

placenta. The hemorrhage ceased upon the reposition and cleaning out of the uterus, and the patient made a good recovery. She has been again pregnant.

This woman was anæmic to a marked degree, and her abdominal walls so thin that a finger in the uterus could readily be felt above the pubes. There is not the slightest doubt about the inversion, which was proved to exist a short time before the change of posture by Prof. Agnew, who made a finger in the rectum meet another above the pubes, and there was no fundus between them.

Two¹ cases are upon record where reposition was the result of falls, one at eight months and the other after as many years. Drs. Mœhring, C. D. Meigs, H. L. Hodge, and Warrington, of this city, failed to replace a uterus, and the woman again became pregnant in about six years, aborting with a three months' fetus under the care of Dr. Warrington. Dr. Meigs saw a second case with Dr. Levis, in which there was violent flooding followed by hemorrhages, which gradually declined. After her return from a journey West she became pregnant and bore a child. Dr. John L. Atlee, of Lancaster, failed to replace the uterus of a woman, but she recovered spontaneously and bore a child a year afterward.² Dr. Johnson F. Hatch, of Kent, Connecticut, reported a case in a letter to Dr. C. D. Meigs in which inversion occurred spontaneously fourteen or fifteen hours after labor. After being under the care of several physicians, she had, at the end of eighteen months, two severe hemorrhagic attacks, after which she improved, and finally, at the end of two years and nine months, bore a child of nine pounds and six ounces.

In all cases spontaneous reposition appears to result from a softening and thinning of the uterine walls as the result of anæmia brought on by hemorrhages. This was particularly noticed by Boivin and Dugés in autopsies of women dying of repeated hemorrhages.—ED.]

[¹ See Daillez, *Essai sur le Renversément de la Matrice*, Paris, 1805, pp. 105-107.]

[² Meigs' *Obstetrics*, Philadelphia, 1832, p. 608.]

PART IV.

OBSTETRIC OPERATIONS.

CHAPTER I.

INDUCTION OF PREMATURE LABOR.

History of the Operation.—The first of the obstetric operations we have to consider is the *induction of premature labor*, an operation which, like the use of forceps, was first suggested and practised in England, and the recognition of which, as a legitimate procedure, we also chiefly owe to the labor of English obstetricians, in spite of much opposition both at home and abroad. It is not known with certainty to whom we owe the original suggestion, but we are told by Denman that in the year 1756 there was a consultation of the most eminent physicians at that time in London, to consider the advantages which might be expected from the operation. The proposal met with formal approval, and was shortly after carried into practice by Dr. Macaulay, the patient being the wife of a linendraper in the Strand. From that time it has flourished in Great Britain, the sphere of its application has been largely increased, and it has been the means of saving many mothers and children who would otherwise, in all probability, have perished. On the Continent it was long before the operation was sanctioned or practised. Although recommended by some of the most eminent German practitioners, it was not actually performed until the year 1804. In France the opposition was long-continued and bitter. Many of the leading teachers strongly denounced it, and the Academy of Medicine formally discountenanced it so late as the year 1827. The objections were chiefly based on religious grounds, but partly, no doubt, on mistaken notions as to the object proposed to be gained. Although frequently discussed, the operation was never actually carried into practice until the year 1831, when Stoltz performed it with success. Since that time opposition has greatly ceased, and it is now employed and highly recommended by the most distinguished obstetricians of the French schools.

Objects of the Operation.—In inducing premature labor, we propose to avoid or lessen the risk to which, in certain cases, the mother is exposed by delivery at term, or to save the life of the child which might otherwise be endangered. Hence the operation may be indicated either on account of the mother alone, or of the child alone, or, as not unfrequently happens, of both together.

In by far the largest number of cases the operation is performed on account of defective proportion between the child and the maternal passages, due to some abnormal condition on the part of the mother. This want of proportion may depend on the presence of tumors either of the uterus or growing from the pelvis. But most frequently it arises from deformity of the pelvis (p. 415), and it is needless to repeat what has been said on that point. I shall therefore only briefly refer to a few more uncommon causes which occasionally necessitate its performance.

One of these is an habitually large, or over-firmly ossified, fetal head. Should we meet with a case in which the labors are always extremely difficult, and the head apparently of unusual size, although there is no apparent want of space in the pelvis, the induction of labor would be perfectly justifiable, and in all probability would accomplish the desired object. In such cases the full period of delivery would require to be anticipated by a very short time. A week or a fortnight might make all the difference between a labor of extreme severity and one of comparative ease.

There is a large class of cases in which the condition of the mother indicates the operation. Many of these have already been considered when treating of the diseases of pregnancy. Amongst them may be mentioned vomiting which has resisted all treatment, and which has produced a state of exhaustion threatening to prove fatal; chorea, albuminuria, convulsions, or mania; excessive anasarca, ascites, or dyspnoea connected with disease of the heart, lungs, or liver, which may be, in a great measure, caused by the pressure of the enlarged uterus; in fact, any condition or disease affecting the mother, provided only we are convinced that the termination of pregnancy would give the patient relief, and that its continuance would involve serious danger. It need hardly be pointed out that the induction of labor for any such causes involves great responsibility, and is decidedly open to abuse; no practitioner would, therefore, be justified in resorting to it—especially if the child has not reached a viable age—without the most anxious consideration. No general rules can be laid down. Each case must be treated on its own merits. It is obvious that the nearer the patient is to the full period, the greater will be the chance of the child surviving, and the less hesitation need then be felt in consulting the interest of the mother.

In another class of cases the operation is indicated by circumstances affecting the life of the child alone. Of these the most common are those in which the child dies, in several successive pregnancies, before the termination of utero-gestation. This is generally the result of fatty, calcareous, or syphilitic degeneration of the placenta, which is thus rendered incapable of performing its functions. These changes in the placenta seldom commence until a comparatively advanced period of pregnancy; so that if labor be somewhat hastened we may hope to enable the patient to give birth to a living and healthy child. The experience of the mother will indicate the period at which the death of the fetus has formerly taken place, as she would then have appreciated a difference in her sensations, a diminution in the vigor of

the fetal movements, a sense of weight and coldness, and similar signs. For some weeks before the time at which this change has been experienced, we should carefully auscultate the fetal heart from day to day, and in most cases the approach of danger will be indicated sufficiently soon to enable us to interfere with success, by tumultuous and irregular pulsations, or a failure in their strength and frequency. On the detection of these, or on the mother feeling that the movements of the child are becoming less strong, the operation should at once be performed. Simpson also induced premature labor with success in a patient who had twice given birth to hydrocephalic children. In the third pregnancy, which he terminated before the natural period, the child was well formed and healthy.

Some obstetricians have proposed to induce labor, with the view of saving the child, when the mother was suffering from mortal disease. This indication is however, so extremely doubtful, from a moral point of view, that it can hardly be considered as ever justifiable.

Various Methods of Inducing Labor.—The means adopted for the induction of labor are very numerous. Some of them act through the maternal circulation, as the administration of ergot and other oxytocics; others by their power of exciting reflex action, or by interfering with the integrity of the ovum, or by a combination of both, as the vaginal douche, separation of the membranes from the uterine walls, puncture of the ovum, dilatation of the os, stimulating enemata, or irritation of the breasts. The former class are never employed in modern obstetric practice. Of the latter, some offer special advantages in particular cases, but none are equally adapted for all emergencies. Often a combination of more methods than one will be found most useful. I shall mention the various methods in use, and discuss briefly the relative advantages and disadvantages of each.

Puncture of Membranes.—The evacuation of the liquor amnii by the puncture of the membranes was the first method practised, and was that recommended by Denman and all the earlier writers. It is the most certain which can be employed, as it never fails, sooner or later, to induce uterine contractions. There are, however, several disadvantages connected with it which are sufficient to contra-indicate its use in the majority of cases. It is uncertain as regards the time taken in producing the desired effect, pains sometimes coming on within a few hours, but occasionally not until several days have elapsed. The contracting walls of the uterus press directly on the body of the child, which, being frail and immature, is less able to bear the pressure than at the full period of pregnancy. Hence it involves great risk to the fetus. Besides, the escape of the water does away with the fluid wedge so useful in dilating the os, and should version be necessary from malpresentation—a complication more likely to occur than in natural labor—the operation would have to be performed under very unfavorable conditions. These objections are sufficient to justify the ordinary opinion that this procedure should not be adopted unless other means have been tried and failed. Every now and then cases are met with in which it is extremely difficult to arouse the uterus to

action, and under such circumstances, in spite of its drawbacks, this method will be found to be very valuable. When the operation has to be performed before the child is viable—that is, before the seventh month—these objections do not hold, and then it is the simplest and readiest procedure we can adopt. Indeed, in producing early abortion, no other is practicable. The operation itself is most simple, requiring only a quill, stiletted catheter, or other suitable instrument, to be passed up to the os, carefully guarded by the fingers of the left hand previously introduced, and to be pressed against the membranes until perforation is accomplished. Meissner, of Leipzig, has proposed as a modification of this plan, that the membrane should be punctured obliquely, three or four inches above the os, so as to admit of a gradual and partial escape of the amniotic fluid, thus lessening the risk to the child from pressure by the uterus. For this purpose he employed a curved silver canula containing a small trocar, which can be projected after introduction. The risk of injuring the uterus by such an instrument would be considerable, and we have other and better means at our command which render it unnecessary. When we require to produce early abortion, it would be well not to attempt to puncture the membranes with a sharp-pointed instrument. The object can be effected with certainty and greater safety by passing an ordinary uterine sound through the os and turning it around once or twice.

Administration of Oxytocics.—The administration of ergot of rye, either alone or combined with borax and cinnamon, has been sometimes resorted to. This practice has been principally advocated by Ramsbotham, who was in the habit of exhibiting scruple doses of the powdered ergot every fourth hour until delivery took place. Sometimes he found that as many as thirty or forty doses were required to effect the object, and occasionally labor commenced after a single dose. Finding that the infantile mortality was very great when this method was followed, he modified it and administered two or three doses only, and, if these proved insufficient, he punctured the membranes. There can be no doubt that ergot possesses the power of inducing uterine contractions. The risk to the child is, however, quite as great as when the membranes are punctured; for not only is it subject to injurious pressure from the tumultuous and irregular contractions which the ergot produces, but the drug itself, when given in large doses, seems to exert a poisonous influence on the fetus. For these reasons ergot may properly be excluded from the available means of inducing labor.

Methods Acting Indirectly on the Uterus.—Various methods have been recommended which act indirectly on the uterus, the source of irritation being at a distance. Thus D'Outrepoint used frequently repeated abdominal frictions and tight bandages. Scanzoni, remembering the intimate connection between the mammæ and uterus, and the tendency which irritation of the former has to induce contraction of the latter, recommended the frequent application of cupping-glasses to the breasts. Radford and others have employed galvanism. Stimulating enemata have been employed. All these methods have occasionally proved successful, and, unlike the former plans we have

mentioned, they are not attended by any special risk to the child. They are, however, much too uncertain to be relied on, besides being irksome both to the patient and practitioner.

The artificial dilatation of the os uteri in imitation of its natural opening in labor was first practised by Klüge. He was in the habit of passing within the os a tent made of compressed sponge, and allowing it to dilate by imbibition of fluid. If labor was not provoked within twenty-four hours he removed it and introduced one of larger dimensions, changing it as often as was necessary until his object was accomplished. Although this operation seldom failed to induce labor, it had the disadvantage of occupying an indefinite time, and the irritation produced was often painful and annoying. Dr. Keiller, of Edinburgh, was the first to suggest caoutchouc bags, distended by air, as a means of dilating the os. This plan has been perfected by Dr. Robert Barnes in his well-known dilators, which are of great use in many cases in which artificial dilatation of the cervix is necessary. They consist of a series of India-rubber bags of various sizes with a tube attached (Fig. 157), through which water can be injected by an ordinary Higginson's syringe. They have a small pouch fixed externally, in which a sound can be placed, so as to facilitate their introduction. When distended with water the bags assume somewhat of a fiddle shape, bulging at both extremities, which insures their being retained within the os. When first introduced into practice as a means of inducing labor, it was thought that this method gave a complete control over the process, so that it could be concluded within a definite time at the will of the operator. The experience of those who have used it much has certainly not justified this anticipation. It is true that occasionally contractions supervene within a few hours after dilatation has been commenced; but, on the other hand, the uterus often responds very imperfectly to this kind of stimulus, and the bags may be inserted for many consecutive hours without the desired result supervening, the puncture of the membranes being eventually necessary in order to hasten the process.

Indeed, my own experience would lead me to the conclusion that, as a means of evoking uterine contraction, cervical dilatation is very unsatisfactory. Dr. Barnes himself has evidently seen reason to modify his original views, for while he at first talked of the bags as enabling us to induce labor with certainty at a given time, he has since recommended that uterine action should be first provoked by other means, the dilators being subsequently used to accelerate the labor thus brought on. The bags thus employed find, as I believe, their most useful and a very valuable application; but when used in this way they cannot be considered a means of originating uterine action. A subsidiary objection to the bags is the risk of displacing the presenting part. I have, for example, introduced them when the head was presenting, and, on their removal, found the shoulder lying over the os.

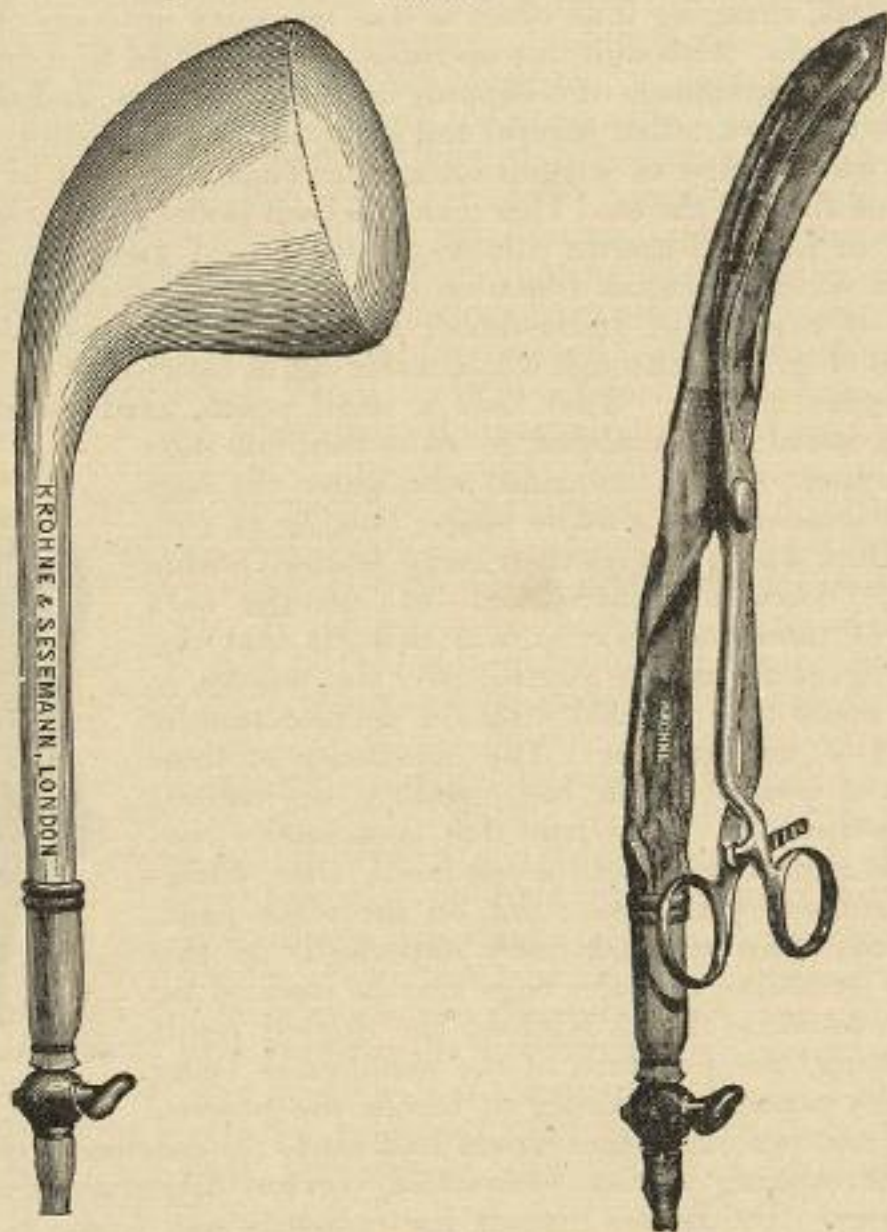
FIG. 157.



Barnes bag for dilating the cervix.

It is not difficult to understand how the continuous pressure of a distended bag in the internal os might easily push away the head, which is so readily movable so long as the membranes are unruptured. Still, if labor be in progress, and the os insufficiently dilated, the possibility of this occurrence is not a sufficient reason for not availing ourselves of the undoubtedly valuable assistance which the dilators are capable

FIG. 158.



Champetier de Ribes' dilator and introducing forceps.

of giving. A modified form of dilator, invented by Champetier de Ribes,¹ has been highly spoken of and promises to be useful (Fig. 158). It differs from Barnes's instrument in being conical, in being made of inelastic waterproof silk, and in being much larger, so that when the expanded bag has passed through the cervical canal, the child can be quickly delivered. It is introduced by special forceps, and left until

¹ Annal. de Gyn., 1888, p. 401.

it is expelled by the pains. The average time in which this happened in sixteen cases was eight hours.

Separation of the Membranes.—Some processes for inducing labor act directly on the ovum by separating the membranes, to a greater or less extent, from the uterine walls. The first procedure of the kind was recommended by Dr. Hamilton, of Edinburgh, and consisted in the gradual separation of the membranes for one or two inches all round the lower segment of the uterus. To reach them the finger had to be gently insinuated into the interior of the os, which was gradually dilated to a sufficient extent by a series of successive operations, repeated at intervals of three or four hours. When this had been accomplished, the forefinger was inserted and swept round between the membranes and the uterus, but it was frequently found necessary to introduce the greater part of the hand to effect the object, and sometimes even this was not sufficient and a female catheter or other instrument had to be used for the purpose. The method was generally successful in bringing on labor, but it now and then failed, even in Dr. Hamilton's hands. It is certainly based on correct principles, but it is tedious and painful, both to the practitioner and the patient, and very uncertain in its time of action. For these reasons it has never been much practised.

Vaginal and Uterine Douches.—In the year 1836, Kiwisch suggested a plan which, from its simplicity, has met with much approval. It consists in projecting, at intervals, a stream of warm or cold water against the os uteri. Its action is doubtless complex. Kiwisch himself believed that relaxation of the soft parts, through the imbibition of water, was the determining cause of labor. Simpson found that the method failed unless the water mechanically separated the membranes from the uterine walls. Besides this effect it probably directly induces reflex action by distending the vagina and dilating the os. In using it, it has been customary to administer a douche twice daily, and more frequently if rapid effects be desired. The number required varies in different cases. The largest number Kiwisch found it necessary to use was seventeen, the smallest five. The average time that elapses before labor sets in is four days. Hence the method is obviously useless when rapid delivery is required.

Dr. Cohen, of Hamburg, introduced an important modification of the process, which has been considerably practised. It consists in passing a silver or gum-elastic catheter some inches within the os, between the membranes and the uterine walls, and injecting the fluid through it directly into the cavity of the uterus. He used creasote or tar water, and injected without stopping until the patient complained of a feeling of distention. Others have found the plan equally efficacious when they only employed a small quantity of plain water, such as seven or eight ounces. Professor Lazarewitch, of St. Petersburg, is a strong advocate of this method. He believes that uterine action is evoked much more rapidly and certainly if the water be injected near the fundus, and he has contrived an instrument for the purpose, with a long metallic nozzle.

Dangers of these Plans.—So many fatal cases have followed these

methods, that it cannot be doubted that, in spite of their certainty and simplicity, there is an element of risk in them that should not be overlooked. Many of these are recorded in Barnes's work, and he comes to the conclusion, which the facts unquestionably justify, that "the douche, whether vaginal or intra-uterine, ought to be absolutely condemned as a means of inducing labor." The precise reason of the danger is not very obvious. Sudden stretching of the uterine walls, producing shock, has been supposed to have caused it; but in many of the fatal cases the symptoms have been rather those attending the passage of air into the veins, and it is easy to understand how air may have been introduced in this way into the large uterine sinuses.

Simpson and Seanzoni have both tried with success the injection of carbonic acid gas into the vagina. Fatal results have, however, followed its employment, and Simpson expressed an opinion that the experiment should not be repeated.

Simpson originally induced labor by passing the uterine sound within the os, and up toward the fundus, and, when it had been inserted to a sufficient extent, moving it slightly from side to side. He was led to adopt this procedure in the belief that we might thus closely imitate the separation of the decidua, which occurs previous to labor at term. Uterine contractions were induced with certainty and ease, but it was found impossible to foretell what time might elapse between the commencement of labor and the operation, which had frequently to be performed more than once. He subsequently modified this procedure by introducing a flexible male catheter, without a stilette, which he allowed to remain in the uterus until contractions were excited. This plan is much used in Germany, and is now that which is also most frequently adopted in England. It is simple and very efficacious, pains coming on almost invariably within twenty-four hours after the catheter or bougie is introduced. A theoretical objection is the possibility of the catheter separating a portion of the placenta and giving rise to hemorrhage; but in practice this has not been found to occur, and the risk might generally be avoided by introducing the catheter at a distance from the placenta, the probable situation of which has been ascertained by auscultation. The more deeply the catheter is introduced, the more certain and rapid is its effect, and not less than seven inches should be pushed up within the os. It is not always easy to insert it so far, especially if a flexible catheter be used, which is apt to be too pliable to pass upward with ease. A solid bougie—male urethral bougie—should, therefore, be employed, or a hollow bougie containing a wire stilette, and I have found its introduction greatly facilitated by anæsthetizing the patient and passing the greater part of the hand into the vagina. In this way it can be pushed in very gently and without any risk of injury to the uterus. Previous to introducing the bougie it should be thoroughly aseptized by the 1:1000 solution, with which the vagina should also be well douched. There is some chance of rupturing the membranes while pushing it upward. This accident, indeed, cannot always be avoided, even when the greatest care is taken; but when it occurs, the puncture will be at a distance from the os, so that a small

portion only of the liquor amnii will escape, and this can scarcely be considered a serious objection. It is always an advantage to allow the pains to come on gradually, and in imitation of natural labor. Therefore, if, after the bougie has been inserted for a sufficient time, uterine contractions come on sufficiently strongly, we may leave the case to be terminated naturally; or, if they be comparatively feeble, we may resort to accelerative procedures, viz., dilatation of the cervix by the fluid bags, and subsequently the puncture of the membranes. In this way we have the labor completely under control; and I believe this method will commend itself to those who have experience of it, as the simplest and most certain mode of inducing labor yet known, and the one most closely imitating the natural process. Of late I have been in the habit of combining dilatation of the cervix with this method, by means of a well-carbolized sponge tent passed into the cervix after the bougie is in position. In ten or twelve hours, when the tent and bougie are removed, the cervix is found well dilated and ready for the passage of the child.

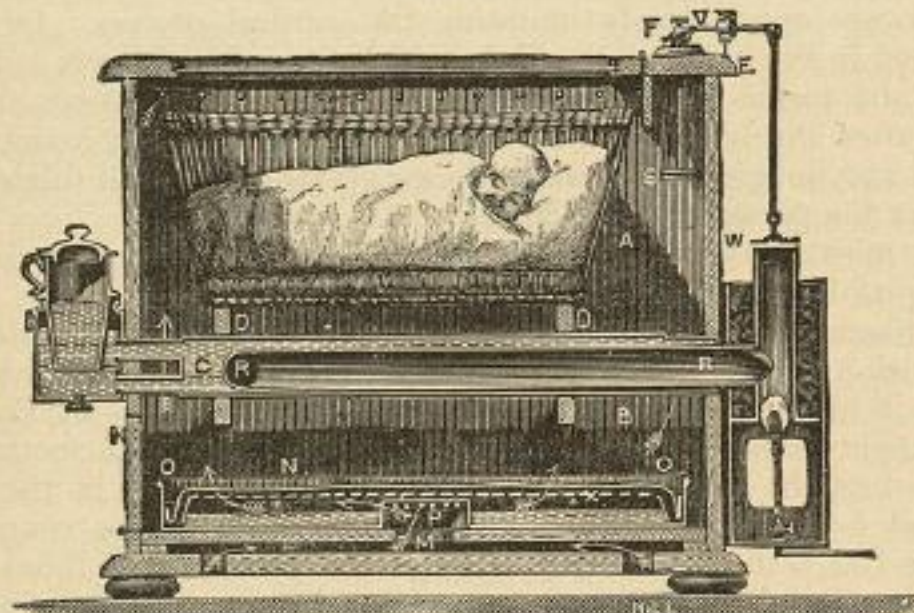
[The most serious objection to the induction of premature labor is the frightful infantile mortality: that of the mothers is quite low in skilful hands. The late Dr. Cesare Belluzzi, of Bologna, recorded 112 cases, with 8 deaths of women and 15 of the fetuses—42 patients were treated in his private practice, and 70 in the Maternity of Bologna. In 9 patients labor was induced because of disease in the mother; in 1 it was brought on because the fetus had usually died in the ninth month of former pregnancies; and in 102 the pelvis was contracted. Of these 102, 6 died—3 out of 38 in private practice, and 3 out of 64 in the hospital. Of the 9 women operated upon because of serious disease, 7 recovered. 35 out of 42 infants were delivered alive in private practice, and 62 out of 70 in the Maternity. The prolonged vitality of the fetus is largely dependent upon the period of gestation which is chosen for the operation; the later the delivery, the better is the prospect of ultimate safety. But a small proportion of the children reach maturity. Of 32 delivered alive in hospital in a period of less than ten years under Dr. Belluzzi, 27 were dead before the expiration of the first year, and 29 in all within two years of birth.—ED.]

It should not be forgotten that the child is immature, and that unusual care is likely to be required to rear it successfully. Indeed, the large infantile mortality after the induction of premature labor forms the most serious objection to the operation. Thus Ludwig Winckel¹ published twenty-five cases of induced labor on account of contracted pelvis. The mothers all recovered, but fourteen of the children were stillborn; of the thirteen born alive, only seven survived a fortnight. If, therefore, we decide on the operation, the parents should be warned of the risks run by the child, although these are not of themselves a sufficient contra-indication to its adoption in suitable cases. We should, therefore, be careful to have at hand all the usual means of resuscitation; and, as the mother may not be able to nurse at once, it would be a good precaution to have a healthy wet-nurse in readiness.

¹ See Harris's note to 6th American edition.

It is a matter of great importance to maintain the animal heat of premature children. For this purpose they are generally wrapped in cotton-wool and kept near the fire, but this is dirty and unsatisfactory. A far better and more hopeful procedure is to place the infant in an incubator or *couveuse*,¹ maintained at a uniform heat by means of a lamp, such as was first introduced by Tarnier. I used a modification of this apparatus, such as is here figured (Fig. 159), in a case in which the fetus could, at the most, have been at the sixth month, keeping it for three months in the heated chamber, at a temperature varying

FIG. 159.



Hearson's thermostatic nurse. c. Tank of warm water interposed between upper and lower compartments (A and B). d, d. Slips of wood supporting cradle. s. Capsule containing a liquid which boils at the temperature at which it is desired to keep the chamber, A. From the centre of the capsule, s, a stiff wire passes out through the top of the apparatus, where it comes into contact with a light lever, v, which is hinged at p. From the free end of this lever hangs a damper (w), which rests on the top of the chimney under which the flame burns. If the temperature in the compartment A rises too high, the fluid in the capsule (s) boils and expands the capsule, thus raising the wire rod, which, acting on the lever v, at once lifts the damper (w) off the chimney, allowing the heat from the flame to escape by that outlet and preventing the further heating of the water. x. Aperture for entrance of air. o. Tray containing water. The centre of this tray is raised in the form of a cap (r), which fits over the aperture x, through which the air enters. It is perforated all around its sides, so that the air passes through it horizontally, as shown by the arrows, instead of rising vertically. Another tray (x) of very coarsely perforated zinc, somewhat smaller than the first, is turned upside down within it, and over this is fitted the coarse canvas (N), the edges of which are tucked into the water all around. Thus the air entering is constantly moistened as well as heated. n, n. Flue shaped like the letter U, through which the heated air from the flame passes, so as to twice traverse the length of the water-tank, and thus keep the water heated. In the top of the apparatus is a glass window through which the infant is kept in view. If a higher temperature than the boiling-point of the liquid within the capsule be desired, this can be obtained by moving the weight, z, along the lever toward the end to which the damper is attached.

from 80° to 90° F., with a most satisfactory result. The apparatus is, however, costly, and requires a great deal of attention and supervision, so that it is clearly only suitable for use in maternity hospitals or in the houses of such patients as are able to incur the necessary expense.

¹ Auvard: "De la Couveuse pour Enfants," Arch. de Tocologie, Oct. 1883, p. 577.

CHAPTER II.

TURNING.

History of the Operation.—Turning, by which we mean the alteration of the position of the fetus, and the substitution of some other portion of the body for that originally presenting, is one of the most important of obstetric operations, and merits careful study. It is also one of the most ancient, and was evidently known to the Greek and Roman physicians. Up to the fifteenth century, cephalic version—that in which the head of the fetus is brought over the os uteri—was almost exclusively practised, when Paré and his pupil Guillemeau taught the propriety of bringing the feet down first. It was by the latter physician especially that the steps of the operation were clearly defined; and the French have undoubtedly the merit both of perfecting its performance and of establishing the indications which should lead to its use. Indeed, it was then much more frequently performed than in later times, since no other means of effecting artificial delivery were known which did not involve the death of the child; and practitioners, doubtless, acquired great skill in its performance, and were inclined to overrate its importance and extend its use to unsuitable cases. An opposite error was fallen into after the invention of the forceps, which for a time led to the abandonment of turning in certain conditions for which it was well adapted, and in which it has only of late years been again practised.

Cephalic version has, since Paré wrote, been recommended and practised from time to time, but the difficulty of performing it satisfactorily was so great that it never became an established operation. Dr. Braxton Hicks has perfected a method by which it can be accomplished with greater ease and certainty, and which renders it a legitimate and satisfactory resort in suitable cases. To him we are also indebted for introducing a method of turning without passing the entire hand into the cavity of the uterus, which, under favorable circumstances, is not only easy of performance, but deprives the operation of one of its greatest dangers.

The possibility of effecting version by external manipulation has been long known, and was distinctly referred to and recommended by Dr. John Pechey¹ so far back as the year 1698. Since that time it has been strongly advocated by Wigand and his followers; and various authors in England, notably Sir James Simpson, have referred to the advantage to be derived from external manipulation assisting the hand in the interior of the uterus. In 1854 Dr. Wright, of

¹ The Complete Midwife's Practice, p. 142.