DIFFICULT LABORS

AND THEIR

TREATMENT,

BY

M. B. WRIGHT, M. D., of Cincinnati.

FOR WHICH A GOLD MEDAL WAS AWARDED BY THE

Ohio State Medical Society.

CINCINNAT:
"WEST AMERICAN MONTHLY"—PRINT.
No. 103 Walnut Street.
1854.

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" True things instead of Pleasant things."

The eagerness with which the professional mind has engaged in its search after undiscovered truth, or in its efforts to revive rejected opinions, has given it often a proclivity to extremes. These extremes, like opposite promontories of a great continent, are of little exclusive value. Their importance consists in the facilities and inducements they may have offered, for the exploration and cultivation of the space which lies between.

These remarks apply, not only to the Science of Medicine in general, but to its obstetrical department. General principles have been established as lights for our guidance, and the successful application of many has stamped them with a true value, but errors in practice were introduced at an early period, and have descended in almost every obstetrical work of which we have any knowledge. Our object in writing this Essay is to aid in the correction of some of these errors.

The least appearance of opposition to the announced opinions of distinguished Medical men, and the practice of their numerous followers, may give rise to the charge of presumption. But encouragement is given in the outset of our present undertaking, by the reflection, that truth contains as much intrinsic value expressed by those trudging along the humbler walks of the profession, as when inculcated by the Professor in his chair, or transfered from page to page throughout a long line of standard publications.

It will be admitted by those who have had a full share of experience in the treatment of difficult labors, that a few absolute rules cannot be applied successfully to every case. Much is necessarily left to the judg-

ment and tact of the practitioner. While, therefore, nothing will be found in this paper of an arbitrary character, there will be an independent attempt to correct errors, to lesson the perplexities of the accoucheur, to mitigate suffering, and to save life.

A ready and successful management of difficult labors pre-supposes an intimate knowledge of those which are natural. And if by natural labors are understood those which terminate spontaneously, and without involving necessarily the safety of either mother or child, shoulder presentations may be considered the true type of unnatural or difficult labors, for they almost always demand extrinsic aid.

The satisfactory termination of difficult labors depends upon the correct adaptation of art to the principles of science. Traction is a mechanical act, but to be successful in delivery, it must be made in conformity with scientific details, with due regard to the relation of organs and tissues. The convex surface of the fœtus is correlative with the concave surface of the uterus. If they were inanimate, rigid bodies, the relations of their several parts could not be much changed unless the curved lines of the one, were moved along the curved lines of the other. Their partial flexibility does not exempt them from the operation of the same principle.

The uterus undergoing gradual distention by the growth of the fœtus, and by increase in the quantity of liquor amnii, is not from this cause alone excited to an expulsion of its contents. Let a strong and sudden mechanical force be applied to the fibres of the uterus, even to a limited extent, and contraction will speedily follow. If any portion of the foetus should be pushed forcibly against the fundus of the uterus, by attempts to rectify a malpresentation, a more than corresponding resistance would soon apprise us of a want of adroitness, and the probabilities of failure. The hand of the manipulator in the vagina, imparts a sense of fulness, and induces expulsive efforts on the part of the mother. Pressure on the internal face of the perineum, or along the recto-vaginal septum, urges the uterus to renewed or more energetic action. Simple contact of the uterine and fœtal surfaces in turning, does not produce undue contraction of the uterine walls. The presence of the hand, added to that of the fœtus, within the uertus, is a common cause of irritation and expulsive force. But the fact which we most desire to enforce here, is, that when the fœtus, in the operation of turning, is moved in straight lines, and sensibly displaced the uterine fibres with which it comes in contact, it is speedily

forces back to its original mal-position ; nor can its displacement be easily rectified, except it be moved in conformity to the curvatures of the cavity in which it is contained.

Difficult labor, arising from the presence of either, the right or left shoulder of the fœtus, at the brim of the pelvis, is not common. Indeed, some prominent obstetricians know nothing of it from experience. He who refuses to examine its nature carefully, however, on this account, will find in the hour of trial, that he has been untrue to himself, and that the lives of confiding and beloved ones, are in double peril. Difficult labors, in truth, cannot be successfully managed without a knowledge of their character, not to say the possession of tact derived from experience. Without the one, he cannot exercise the other. In natural, a want of knowledge would be more excusable than in unnatural cases. The former may terminate favorably, in the midst of *inactive* ignorance ; the latter *require action*, guided by an enlightened judgment. A man may justly congratulate himself that he has never been entrusted with the management of a difficult case of labor, but he should not cherish the belief, on this account, that his next case will not require special interference. With the present knowledge of the profession, it is impossible to determine the nature of a presentation from external appearance, or from the feelings of the pregnant woman. And it is hardly to be presumed, that a Physician will examine all his patients during the progress of gestation, with a view to ascertain the kind of presentation he is to meet; admitting, that in some cases, the position of the fœtus may be ascertained by manipulation through the walls of the abdomen, and by vaginal touch. Hence, the importance of being prepared to treat every case that may occur, in the best possible manner.

It has been claimed, that nature is adequate to the accomplishment of her own wise designs, and that shoulder presentations may be left with safety to the spontaneous action of the uterus. None, among the controlling spirits of our profession, have enforced this doctrine more strongly than Denman. He contended that by the alternate contractions of the uterus, the shoulder was moved from its position, until the head or breach occupied its place and became the fixed presentation. It may be admitted, indeed, we know, that the shoulder has receded, and the breech has subsequently presented in one case, and the head in the other. Hence the language of Dr. Denman—"spontaneous evolution of the fœtus"—may still be retained.

At a subsequent period, Dr. Douglass, of Dublin, gave a different explanation of the manner in which spontaneous delivery was accomplished in shoulder presentation. The accuracy of his views have been acknowledged by more recent writers, who have had opportunities for observation.

Dr. Churchill says, "the head and the shoulder depressed in the pelvis, are fixed, and the remainder of the body doubled up, is inch by inch forced into the pelvis, and through the external parts, until all below the arm is expelled, leaving the case to terminate as a breech or foot presentation. At no part of the process is the arm at all retracted; but if moved at all, it is still further protruded, the name of "spontaneous expulsion," given by Dr. Douglass, is therefore more suitable than that of "spontaneous evolution." Still, the question is not, whether spontaneous delivery is accomplished in these cases by "evolution," or "expulsion," but whether the Physician should stand idle, and hope for delivery by the long continued agonies of his patient.

By referring to the rough sketches appended to this paper,* and by reading the following quotation, some faint idea may be formed of the intense and protracted suffering to which a woman is subject, during "spontaneous expulsion," at full term.

"Immediately after the rupture of the membranes, the parts diminish in size by the compression they undergo. The first period is the analogue of flexion in the presentation of the vertex, of extension in that of the face, and of the lessening of the parts in the presentation of the pelvic extremity. Then the shoulder descends gradually, and, in proportion as it enters the excavation, it executes a movement of rotation, which places the head on the horizontal branch of the left pubis, and thence under the pubic arcade. After this movement the arm disengages, and passes out of the vulva; sometimes the expulsion of the arm takes place before this period. When the rotation is performed, the period of the descent of the trunk is complete; the side of the fœtus is pushed into the excavation by gliding on the right sacro-iliac symphysis, while the shoulder remains immovable. After the side, the pelvic extremity descends, which also pursues the same direction. Finally, the perineum distends, and then successively pass out at the anterior commissure of the perineum, the lateral and superior portion of the chest, the side properly so called, the hip and pelvic extremity

* See figures 1, 2, 3, 4, 5.

In proportion as these parts are delivered, the head and left arm enter the excavation, but they are soon expelled, and, in most cases, the head does not undergo its movement of internal rotation. In a word, it presents at parts which have been excessively dilated, and it is not solicited by them to perform this movement of rotation. Such is the course pursued, when the dorsal surface of the fœtus corresponds to the surface of the pelvis."

Not only does a labor of this description require unparalleled voluntary efforts—not only does it involve extreme suffering of body and mind, but many patients have died before, or soon after delivery; and, alas, too many of those who may have survived, have found themselves entailed with incurable injury, or infeebled general health.

This is not all. According to M. Velpeau, only twelve children were alive after "spontaneous expulsion," out of one hundred and thirty seven labors.

It is almost certain from the statements of those in whose judgments we are bound to confide, that spontaneous expulsion cannot take place, even with the hazards already enumerated, except in cases where the fœtus is small, or the pelvis unusually capacious.

That a fœtus of full size may pass through the pelvis, the shoulder or side continuing as the presenting portion, without necessary injury to the mother, is proven by the painful details of the following case:

The patient was a young German woman, in labor for the first time. A shoulder presentation was detected at an early period by the midwife, first called in attendance, who, with uncommon prudence and forethought, suggested the necessity of an accoucheur more experienced and skilful than herself. A messenger was speedily dispatched for a Physician of their choice, who, soon after placing himself at the bedside of the patient, decided that the arm which had prolapsed was a leg. To expedite delivery, the arm was seized and was made to sustain for a considerable time strong traction. Sufficient force, however, could not be applied by means of the naked hand to withdraw the child. A towel was interposed, and after repeated efforts and renewed energies, the arm, together with the clavicle and scapula, were torn from their attachments. This, to those present, was a new mode of proceeding, and not being exactly in accordance with their feelings or judgment, the doctor was requested to withdraw.

The Physician next called, finding an unpromising state of affairs, invited us to share with him the responsibilities of the case. On our arrival at the house, we were informed that the fœtus had been expel-

led by spontaneous action. The midwife, who used her eyes as well as hands, assured us, that one shoulder, and so much of the other as had been left, were born first and at the same time, and that the head and breech escaped also, together. From an examination of the child, it seemed highly probable, that the statements of the midwife were correct. As the pulling at the arm was increased, the shoulder descended more and more ; and the neck of the child was stretched until the face reached the pelvis, and was compressed in the integuments between the crests of the ilia. There it remained imbeded, until our examination of it had been made. The child could not have weighed less than eight or nine pounds. The mother lived, and, as we understand, her convalescence was not protracted.

We are informed by Dr. Dewees that "spontaneous evolution" had never occurred in his practice, and yet he says, "I should therefore recommend waiting for this "spontaneous evolution" whenever turning forbade the hope of saving the child, provided the labour be not complicated by either of the accidents enumerated."

To us the lesson of Dewees is far from being satisfactory on this subject. Notice the language—"whenever turning forbade the hope of saving the child." Are we to allow the woman to suffer on, and on ; not because turning is difficult or impracticable, but because the child is dead ? We cannot suppose this to have been the meaning of so distinguished a practitioner, for if it became a settled doctrine, that the claims of the mother are paramount to those of the child, when both are alive, how much stronger are these claims when the latter is certainly dead.

Perhaps Dr. Dewees entertained to their full extent, the views entertained by Denman, viz : that the shoulder receded from the brim of the pelvis, and that in time the head or breech assumed its place. Suppose he did believe in this change of position and presentation, it was simply a belief in a possibility. If a case had never occurred in the practice of a man of such unlimited experience, what just ground had he to hope that one would soon be presented ? Would any other man be sustained in waiting thus, as a compliment to the doctrine of Denman ? While we admit, with both these distinguished teachers, that "meddlesome midwifery is bad," we greatly fear that tardy action has been followed by a large amount of evil.

Diagnosis.—At an early period of labor, the signs of shoulder presentation are somewhat negative. The membranes may be felt with-

in the os-uteri, but even when relaxed and admitting considerable pressure, the finger can detect nothing beyond. By and by, the os undergoing gradual expansion, the membranes protrude into the vagina. Our suspicions of a mal-presentation are increased, for instead of feeling a broad surface of membranes, and through them a large, round, unresisting body, they are in the shape of a loose, elongated bag. At length, the os-tincæ is fully dilated, but the presentation is no less obscure. Up to the present period, however, all this may frequently be said of the breech presentations, and occasionally those of the head.

The contractions of the uterus occasion a descent of the presentation, until it can be felt at the superior strait. Now the mind is led to ask and answer questions. Is this the vertex? No. It is not hard enough, it has not sufficient circumference, nor has it sutures nor fontanels. Is it the breech? No. There is a something that feels like the tuberosity of the ischium; there is no fissure, there are no genital organs. Is it a foot? No. There are no short toes—no malleoli; there is no heel. It cannot be the hand, for it is without long fingers, and there is absence of wrist, or well defined palm. Is it not the face? If it is, there is neither chin, mouth, nose, eyes, forehead. We will not say anything about the elbow, for if that be near, the shoulder cannot be far off. It must be the shoulder. The shape and size would so indicate—extending the finger upwards, either towards the pubis or sacrum, the axilla may be felt; on one side the clavicle is detected, on the other, the scapula, and during the exploration the ribs and intercostal spaces will assist in the diagnosis.

These several parts are indistinct while the membranes remain unruptured. After their rupture, the presentation descends and is more readily made out. At this time, also, the arm may be moved, which will strengthen our opinion still more. When the arm falls into the vagina, as it may by sudden rupture of the membranes under uterine contraction, or during an examination, there should not be left upon the mind a single doubt. It is true, the arm has been mistaken for a leg, and great mischief has been the result, but a careful examination of the hand will prevent errors of judgment on this point.

Great care has been enjoined upon us in our examination, least the arm should be made to descend into the vagina, and prove an obstacle to successful turning. We regard it so little in the way and so much under our control, that we have not hesitated in a case of doubtful presentation, to draw it down from the superior strait, and use it as a means of more certain diagnosis.

Causes.—Any attempt at a solution of the cause of shoulder presentation would result in a mere waste of time. At best we could arrive at nothing but conjecture, and our object in writing this paper is to present our views in as practical a form as possible. We may venture in passing, however, a few suggestions.

Among the several conditions to which shoulder presentations have been attributed, are the small size of the fœtus, a large accumulation of amniotic fluid, uterine obliquities, pelvic obliquity, long continued agitation of the body, sudden shocks, violent mental emotion, partial contraction of the uterine fibres. Most of these so called causes are daily witnessed, and yet how rare are shoulder presentations.

At this point, we are inclined to adopt the language of Cazeaux, which is—"If we might be permitted to hazard an opinion, after so many others, we should unhesitatingly say, they have erred by seeking only in the fœtus, its form and structure, for the causes of those various positions, exhibited by it in the internal cavity." To engage earnestly in an examination respecting the cause of position of the fœtus, we should deem it necessary to embrace, both the uterus and its contents.

When the ovum enters the uterine cavity, it is liable to be moulded to the shape of the cavity, (speaking mechanically) rather than to expand the uterus. From this moment, (if not before) the prominent functions of the uterus are those of growth and developement; the fundus, and that portion of the body nearest to it, remaining, as in the unimpregnated state, larger than the neck, and inferior portion of the body. This is not to be attributed to a natural tendency in the uterus to uniform expansion only, but to the fact, that the placenta is in the upper portion of the cavity, and demands that the cavity should be here more expanded, than where its contents are less.

The embryo is, at the same time, becoming more and more developed. During the first few weeks it is suspended in the liquor amnii by means of the umbilical chord. At this period, the cephalic extremity being heavier than the pelvic, (however much we may agree with M. Dubois when the *foetus* has become fully developed,) is most dependant, and until it reaches the bottom of the membranes, is subject to the laws of gravity. Afterwards, the uterus will be found to have adapted itself, in all its diameters, to those of the *foetus*, which the *embryo* has now become.

We see then, how the vertex becomes *naturally* the presentation, and it is easy to admit that Madame Boivin had 19,810 vertex, out of 20,517 presentations, that Madame Lachapelle observed the same 14, 677 times, in 15,652 cases, that Dr. Jos. Clarke had 10,387 cases, and out of this number 9,746 with the head in advance, and that Dr. Collin's record is correct in giving 15,912 head presentations, in 16,414 labors.

Vertex presentations therefore, may be justly considered as in accordence with a general law, and all others as violations of this law, just as placenta previa is a departure from the physiological principle, that the placenta shall be attached near the uterine extremity of the fallopian tube, and just as utero-gestation is sometimes earlier, sometimes later, than the natural period of 280 days.

In shoulder, and in breech presentations, the transvere, is often so much longer than the vertical diameter of the uterus, that it is visible, and gives rise to the exclamation, in respect to the woman, what a singular and ugly shape she has! May not shoulder presentations be owing to an early and too rapid expansion of the neck of the uterus, giving to the foetus much room for motion, and subjecting it to influences, which in more natural cases, would have no effect in changing its position?

In considering shoulder presentations, even to a limited extent, several questions very naturally arise.

1. In what manner can a change of presentation be accomplished most easily and successfully?

2. What mode of proceeding will prove most favorable for the mother?

3. How may the life of the child be best preserved?

4. Can any mode of delivery be relied on exclusively?

Two modes of delivery, beside those to which we have already alluded, have been described by obstetrical writers, viz: *podalic version*, or turning by the feet, and *cephalic version*, or turning by the head. Strickly speaking, however, cephalic *version* is not performed, i. e. if *version* and *turning* be considered as they generally are, synonymous terms. When to expedite labor, we substitute the head for the shoulder, we simply remove one part, that the other may occupy its place And we should not allow the sudden impression of a name, to direct our minds into an improper course of proceeding, or we may say, into

an attempt to accomplish that which is impossible. Podalic version, on the contrary, is not only a change of the presenting part, for the feet, but the actual turning of the head, most of an entire circle.

We shall endeavor to answer these questions in the order presented. The first question embraces the general principles of turning, and may be considered the foundation of the whole subject before us. It would afford us much pleasure and cause for exultation, if we could refer to American authorities for full and correct views upon turning, connected with shoulder presentations. For a moment, however, we must bring them before us.

In "Dewees' Midwifery" we find no instructions upon the management of shoulder presentation by cephalic version.

After giving a short quotation from one of the early authors, Prof. Meigs remarks, "It may be that those old practitioners of the days of Queen Elizabeth may have sometimes succeeded by pushing up the presenting shoulder, in getting the head at last to come to the strait again, but such an event appears to me in any case most improbable."

Professor Huston, in a note, to be found in "Churchill's System of Midwifery," says: "The practitioner will experience great difficulty, and most likely fail in attempting to bring down the head in a favorable position when the shoulder presents. I am satisfied from considerable experience that when the arm, shoulder, breast, back or side is the presenting part, it is better to bring down the feet at once, while the condition of the uterus is favorable for turning, than to waste time in attempting to restore the head."

Professor Bedford, who had been induced to translate and edit "Dr. Chailly's Treatise on Midwifery," is silent upon the subject of cephalic version in shoulder presentations.

Professor Miller uses the following language: "Cephalic version has but few advocates at the present day, and is confessedly applicable to such a limited number of cases that it is scarcely worthy of our formal consideration. For this reason, and because I have no experience of it, I shall confine my observations to pelvic version. Again, it is manifest that all attempts forcibly to pass the hand between a powerfully contracted uterus, and the fœtus, must be extremely painful and may cause fatal rupture of the organ. The only resort is mutilation of the child, either by eviscerating its trunk, to enable the operator to

extract it doubled upon itself, in imitation of the natural process of duplication, or by decapitating it in order that the body and head may be seperately extracted."

We hope to satisfy those who may follow us to the end of our paper, that evisceration is not the sad alternative to which we must resort, in those cases in which podalic version is impracticable. Some attention, however, must be given to those European authors, whose opinions and teachings are now before us.

To facilitate turning by the feet, Dr. Churchill recommends the use of the lancet, tart antimony, and opium. He then adds, "should these measures fail, and version be impracticable, we must open the chest of the child, and eviscerate, after which it may be extracted by the crotchet."

Three modes of turning are given by Dr. Ramsbotham, viz., by the feet, the breech and the head. In transverse presentations, he claims "of these three modes, that of raising the shoulder and bringing down the head would be the safest for the child, because there would then be little chance of pressure on the funis umbilicalis, and it is that pressure which usually destroys the foetus, when extracted by the breech or the feet, but although safest for the child, it is the most dangerous to the mother, as well as most difficult to the operator, and the danger, as might be expected, is in proportion to the difficulty." "And in these attempts," speaking of the several steps in turning, "which will most likely require to be repeated, both the *uterus* and *vagina* would be seriously endangered."

If Ramsbotham expressed these views from experience, his manipulations must have been singularly defective. How a change of presentation from the shoulder to the head, accomplished as it can be, by a force scarcely appreciated by the patient, is to endanger both the uterus and vagina, is to my mind past comprehension.

The opinions of Velpeau are expressed in these words. "Cephalic version may therefore be attempted. 1st. In a well formed pelvis, where no other accident has happened except a viscious position of the foetus, and the head is found in an inclined position in the vicinity of the strait. 2nd. In presentations of the shoulder, back or anterior part of the thorax, *provided the arm is not prolapsed*, and the uterus not too much contracted. Lastly, it seems prudent to try it whenever the feet are further removed from the strait than the head is, and where it is probable the labor would terminate spontaneously if the head were

at the strait." These views refer to the method adopted by the early obstetrical writers, of performing cephalic version by manipulations, in part, through the walls of the abdomen.

Speaking of the same kind of cephalic version, Chailly admits "that the delivery will be as happy for the infant and mother as if the vertex had originally presented." "After the rupture of the membranes," he continues, "we must not think of *cephalic version*; pelvic version is the only resource." Again, "after the rupture of the membranes, this operation should be resorted to only *when the pelvis is deformed.*"

A few words in passing as a commentary on the above paragraph. If a change of presentation is safer for mother and child before the membranes are ruptured, why not afterwards? provided undue violence be not employed in effecting the changes. *Violence* would be as likely to destroy the child, as well in podalic as in cephalic version. And if the latter can be performed easily and advantageously when the pelvis is contracted, how can we reason against it, when no obstacle interposes to the ready use of the hand in changing the presenting portion of the foetus?

We have thus given a hasty outline of the views entertained by a few obstetrical writers on the subject of turning in shoulder presentation. How far our own experience, which will now be given, is in accordance with the above, others are at liberty to determine.

Some years since, we had under our care, at different periods, two cases of shoulder presentation. In one of these cases, the membranes gave way under the action of the uterus, before the os-tincae was fully dilated. As the liquor amnii escaped, the shoulder descended so as to be easily felt. Being in the country, and too far to obtain medical advise within a safe period, we determined upon speedy delivery by the feet. The os-tincae soon beeame sufficiently dilated to admit the necessary manipulations, and while passing my hand above the superior strait, the shoulder moved upwards, as if to change its location. A young man, with little experience in turning, but with sufficient knowledge of its difficulties to occasion a dread of its necessity, can appreciate the feelings of the moment, and how willingly the suggestions of nature were adopted. The movements of the fœtus were facilitated, by acting first upon the shoulder, then upon the head; and after the latter had been properly adjusted, and had become fairly engaged in the superior strait, the labor progressed and terminated favorably without further interference.

In the second case, the os-uteri became gradually expanded to its full size, with the membranes uninjured. Pressure upon them with a view to reach the obscure presentation, and a strong contraction of the uterus at the moment, occasioned their rupture. Speedily the shoulder came to the superior strait, and being easily moved as in the above case, was similarly managed.

In both these cases cephalic version was more expeditiously performed, than in the most favorable cases of turning by the feet, that had fallen under our notice. Recently a case occured in our own practice, but as it resembles so closely the above, it is not deemed necessary to enter into particulars. Cases reported by others, will doubtless be received as more conclusive testimony.

In the February No. of the Western Lancet, 1851, Dr. B. F. Richardson reports as follows :

"I was called to see Mrs. S— at 8 o'clock A. M., July 9. 1850, aged 25 years, medium height, robust and compactly built. Upon inquiry of the midwife, (who had been in attendance from an early hour in the night previous) I ascertained that she had been in hard labor during the night, and that the membranes had ruptured seven hours prior to my arrival. Her pains being very strong, with brief intervals, I at once resorted to an examination. I found the right arm in the vagina, with the palm of the hand presenting towards the inner side of the left thigh of the mother. In the upper portion of the vagina were several folds of the funis, in which I detected strong and distinct pulsations. After having remained with the patient about half an hour, observing during each pain, whether the child advanced or changed position, (neither of which occurred) I determined on an exploration, in order to determine the practicability of bringing down the feet. After placing the patient in a convenient position, I slowly passed my right hand into the uterus. As soon as my hand reached the axilla of the child, it encountered considerable constriction from the uterus. After exploring for the neck and head, I directed my hand in search of the feet—passing it up, with the palm applied to the right side of the child, until it reached the ilium ; beyond this point my hand would not pass, with the degree of force employed, which was sufficiently great to be compatable with safety and advantage. The uterus had firmly and persistantly contracted around the pelvis, and over the crest of the ilium. I retained my hand for some time in

its position, hoping to be able to insinuate my fingers beyond this point of constriction, and gain the feet, but was compelled to desist and withdraw my hand, and give over the attempt. My exploration discovered the position of the child to be as follows : its right side presented towards the left iliac fossa—inclining somewhat towards the sacrum. The right side of its neck was projected against the pubic arch, near its junction with the right ilium, the head occupying the right iliac fossa anteriorly. In this position it seemed to be firmly and persistantly maintained. The impossibility of the expulsion of the child (it being evidently above the medium size), without decided manual interference, the great risk to the mother from an attempt to turn, so long after rupture of the membranes, with the firm and constant constriction of the uterus about the child, induced me at once to propose the advise and co-operation of another Physician. By agreement, Prof. M. B. Wright was sent for, it then being between nine and ten o'clock. Expecting some delay, (on account of the numerous engagements of Physicians, generally, at that time), I left the patient for the purpose of visiting some cases of cholera ; with the understanding that word should be left at my residence, when it would suit Dr. Wright's earliest convenience te meet me in the case. Unexpectedly to me the attendance of Dr. Wright was secured immediately —a contingency provided for, however, by my request, that should he return with the messenger, and before my return, to accompany my partner, Dr. Morgan, and do in the case as they thought best for the safety of the parties concerned. Being absent about one hour and a half attending to prior professional engagements, I returned by the house of the patient, and was informed that Drs. Wright and Morgan had been there about half an hour before, and that Dr. Wright had interposed in the case, being in too great haste to await the uncertain period of my return. I at once made an examination, and found the arm returned and the vertex presenting. The funis was prolapsed, but without pulsation. Observing the progress of the head during three or four pains, I found it disposed to descend, and only delayed by the resistance of the parietal protuberances. I then ordered *secale cornutum* in twenty-five grain doses every twenty minutes (as she seemed very much exhausted, and the pains inefficient) of which she took two portions. The pains became more energetic, and in about one hour from the time of taking the first dose, the child was expelled —lifeless. I judged its weight to be about nine or nine and a half

pounds. A careful external examination gave no clue to the probable cause of death. It had been dead but a short time prior to delivery. Mrs. S— had a rapid and uninterrupted convalescence.

Dr. Wright's mode of manipulation in the case, was as follows: The patient being on her back, across the bed (in the usual position for turning) he introduced his right hand, passed a couple of loops of the prolapsed funis around the child's arm, and then returned it—converting it into a shoulder presentation. He then grasped the shoulder and thorax, and pushed the body of the child upwards and to the left side, in consequence of which the head was brought near the axis of the pelvis. He then relinquished his hold of the body and grasped the occiput—bringing it down so as to enable the head to engage."

The succeeding number of the same journal contains a case of shoulder presentation, reported by Dr. Terry. After giving an account of the first labor of his patient, and of the difficulties encountered in consequence of the small size of the pelvis, the doctor proceeds: "On the evening of October 25th., 1850, about 9 o'clock, I was requested to see the above patient, being one year three months and eight days from the time of her previous delivery, to attend her in her second accouchment. I learned that she had been afflicted with erratic pains for the past twenty-four hours, which at times were quite intense. I found her in bed lying on her back, the position she felt most disposed to retain, it affording her most rest, and enabling her to endure her pains the better. I made an examination in the position I found her. The os-tincæ was dilated about two inches in diameter, readily yielding to pressure. The amniotic fluid was escaping in moderate quantities, showing evidently the rupture of the membranes. I was convinced at once it was not a normal presentation. After waiting three or four hours, the pains becoming more intense, I made another investigation, and found a shoulder presentation. I now made up my mind that turning must be resorted to—the sooner the better. At this time she had full pulse, flushed face, and spasmodic contraction in the body of the uterus. I resorted to bleeding, when the intensity of the pains ceased. After waiting a short time, I proceeded to the process of turning. I gradually and easily passed my right hand into the uterus, and with little difficulty found the right foot, and brought it down so that the toes were near the vulva. At this point I found a resistance to any further progress in that way. I then made search for the other foot, but did not find it. During this effort, the right

hand of the fœtus came down, and on withdrawing my hand, the funis prolapsed. I now attached a strong fillet to the ancle, after which I passed my left hand into the uterus. I attempted to raise the child up from its present position, but failed, the head lying in the right iliac fossa. At this time the pains had ceased, except when roused by external force. The patient, myself, and attendants were much exhausted, from the severe labor and time devoted to effect delivery. After an interval of a few hours, I obtained the able assistance of Professor M. B. Wright. On our arrival the pains had returned, but they were not severe. Upon an examination, he found the fœtus presenting with the right hand, leg and funis in the cavity of the pelvis, as before described. He attempted to turn by elevating the shoulder and making traction upon the leg, which he found already down. Failing in this, he endeavored to introduce his hand into the uterus with a view to obtain control of both feet, but the uterus had contracted so thoroughly upon the child as to render it impracticable. The doctor then decided upon a resort to version by the head. The leg, arm, and funis were successively returned into the cavity of the uterus, and the vertex was brought into the superior strait, with the posterior fontanelle behind the left acetabulum. The patient had been previously put under the influence of chloroform. Uterine contractions having ceased, it was deemed advisable to use the forceps, which were adjusted before the hand of the operator had been withdrawn from the pelvis. It was soon found, however, that the instrument could not overcome another prominent obstacle to delivery, viz., a disproportion between the head of the fœtus and the brim of the pelvis. The perforator was then used, the forceps still retaining their hold. As soon as the cranium was lessened in size sufficient to pass the superior strait, it was brought forward, and delivery was accomplished by means of the forceps."

In the May number of the Western Lancet, 1851, a case is thus given by Dr. J. P. Walker:

"I was called Saturday noon, April 12, 1850, to see Mrs. L———, aged 30, in labor with her third child. The membranes had been ruptured on Friday morning, nearly thirty-six hours previous to the time I was called.

"I found her with severe pains, but on examination could not reach the os-uteri. At eight in the evening, I could with difficulty reach the presenting portion. The meconium had been passing freely, and I had

been led to expect a breech presentation, but upon close examination I found that the shoulder presented. I sent at once for the assistance of Professor M. B. Wright, who arrived at eleven o'clock Saturday evening."

At this time the arm was suspended from near the centre of the superior strait, the fore arm being partially flexed, and looking towards the left. Dr. Wright proposed *cephalic version*, as an easy and successful mode of treating the case, which was acceded to. The fore arm, which could be moved easily by the finger, was extended, and the hand escaped through the os-externum, with the back of it anteriorly, and the thumb directed to the right thigh. The arm was brought down with a view to a more satisfactory diagnosis, and to indicate the proper manipulations for delivery. The presentation, and the hand to be used in changing it, being determined, the Dr. proceeded to the accomplishment of his object. The patient was placed, as in the ordinary way of turning by the feet. The arm which was now in the vagina, was returned so as to ascertain the relative position of the head. It was on the right side of the pelvis, the occiput in front, the face resting on the posterior surface of the right iliac fossa, and the right cheek against the promontory of the sacrum. The position of the fœtus being thus accurately ascertained, *cephalic version* was commenced.

The body of the fœtus was moved laterally and upwards, by slight force applied to the presenting shoulder, until the breech had ascended to the fundus of the uterus. The face, by this movement was made the presenting portion. It was readily changed for the vertex, but this change could not be secured without the constant application of the finger to the occiput. This was not deemed advisable, as the expulsive efforts had not yet commenced, and the os-tincæ was not more than two-thirds dilated. At half past ten o'clock A. M., eight hours subsequently, the second stage of labor commenced, and when the next examination by touch was made, the face had again presented, and had partially engaged in the superior strait—the chin being directed anteriorly, and to the left. It was deemed best not to effect any change, either in presentation or position. As the face, however, passed through the superior strait, the chin inclined more and more backwards, until it was placed before the left sacro-iliac symphisis. Before reaching the inferior strait, the chin had again rotated forwards, without extrinsic aid, and finally it emerged

under the arch of the pubis. Labor was then speedily terminated, the second or expulsive stage occupying about two hours and a half. The fœtus was dead, and offensive from partial decomposition. It weighed about nine pounds.

The patient has been doing well since. This case is not only instructive as to the proper treatment of such cases, but also for the remarkable efforts of nature to assist in delivery."

Now after all this, are we not justified in declaring,

1. That at an early period in labor, and especially if called before the uterus has been deprived of its liquid contents, a shoulder may be converted into a vertex presentation more easily than turning by the feet is ordinarily performed.

2. That although the membranes may have been long ruptured, turning by the head can be accomplished with great facility.

3. That delivery by *cephalic version* may be speedily effected, after repeated and ineffectual efforts have been made to turn by the feet.

4. That *cephalic version* should receive a prominent, nay leading place, as a means of expediting delivery in shoulder presentations.

The second of the questions already proposed, is, what mode of proceeding will prove most favorable for the mother ?

In his chapter on podalic version, Churchill observes : " On the other hand its *disadvantages* are not to be overlooked. From the distance the head has to traverse, and the difficulty of seizing the feet, and of turning the child in utero, there must ever be a fearful risk of injury to the mother."

Upon an examination of the tabular views given by Lee, we find that out of seventy-one cases of shoulder presentations, in which turning by the feet was resorted to, " seven women died from rupture, and three from inflammation of the uterus." " Laceration and inflammation of the uterus, are, therefore, the consequences chiefly to be dreaded. Four of these cases of rupture occurred in the practice of other accoucheurs, and three in patients under my own care, and where no great difficulty was experienced or force employed in turning."

In *cephalic version* the hand does not enter the cavity of the uterus, and, consequently, neither its walls, nor any portion of them, are forcibly pushed out. The fœtus is moved comparatively little within the uterus, the head being already near the superior strait ; while in *podalic* version, the part to be first delivered, is most remote from the canal through which it must pass. In the former, the injury to the mo-

ther cannot result without great awkwardness on the part of the obstetrician, while in the other we have reason to feel surprised at the escape of injury. In turning by the feet the hand must necessarily be moved considerably within the uterus, and often while it is contracting violently. In turning by the head there is but little, if any, direct contact of the hand within the uterus. In the one case, contusion of the uterus by the hand is to be expected—in the other case there is no injury, because there is no contact. Turning by the feet may occasion a severe nervous shock. Not so in changing the shoulder for the head.

How may the life of the child be best preserved? is the third enquiry to be briefly answered.

In describing the disadvantages of turning by the feet in all cases, Churchill says: "The mortality amongst the infants thus brought into the world is very great. As far as our statistics extend, they yield 174, out of 518 delivered, or 1 in 3."

The mortality in shoulder presentations is, doubtless, greater than this. In the first place the position of the fœtus weakens its hold upon life. In the second place the hand is more difficult of introduction into the uterus in shoulder than in head presentations, and whatever force is required is sensibly felt by the fœtus, and upon that part of the body where pressure is made with least impunity.

A timely resort to *cephalic* version gives to the fœtus almost as much certainty of life as if the presentation had been originally of the head. Why not? The manœuvre amounts to but little more than in rectification of deviated head positions.

We are informed by Churchill that, "Bush gave an account in 1826, of fifteen cases, in which *fourteen* were born living. In 1827, Ritgen collected forty-five successful cases. Riecke has had sixteen cases." In all the cases treated by myself from the beginning, the children were born alive. The liability to compression of the chord and consequent death of the fœtus, is in proportion to the length of the labor, or rather to the descent of the fœtus in the cavity of the pelvis. Hence to be wholly successful, cephalic version should be performed a short time before, or soon after the commencement of the second stage of labor.

Can any one mode of treating shoulder presentations be relied on exclusively? The answer must be in the negative. We are disposed to adopt the language of Cazeaux, "that at the present day it would

be improper to embrace either opinion exclusively, for some cases are better suited to the cephalic version, while there are others, on the contrary, where the pelvic one is alone practicable ; consequently both operations should be retained in practice, leaving the judgment of the accoucheur to determine the cases, where the one or the other ought to be preferred." And we will conclude this part of the subject by stating a few of the circumstances under which the different modes of turning may be adopted.

Turning by the feet is to be prefered in cases of inefficient uterine action, or in exhaustion from long continuance of labor ; in hemorrhage, convulsions or in any case in which there may be a demand for speedy delivery.

Turning by the head should be selected in all cases where difficulty arises from mal-position merely ; or in convulsions, hemorrhage, or prolapsus of the funis, if the uterus should be engaged in vigorous expulsive efforts. In rupture of the uterus our great reliance is in artificial delivery ; and the question naturally suggested would be, which will guarantee the greatest safety, podalic version, or cephalic version aided by the forceps ? And we would be guided in our action by the answer we gave to the question.

Which shoulder presents? The diagnosis of shoulder presentations has been already given, but it is still important to ascertain which shoulder demands our attention, and the relations the fœtus sustains to the pelvis and uterus. Either shoulder may occupy the brim of the pelvis, with the back in one case looking in front of the mother, while in the other case it may be directed towards her spine. The head may be in the right, and again in the left iliac fossa, the breech occupying the opposite fossa, and the feet being high in the uterine cavity. But how are we to ascertain the actual and relative situation of all these parts ?

It has been stated that the first vertex presentation (the occiput being behind the left ascetabulum) is more frequent than all the others. If we admit that shoulder presentations are deviations from those of the vertex, it would be fair to *infer* that we were about to adjust the right shoulder with the back in front, and the head on the left of the pelvis. The direction of the axilla would indicate the opposite direction of the head, so also of the elbows. Perhaps the top of the shoulder, the neck, and even the head may be felt.

The direction of the back may be known by the scapula and vertebræ, and by the fore-arm laying upon the breast. If the coccyx, anus and iliac crests can be touched, the location of the pelvis is rendered certain.

The hand of the fœtus being in the vagina, can be used with advantage to ascertain which shoulder presents. If the palmar surface be directed upwards towards the symphisis pubis, and the thumb turns to the right side of the pelvis, we at once pronounce the right hand,* and, consequently, the right shoulder as presenting. The reverse obtains with the left shoulder.† Again, when the back of the hand appears in front, and the thumb is nearest the left thigh,‡ the arm not being twisted, we should prepare to act upon the right shoulder, the back in front and the head in the left iliac fossa.

The back of the hand in front with the thumb near the right thigh, indicates the presence of the left shoulder, the spine being in front and the head on the right side of the pelvis.

So little do we consider the presence of the arm in the vagina as an obstacle to turning, we do not hesitate to bring it down, to aid us in our diagnosis if at all doubtful.

In this country, turning is performed, the patient being on her back. In cephalic version, we have always selected this position. The hand can be more readily introduced into the uterus and the feet reached, however, with the patient on her elbows and knees, than when on the back or sides. There may be cases, in which advantage would be gained, by placing the patient in this position, preparatory to cephalic version. This is suggested, however, on the experience of only one case, which may be briefly stated.

We were called to a patient in labor, with shoulder presentation, when we learned from the medical attendants present, that the arm had descended into the vagina, full sixty hours previously. From three to five respectable Physicians had been lending their aid, each, in turn, making ineffectual efforts to bring down the feet. With the patient on her back we endeavored to pass our hand above the brim of the pelvis, but failed in this. The arm was swollen to an immense size, and as it was much in the way, it was amputated at the shoulder, the child of course being dead. Still, the hand could not be extended above the superior strait. The woman, greatly exhausted, was placed

* See figure 5. † See figure 6. ‡ See figure 7 and 8.

and supported on her elbows and knees, by asistants. With some difficulty, the uterus was then explored, the feet grasped, and delivery accomplished. When our hand came in contact with the presenting portion of the fœtus, however, we acted upon it as if to perform cephalic version, and were satisfied of our ability, thus to change the presentation. But, as labor had continued such a long time, as uterine action had, in a great measure, ceased, and as every moment of delay threatened an increase of danger to the woman, a preference was given to podalic version.

The hand to be used.—The relations of the fœtus to the pelvis having been ascertained, and the patient placed in a proper position for turning, the next question is, which hand shall be introduced into the vagina ? We answer the hand, the palm of which is directed naturally towards the breech of the fœtus. It will be seen at once, that if the fœtus is to be moved in the direction of the breech, and in correspondence with the right side of the mother, and the left side of the operator, the right hand could be used with most success. In cases, in which the head occupies the right iliac fossa, a choice could be given to the left hand.

The prolapsed arm.—It is generally conceded, that in turning by the feet, it is not necessary, nor would it be advantageous, to return above the brim of the pelvis, the arm which may have fallen, or been brought into the vagina. In turning by the head, on the contrary, its reposition admits of no doubt ; it is imperatively demanded. It is not demanded in consequence of any difficulty in moving the shoulder by its presence, but in the adjustment of the head at the superior strait, and its subsequent descent through the pelvis. By bending the forearm of the fœtus until the hand is directed to the upper portion of the vagina, and then pushing up the arm, the entire member will soon ascend above the brim of the pelvis, and be no longer an obstacle to complete version.

The manner of performing cephalic version.—The attention of the profession is not now directed to *cephalic version* as a new subject. It was recommended by Hippocrates ; and from his days to those of Pare, was attempted in all cases in which the head did not originally present. Presentations of the breech and feet, were not associated with natural labors until a comparatively recent period.

The practice and influence of Pare led to the adoption of *podalic* version, and it has continued the reigning fashion up to the present time. Instead of changing the feet for the head, in all cases where the former presented, as recommended by Hippocrates, it is now deemed proper, following the example of Pare, to substitute the feet for the head, in many cases of difficult labor.

The spirit of progress, however, has not been idle, although it has been slow in making proselytes. Opposing doctrines have been carefully scrutenized, to a certain extent harmonized, and adapted to individual cases. Flamand, Professor at Strasburg, recalled the attention of the profession to the utility of cephalic version, and exerted his influence, by argument and illustration, to have it reinstated. Some of the German and French writers have been induced to assign cephalic version a place among obstetric operations ; but they consider it applicable to such a small number of cases, that they have bestowed upon it little attention, and have attached to it but a small share of practical importance.

Although American minds are ever on the alert, and ready to test the value of suggestions from a practical source, they have not directed special attention to the subject before us. Indeed, the investigation of it has been prevented, by the expressed opposition of our writers and teachers on the one hand, and their silence on the other. And here I may be allowed to advance an opinion, which was openly entertained when a teacher myself, that the mass of the profession think and act too little for themselves. They too often embrace the doctrines of the teacher as true to the rejection of their own experience. We would say to the lecturer, independence rather than place—be a martyr for truth, rather than be false to your profession to appease local jealousy. And we would urge, that while the practitioner awards honor where it is due, he should be true to himself, by thinking and acting for himself.

A few paragraphs from Cazeaux will express the opinions generally entertained upon cephalic version by European writers.

"Flamand was also in favor of the performance of cephalic version, even after the rupture of the membranes and the discharge of the amniotic liquid. He has even gone so far as to point out the particular maneuver for each one of the distinct presentations admitted by him, for the child's anterior, posterior, and lateral planes ; but we deem it useless to enter into those long details, more especially since they

may all be comprised in this: to grasp the presenting part, push it up above the strait, and then carry it as far as possible towards the side opposite to where the head is found; and afterwards get hold of the latter, and bring it down, if the efforts made by the other hand through the abdominal walls have not proved sufficient to make it descend into the excavation."

"Flamand himself acknowledges that this operation seldom succeeds, excepting when some region of the neck or upper part of the thorax presents at the strait. As for ourselves, we believe it would be difficult, even under such circumstances; however, it is barely possible, especially if there is still some water in the uterus, and the contractions are not very energetic."

"When a trunk presentation is complicated by the descent of an arm, the cephalic version, recommended by Ruffius, Rhodion, and others, should, in my estimation, be wholly rejected."

If we were to be restricted in our maneuvers by the advise given in some late obstetrical works, we should certainly fail in our object, and sooner or later we should be convinced that lessons given in the absence of experience are liable to errors, even in the outlines. Churchill tells us that "if our object be to change the presentation—for example, to substitute the head for a shoulder, we must gently push up the shoulder, and then seizing the head, bring it down to the brim, and place it in the most favorable relation to the pelvis."

A professor, representing the difficulties, nay impossibilities of performing cephalic version in shoulder presentations, places the leather baby in the manikin, raises the shoulder in a line coresponding with the axis of the pelvis, and with an air of triumph asks, "now, if I withdraw my pressure, or if the uterus should contract, will not the shoulder return to its original position?"

In reply to the above let us merely observe, that the expressions "*raising the shoulder*" and "*grasping the head,*" convey a very imperfect idea of the maneuver constituting cephalic version. And, to shorten discussion, we will present our own mode of proceeding.

Suppose the patient to have been placed upon her back, across the bed, and with her hips near its edge—the presentation to be the right shoulder, with the head in the left iliac fossa—the right hand to have been introduced into the vagina, and the arm, if prolapsed, having been placed, as near as may be, in its original position across the breast. We now apply our fingers upon the top of a shoulder, and

our thumb in the opposite axilla, or on such part as will give us command of the chest, and enable us to apply a degree of lateral force. Our left hand is also applied to the abdomen of the patient, over the breech of the foetus. Lateral pressure is made upon the shoulders in such a way as to give to the body of the foetus a curvilinear movement. At the same time, the left hand, applied as above, makes pressure so as to dislodge the breech, as it were, and move it towards the center of the uterine cavity. The body is thus made to assume its original bent position, the points of contact with the uterus are loosened, and perhaps diminished, and the force of adhesion is in a good degree overcome. Without any direct action upon the head it gradually approaches the superior strait, falls into the opening, and will, in all probability, adjust itself as a favorable vertex presentation. If not, the head may be acted upon as in deviated positions of the vertex, or it may be grasped, brought into the strait, and placed in correspondence with one of the oblique diameters.

It will be observed, that we do not act upon the shoulders by raising them. Perhaps a slight elevation would facilitate the movement already described—or it might be better to depress them—and, again, by lateral pressure, without either elevation or depression, our object might be accomplished. *Pushing up the shoulders*, therefore, does not constitute a prominent part of turning, if by pushing up is meant the mere raising of the shoulders above the brim of the pelvis.

As the body of the foetus makes its curved movement under the hand of the operator, it advances upward, as well as laterally, by a combined rather than a single action, which would give it only one direction.

The back of the hand, with which we have been acting upon the shoulder, is toward the head of the foetus—consequently, its hold upon the head would be apparently slight—yet, after the shoulders have reached the iliac fossa, the vertex may fall upon the palm of the hand in occupying the strait, and its adjustment become easy. If, however, there should seem to be a necessity for grasping the occiput, there could be no reasonable objection to a speedy change of hands.

The entire process of cephalic version is to be adopted in the absence of uterine contraction; or, rather, during the intervals of expulsive force. And, as it is now a vertex presentation, we must be governed, as to the time and manner of delivery, by those general rules applicable to such cases.

In all our cases, except the one which terminates as a face presentation, the occiput assumed a position corresponding with the first or second presentations of the vertex. In this case the occiput was before one of the sacro-iliac symphises, and to this fact we have attributed the tendency of the occiput to slide above the brim of the pelvis, and the difficulty in keeping it in place. If there had been the usual degree of uterine contraction, however, the head would, in all probability, have become fixed, and the presentation would have continued as one of the vertex, instead of changing for the face.

It will be seen that we lay no claim to the introduction of cephalic version as a mode of treating wrong presentations, and expediting delivery. A very brief examination of the subject, however, may induce some to award to us originality in respect to the means by which a successful change of presentation may be accomplished.

That cephalic version, by external manipulation—by acting upon the foetus through the parietes of the abdomen and uterus—should have few advocates is not surprising. To be successful, it confessedly requires a combination of favorable circumstances not often presented. The tissues both of the abdomen and uterus, must be thin and yielding—the liquor amnii must have been retained, and in considerable quantity—and the foetus must be proportionably small.

In all the obstetrical works we have examined, in which cephalic version is recommended by internal manœuvre, it is directed to *raise* the shoulder as the first necessary impression upon the fœtus. Viewed anatomically or mechanically, men have not been persuaded into the belief, that raising the shoulder can facilitate the permanent descent of the head into the superior strait. They claim, what is apparent to the eye in viewing a proper engraving, and as it can be demonstrated with the manikin, that the elevation of the shoulder at the brim of the pelvis, tends to increase the long diameter of the fœtus, and the transverse diameter of the uterus, and without any favorable adjustment of the head after pressure upon the shoulder has been withdrawn.

Suppose we follow out the directions given by some, and after the elevation of the shoulder, attempt to force the body of the fœtus in a lateral direction, will not the breech infringe against the walls of the uterus transversely? To enable the head to engage in the superior strait, the body must be entirely removed from it, and this can only be done by raising the breech towards the fundus of the uterus. Raising

the shoulder, therefore, is very naturally considered a means to prevent cephalic version. And we are not surprised that podalic version is almost universally adopted in the treatment of shoulder presentations.

If our mode of performing cephalic version is sufficiently clear, in the description already given, it will readily be distinguished from others. We claim for it great importance, on the ground that it is easily executed — that the mother and fœtus receive no injury — that there is little or no danger of subsequent displacement after the vertex has been fully adjusted — that, although it is most successful in recent cases, delivery may be accomplished after the membranes have been long ruptured — that it may be executed, after ineffectual efforts to bring down the feet.

By an examination of plate 3, figures 9, 10, 11, 12, the different changes which take place in the position of the fœtus, during cephalic version, from the return of the arm above the brim of the pelvis, to the first presentation of the vertex, will be observed. These sketches are not designed as faithful representations of every case of shoulder presentation and cephalic version, nor are they claimed as the exact changes which occur in any given case, but as outline illustrations of a general process.

Possibly our time might have been more profitably employed than in writing these pages. If, however, we shall have directed the minds of our brethren into a new train of observations, and aided in giving a true value to cephalic version—and, especially, if life shall thereby be preserved—we shall consider that an ample reward has been bestowed on our labor.

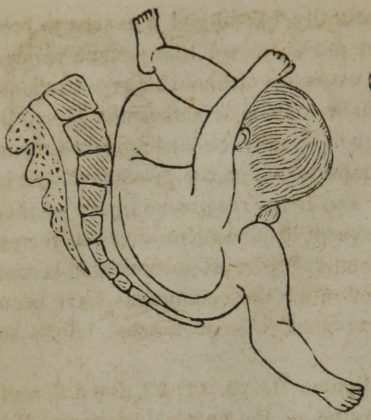


Fig. 1.

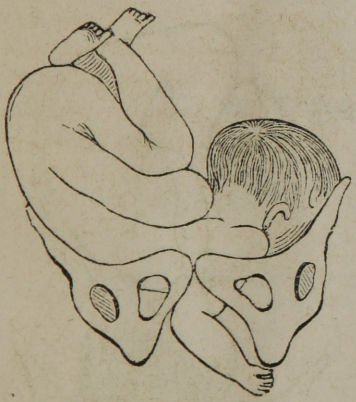
Fig. 2.

Fig. 3.

Fig. 4.

Fig. 5.

Fig. 6.



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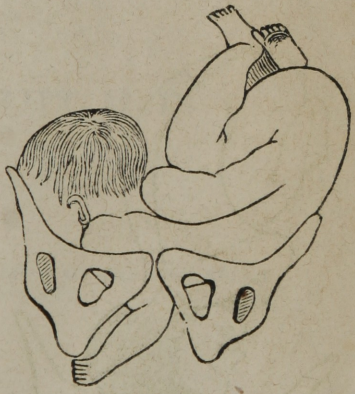

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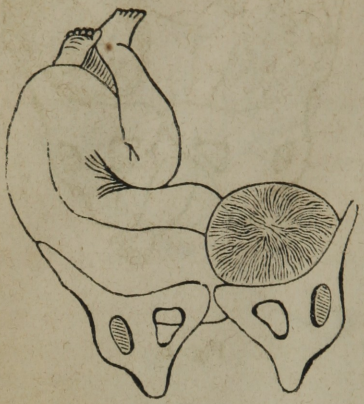

Fig. 9.

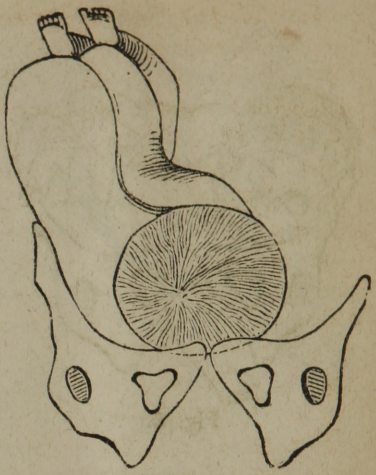

Fig. 10.

Fig. 11.

Fig. 12.

PRIZE ESSAY.

DIFFICULT LABORS

AND

THEIR TREATMENT,

BY

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REPRINT FROM THE PROCEEDINGS OF THE OHIO STATE MEDICAL SOCIETY.

CINCINNATI:
JACKSON, WHITE & CO'S MAMMOTH STEAM PRINTING,
103 Walnut, bet. Pearl and Third streets.

1854.