding against the possibility of ordinary puerperal infection. The preservation of the sterility of the hands after such a preparation is largely a matter of training and the habit of refraining from contamination of the clean hands, is only acquired by continued thoughtful practice and the development of what may be termed an "aseptic conscience."

When instruments become necessary, we may regard the average female pelvis in so far as the use of forceps is concerned, to include such slight variations that these may be safely disregarded. Therefore our forceps blades must be devised in such a manner that they will be neither too

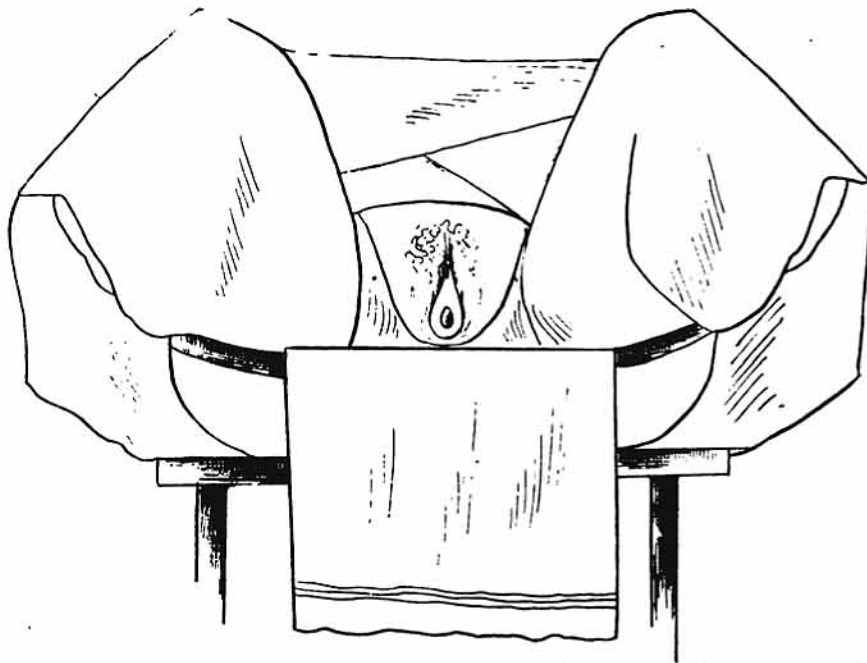


Fig. 12.—Draping for operative deliveries, showing adhesive strap with towel and sheets covering the legs.

large nor too small to readily pass into and through the pelvis up to the brim. The distance from the tip of the coccyx to the pubic symphysis is about 12.7 cm. and from the symphysis to the promontory about 10 cm., therefore the forceps blades must not be longer than 10 cm. If the forceps here described are laid upon a table, it will be seen that the handles curve upward to such a degree that the tips are about 8 cm. above the table and the distance from the beginning of the upward pelvic curves will be about 9 cm. We must not forget, moreover, that there are two curves to be considered in every forceps, one devoted entirely to the child's head and the other to the mother's pelvis and I would urge that in applying the blades the fact be kept in mind: namely, that primarily we must

apply the forceps blades to the pelvis and secondarily to the child's head when this is met with.

In the first place we take up the pelvic application of the blade, ignoring the cephalic curve. The method which seems to the writer the most nearly correct in a mechanical sense, is to place the left blade in the vagina at the outlet so that its tip lies directly in the centre midway between the symphysis in front and the coccyx behind, while laterally it must be midway between the tuberosities of the ischia. It will then lie in the center of all the axes of the pelvis or at the beginning of the so-called curve of Carus. Then by depressing the handle, always in the median line, the tip will pass through the center of the pelvis to the brim. In order to do this correctly, one must gently press the thumb against the blade so as to keep it near the symphysis, thereby making the latter the point around which the blade rotates.

In describing the passing of the forceps into the pelvis we have purposely not taken into consideration the head of the child, for to make an application of the blade to the head is an entirely different procedure. To do this one must bear in mind the cephalic curve only, remembering to keep the blade in the median line, and not until the head is reached do you rotate the entire blade upon its own axis. By so doing you will find that the cephalic curve will, with the greatest ease, pass along the side of the child's head until it is in exact approximation, provided the presentation is a normal one.

That these methods of forceps introduction are correct from a mechanical point of view, is proved, I believe, by the fact that if you will remove each blade by simply pressing the handle upward in the opposite direction from which it was introduced, you will find that it will repeat in reverse order, the exact motions above described for its introduction.

Craniotomy or embryotomy may become necessary in rare cases but since a careful antepartum examination and various obstetrical operations have become perfected, one hears of those procedures much less frequently which call for a reduction of the size of the child while still within the parturient canal.

The indications for craniotomy or embryotomy are, the death of the child and the impossibility of delivery by the ordinary means, including version, forceps, or other procedure that will not jeopardize the mother. Cases that come to maternity hospitals for such operations are usually badly complicated by unskilled efforts to deliver the same by main force in which bruising and lacerations of the maternal tissue favor greatly the production of septic infection.

The writer desires to present a simplified procedure for the performance of a craniotomy and a set of instruments that have given very good results in his hands. They are comparatively free from danger in their employment and may be used by the general practitioner who

feels himself capable or is unable to secure the assistance of an assistant, for there is no one engaged in obstetrical work but at some time or other has not been forced to resort to a destructive operation to complete a delivery which he honestly believed would have been completed by forceps or version. In such cases the danger to the mother of exhaustion is imminent and when after the usual methods of delivery are exhausted and all signs of life in the child are extinct, immediate delivery becomes necessary, then this operation should be done as soon as possible to preserve the life of the mother.

It would be wise to call upon a confrère to confirm the death of the child and with his aid to proceed with its extraction by reducing the size of the same. As a preliminary to the introduction of the instruments, complete dilatation of the cervix is essential. The patient should therefore be placed on a table and subjected to general anesthesia after which she is placed in the lithotomy position and properly draped in the manner already described. The first instrument to be employed in craniotomy, is the perforator, for which purpose the Smellie scissors as illustrated herewith, is the most satisfactory contrivance, as it is light in weight, can be readily sterilized, and when properly used will entirely break up the contents of the cranial cavity. After determining the position of a fontanelle, the operator passes the Smellie scissors protected by the palm and fingers, into the vagina and against the fontanelle, pressure on the head being made from above by an assistant. With the other hand the points of the scissors are pressed against the scalp, then pushed carefully through the fontanelle or suture line. After they have penetrated the skull the blades should be opened to their fullest extent and rotated in both directions so as to break up the brain substance. After removing the scissors, the cranioclast of Simpson (Fig. 3) is employed for compression and extraction, which are the next steps in the operation. The instrument is composed of two blades, one with serrated sides which is intended to engage in the opening made by the perforator and after the other or fenestrated blade has been applied to the outside of the skull, partakes in the compression of the latter. There is no binding screw in this instrument as in that of Braun and several of the other makes but I have found that once the blades are locked, the operator by carefully rotating them on their long axis, is able to fold the crushed head around the forceps, thus reducing its size. At the same time, traction is made in the direction of the pelvic curve, care being exercised not to put any pressure forward against the symphysis, bladder or urethra. During the process of extraction and rotation, the fingers of the free hand must be kept in touch with the collapsed head to make sure that no splinters of bone protrude to damage the maternal soft parts. The operator must also determine at this time whether the shoulders are following the head into the pelvic canal. A warning must again be extended against making pressure towards the symphysis or bladder as

this will not only increase the difficulty of extraction but may produce considerable damage to this organ. Where a version has been attempted and the after-coming head proves too large to come through the pelvis, perforation must be made through the base of the skull, entering by means of a suture if possible. In some cases after the Smellie scissors have been employed, the cranioclast may be unnecessary as a collapse of the skull often follows the evacuation of the brain material. It is only rarely that the body of the child interferes with delivery to such an extent as to call for morcellation but if such an occasion arises, the blunt hook is a great assistance in drawing down an arm or a leg, thereby breaking up the fetal wedge, or in cases where the shoulders of a large child are firmly impacted in a comparatively small pelvis, it may be expedient to cut the clavicles so as to reduce the size of the shoulder girdle. This is best done by inserting the blunt hook in an axilla, then with the heavy Braun scissors cutting through the clavicles at their mid-point. In extracting the trunk after embryotomy, the heavy Braun fenestrated forceps will give a very firm hold and by twisting the same on their long axis during the extraction, the latter is often rendered easier. After the child has been completely delivered it has been the author's custom to remove the placenta manually in case this did not come away spontaneously. For the repair of lacerations occurring during the delivery, the ribbon retractors shown in Fig. 8 will be found invaluable, for with these and the volsella forceps, the cervix can be drawn down and any deep lacerations present repaired, thus avoiding the possibility of hemorrhage from this source. The perineum must also be examined and repaired at this time unless the patient is in extreme shock when such reparative operation may be deferred for twenty-four hours or more until the woman is in better condition for the same.

The suggestions for the conduct of labor cases outlined above are intended to serve as a guide to the practitioner who is desirous or compelled to depend on his own efforts for the conduct of obstetrical cases. The description of the various procedures is not intended to be a complete one but it is hoped that it will convey to the reader the results of my personal experience in such matters, both in hospital and private practice.
