the mechantsm of delivery, in a presentation of the head

> The Left Anterior Occipito Itiae Iosition.

This is the presentation and position most frequently observed, perhaps fifteen out of sixteen times. In most obstetrical works it is called the first position. By observing the following figures, and referring to the previous explanations of


It will be seen here that the neck is straightened out, and thant the two fontanelles are on a
line with each other. Note. - The front of the bones is represented
in this and the two following figures as if transparent, so that the head may be seen through parent,
 At this time the anterior arcely be reached, bunt the pontariolle one is
eariely to be reached, being in the easily $o$ be reached, being in the open passage,
on the elet side. The head is now tainly wifting
othe pelvic covity, but still lies ato ate
the pelvic caride. The head is now fairly within
still lies across from right Seft.
Second Movement, Rotation of the Head.-
When the feetus is thus bren
 of the pelvis, its head turns completely round,
the back of it being brought to the rount ed under the pubes of the mother, and its foreheed
unned acainst her sacrum, as represented in turned against her sacrum, as represented in
the next Figure.
the diameters of the pelvis and foetal head, it will be seen that through all its changes of position, while making its exit, the head always presents by one of its shortest diameters to one of the largest diameters of the pelvis, so that the relation betreen them is invariably the best that could be established; and many peculiar tuminge and revolutions occur, apparently for the express purpose of bringing this about.

THE MECHANISM OF DELIVERY IN A PRESENTATION OF THE HEAD. 795
Before the rupture of the membranes, the head presents its occipito frontal diame ter, which measures four inches, to the right oblique diameter of the pelvis, which measures four inches and a half; while its bi-parietal diameter, which measures only ring four inches and a half, is presented to the other oblique diameter, also measthe head which has to coss thro he obtained by a slight movement of t, a more favorable position still can plishes, and also foll plishes, and also follows by others, to preserve the advantage, which will next be
described. scribe
Movements of the Fotal Head. - There are three of these peculiar movements, each of which takes place at a particuiar period of the labor, and must be described parately.
First Movement, Flexion, and Descent.-Immediately after the membranes are broken, the contractions of the uterus force the head into the upper strait by the are cipito frontal diameter of four inches, as already shown; but then commences the urst movement, which consists in a bending of the child's chin down upon its breast, so that the forehead is carried up into the womb; and the most prominent pa of the back of the head presents to the middle of the passage, by the occipito breg. matic diameter, which is only about three
inches instead of four. This, of course makes the passage so much easier, and generally, immediately after this chance the head descends into the basin of the pelvis.
It is not absolutely necessary, however, for this movement to occur, for in a well-formed pelvis, the head can descend without it, though not so easily; and sometimes, in fact, it does not take place, but this is unusual
It must be recollected that this shitting of the head alters the position of the fontanelles - the posterior one being and the anterior one carried up out of and the anterior one carried up out of reach, while previous to the movement
they were both on a level. If an they were both on a level. If an examina-
tion is not made, therefore, till after this change, it may be difficult to determine the position, unless this is borne in mind. he accompanying figures show this very well.


FIgure 168.- This Figure represents the head
still further doon, and beginning to ate Here ther Here the head is seen just beginning to turn passing onder the and pabes. As the rotation becomes complete, the the pubes, As the rotation becomes
ornaightens, so that thes Finally, the back again found on the the same the level. ander the pubic arch, and the chin emidees gramu-
ally out ath

In Figure 169 it will be seen how the os coccygis, or lowest part of the backbone (c), is straightened out backward, while the head is passing, as explained before; and in Figure 170 it has returned again to its natural position.
The reason for this rotation of the head will be obvious on calling to mind the form of the pelvis and the external opening. On examining the figures, it will be seen that the longest diameter of the vulva, or external opening, the anterior
posterior, is nearly at right angles to the longest diameters of the upper strait, the oblique. Now, the longest diameter of the head is adapted to this oblique diameter on entering the upper strait, as already explained, and it is necessary for it also to be adapted to the longest diameter of the external opening, the anterior posterior, when making its exit ; but as the two are not parallel, the head is compelled to turn, or rotate, in order to pass from one to the other. To accomplish this, however, the neek hat has to be twisted considerably.
 But when the head is fully deliverBut when the head is fully deliver-
ed, it is immediately straightened again, by the back of the head again, by the back of the head turning toward the mother's left side, so that its proper relatio wind Third Movement, Rotation of In Figure 169, the back of the head is nearly under the Nhoulder s.- When the heau external opening below . In Frgure 1 10, the back of the head is completely which also require to turn round a
extruded, and also the chin, so that the whole head is little, to adjust themselves to the extruded, and also the chin, so that the whole head is little, to adjust themselves to the long diameter of the lower strat and as they turn within the pelvis the head also turns, to correspond, and thus the back of it is brought opposite the middle of the mother's left thigh. Immediately this movement is effected, the shoulders rapidly escape through the external opening, the right one being in front, a little to the left of the symphysis pubis, and the left one behind, a little to the right of the os coccygis. The body then curves upwards, to accommodate itself to the curved axis of the pelvis, and speedily follows the shoulders.

These curious movements cause the child to progress in a spiral direction, 80 that each part may poss throngh the polvis in the most favorable position. Sometimes all these movements are not effected, and yet the delivery may occur, times all theso illy or anfy though not so speedily or safely as when they are. The shoulders do not alway fully rotate, but may nevertheless pass the opening, if the parts be large, and well relaxed. It is questionable, however, if the head can ever pass the lower strait without rotating, when it enters the pelvis diagonally, the occiput on one side and the forehead on the other; as it is necessary for either one or the other of these parts to pass under the pubes.

MECHANISM OF DELIVERY IN ALL OTHER POSITIONS OF THE HEAD.
The Right Posterior Occipital Position. - This position, called the second by some authors, and the fourth by others, is exactly the reverse of the one just described, the head lying in the same direction, but the back of it being behind, to the right of the sacrum, and the forehead to the left of the pubes.

Precisely the same movements are gone through in this position as in the other, excepting that the head has to rotate considerably further. In the former position, the back of the head is only a little to the left of the pubes, and therefore has not far to turn to pass under it; but in this position the back of the head is behind, and there fore has to turm very far round to reach the same position. The rotation is thereforo
 child.

THE MEOHANISM OF DELIVERY IN A PRESENTATION OF THE HEAD. 797
In the other movements there is no differenee worthy of notice, but it must be
borne in mind that they all occur the reverse way to what they do in the first position, because the occiput is on the right side, instead of the left.

The Right Anterior Oceipital Position.This position is precisely the same as the first but on the other side. The back of the head is in front, but to the right of the pubes, instead of the left, while the forehead is behind, to the left of the sacrum. This will be apparent enough by observing Fig. 171.
The mechanism of delivery is precisely the same, and all the movements occur in the same order and manner as in the first position, but the reverse way, the rotation, for instance bing from right to left, instead of from left to right, and so of all the others.
The Left Posterior Occipital Position.Delivery is effected the same in this as in the left anterior, or first position, excepting that the rotation is more extended, owing to the occiput being behind, as explained in the right posterior occipital position.


Fraure 171.-Head in the Right Anterior
Occipito lliac Position. This is the second most frequent posi-
tion, the left anterior occipito iliac being the most frequent.
$d$, the top of the foramen overale; $a$, the top of the ilium bone, called the
crita ; $h$, the symphysis pubis; K K , the
pubic bones crista; $h$, the symphysis pubis ; K K , the
pubic bones.
general remarks on the different positions of the head
In all the other positions, and their varieties, there is nothing that calls for special notice, or that is material in practice, the delivery being nearly the same in them al. No matter what position the head is placed in, the back of it nearly aluays comes to the front under the pubes, even though it have to turn half round to do so The canse of this is supposed to be the peculiar form of the parte, which sives is. screw-ilike motion in its descent, and the shape of the externol onerine whe longest from tefore to behind, can only allow the long to through in the same direction.
Sometimes, it is true, the occiput passes behind, instead of coming to the front, This is very seldom obserred, und when it, while the occiput presses on the coccygis. ous, though it may still terminate spontancously the labor is more difficult and tediThe resistance of the soft pats, spontaneously.
The resistance of the soft parts, externally, appears to be the chief cause of the head turning; for when they are much relaxed, and the child's head small, it will the head is lass without, or in the anterior posterior position. And sometimes, when crosswise, therge, so that it distends the parts very much, the shoulders will pass formed , there being room enough for them without turning. In some females, delind lage, whose organs are excessively relaxed, and whose children are small, the delivery takes place without any of the movements being effected, the ohild passing straight through in whatever position it may happen to be; this is rarely seen, how-

When there are twins, they do not usually both present by the head, but one by the feet; and frequently the parts are so relaxed by the passage of the first that the second is delivered without rotating at all, though in general it follows precisely the some momets. It sometimes happens, however, that the second birth does not take place till some hours, or even days, after the first.

It may be said, in general, that all positions of the head are favorable to both mother and child, and may terminate spontaneously. It is seldom that anything more than ordinary assistance is required in any of them, and they could in general terminate without any at all, thongh sometimes with difficulty. The worst cases are terminate without any at all, thougn somenims but remains across, or where the back of it turns behind, instead of coming to the front. In these cases, there is great danof it turns behind, instead of coming to the front. In these cases, the of an artificial
ger of the perineum or external lips being much lacerated, or even of ger of the perineum or external lips being much lacerated, or even of an articial About one child also out of every fifty is lost in these unfavorable positions.


## CHAPTER LXVII.

## IGBCHANISM OP DELLVERY IN PRESENTATIONS OF THE LOWER EXTREMITIES,

HHIs presentation includes the feet, the knees, the breech, and also the hips, there being no difference in the delivery for all these parts. It is the same also Ther there be one foot, or knee, or both feet and knees
mere are but two positions worthy of notice in this presentation, and they are determined by mother's pelvis, it is called the right sacro iliac position; but if they are on the left ris is platled the left sacro iliac position. The direetion in which the child's pelris is placed, is analogous to that of the head, the sacrum answering to the occiput Thus most frequently the sacrum is on the left side, a little to the left of the pubes (left anterior), while the abdomen faces the right side near the sacrum. When on the right side, however, it is most usually nearest the sacrum, with the abdomen fan ing the left side near the pubes.
The lower extremities present most frequently next after the head, but still the are but seldom met with. M. P. Dubois tells us that out of twenty thousand labors sented fitt with eighty-five such cases. In these eighty-five cases the breech presented fifty-four times, and the feet twenty-six, the knees being found but once,
A presentation of the lower extremities may generally be recognized at an earl stage, by the head being felt at the fundus of the nterus, and recognized at an early fotal heart being heard above the umbilicus as arpaine in the tion. After labor has come the umbilicus, as explained in the chapter on Ausculta lar, and so different from the comb is irreguknees or feet present, they it can easily be rese can be distinctly side on which it elto betwe the cheeks. The of the wies it is felt of course determines the position, and the same with the front of the knees, or the heels. The rectum can also be reached with the finger, when the with is touched ; but great care must be taken not to intrude it too far, because with a female child the vulva might be mistaken for it, and thus the hymen be booken, and other injury committed. The genitals of a male child are more obvious. $s 0$ that the sex of the child may be usually ascertained, along with the position
For want of proper care, the breech has been mistaken for the head and face, but this can scarcely happen if the accoucheur is attentive. It is simply necessary to call to mind what must be felt in each presentation, as the nose and mouth with the frace; the two cheeks of the posteriors, with the asening bese and mouth with the the genitals, with the breech; and it can be certainly ascertained which om, and also is really at the opening. With the knees or feet there can soarcely be a doubt.
phutepy in a breech presentation in the lebt anterior sacro-iliac position.

In this position the legs and thighs are turned up against the abdomen, the breech in full occupying the passage, with the sacrum to the left and in front of the mother's pelvis.
The descent of the breech usually takes place without much difficulty, into the pelvis, it being smal elvis, it being smal It descends in the same lirection in which it irection in which Irst presents-that liagonaly, like tho head-and also rotates or turns round, the left batlock come in front, just to the right of the pubes, while the right one goes behind, to the left of the sacrum. The left but tock reaches the mouti of the rulra first, in this position, and then re- Delivery in a breech presentation, Anterior posterior position mains stationary ther

Delivery in a breech presentation
the buttocks having just passed th valva. The coccygis, much straight${ }_{p}^{\text {ened. }}$ p. The pubic bone in front.
of the heriod posterior posiput being
in tront, after the delivery of in front, a
the body. c. The coce
c. The coccygis.
p. The pubic bo while the right on of the sacrum and perineum, and passes out neum, and passes on first at the lower part of the external opening. The left, however, speedily follows, and when the whole breech is born it rotates again, one hip coming immediately in front, and the other going immediately behind. Owing to this movement the long diameter of the breech is adapted to the long diameter of the pelvis, as in the case the head. This will be evident from Fig. 172.

The rest of the body then rotates in the same way, and the arms and shoulden pass through the external opening in the same direction as the hips. The left shouder first moves to the right of the pubes, while the right passes behind ; and then, ast when they are both passing out, one comes immediately in front, and the other madiately behind, placing themselves in the long diameter of the vulva
The head passes through the superior strait in the left anterior occipital position,
The and is often delivered in that way; but sominut is placed behind the pubes. When into the curve of the sacrum, while acompany the head. This state of the parts is this occurs the body als
At this period the head is past the uterus, and there is therefore little or no At this period the head is past the uncerase it will be
 een that the position is very unfavorable, which makes it lie immovably across ccipito frontal, being the presenting one, which makes it lie immovably acro

The means of assisting in such a case are plain enough; the forehead must be brought down while the body is raised towards the mother's abdomen; this will throw the top of the head back, towards the sacrum, and change the presenting diameter. The forehead and bregma rapidly escape below, and the occiput passes out last. hen she has the which nature herself also completes the delivery in such cases hen she has the power.
delivery by the breech in the right posterion sacro milac position.
This position is the reverse of the preceding one, the sacrum being behind and to frmed os in the first position ay . The and process is similar, only the reverse are
The head generally follows the head when in the posterior position.
is already explained ; but ows the sacrum, and the occiput comes under the pubes, .
oblivery by the breech in the full posterior, or sacro sacral position.
In this position there is no rotation at all, the back of the child being turned full to the back of the mother, and the whole body and head being expelled in that position. In general there is no particular diffieulty from this position, but on the contrary it is thought by some to be rather favorable than otherwise. The longest diameters of the foetal pelvis, and shoulders, are adapted to the longest diameter of the mother's pelvis, at the upper strait, and easily pass it. They will also generally child very large : and if they sen so mare the parts have een so much dilated by the passage of the body that they offer but little resistance.
general remarks on the presentation of the lower extremtties.
As a general rule, delivery by the breech, or by any other position of the lower minfol, painful, and more exhausting; still however, it is generally spontaneous, and not necessarily dangerous to the mother. To the child, on the contrary, it is dangerons on many accounts.
It appears, from the observations of M. P. Dubois, that in this presentation one tions ! lost out of every twelve, while only one out of fifty is lost in head presentations! The chief cause for this greater mortality appears to be the compression of the umbilical cord, which is greater, and lasts mueh longer, than when the heo presents, as will be evident on examining the circumstances under which delivery i effected in each case. When the head presents, it passes, and olso the shoul fore the umbilicus is reached. the mother's organs are therefo me only the smallest parts of the footns are left, when the cord is onmed inted, and sage; it cannot therefore be mich cos labor is thenot therefore be much compressed, nor for any long time, because the smallest parts then pass before the umbilicus is reeched so thens is not the case, the along with the head and shonlders, whicus is reached, so that the cord has to pass head
51 formerly given of fetal nutrition; and the stopping of this circulation is as fatal to it as stopping the breath is to an adult. When the breech presents altogether, there is not so much danger as with the feet, or knees, because it is large, and in its passage dilates the parts so much that the rest of the body, and the head, follow more quickly. There is, of course, no danger till after the hips have passed, because the cord is not reached before; but the delivery should be completed as soon after they are born as possible, for every minute's delay makes the chances for the child life so much less.

inside the same as in the head presentation, and the delivery concludes in precisely the same way.

## DELIVERY in other positions of the face.

The delivery is precisely the same in all the other positions of the face, excepting that in some of them the chin has further to rotate before it can pass under the pubes. In all cases, however, it may be safely calculated that it will do so, there having been so few instances known in which it has rotated the other way, into the bollow of the saerum, which
Sometimes the rotation does not take place at all, but the face descends diagonally, as the head occasionally does.
On the whole, presentations of the face are not particularly to be feared, as On the whole, presentations of the mother. Some authors eren consider them quite favorable, and reckon them only as varieties of the head presentation. Madame Lachapelle states, as a principle, that face presentations should always be left to nature. And M. Chailly says he must admit that, in all positions of the face, the labor may terminate spontaneously, most most likely fotal to the child. The labor is generally a little longer, and more painful, likely fatal the the passage as the head is; but owing to the face not being so perfectly adapted to the passage as assistance is oftener still it must be regarded as favorable to the mother, lhoug assistance child, however, required than with the head. There is more or less danger to the child, however, owing to the head being kept under pressure for an unusual time, which proauces congestion. The neck is also forced against the pubic bone, as will be seen by Figs 174 and 175 , and thus the jugular veins are compressed. If there be any delay, it is customary to observe the face closely, after the chin is born, and if it appeare from any indications that congestion is taking place, assistance is rendered at once The face will sometimes become so tumefied and engorged with blood, from prolonged pressure, that it will not appear natural till several days after birth.
Probably about one child is lost in ten or twelve deliveries in these cases; and it the chin pass behind, its death is almost certain.
It was formerly the practice to endeavor to turn the face upwards, when at th superior strait, and so change the presentation to one of the head. This, however, is now abandoned, because the attempt is seldom successful, and does not materially now abandoned, because the attempt isides being painful to the mother. The only improve the coudition of things, besides is to child, and this is not removed by the extra danger with the face presenting is to the cavorable as the cranium. In regard operation, the that Madame Lachapelle met with but to the frequency of face presentations, we
seventy-two cases in fifteen thousand six hundred and fifty-two deliveries.
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$\qquad$
$\qquad$ mustumin




## CHAPTER LXIX.

MECHANISM OP DELIVERY IN PRESENTATIONS OP THE TRUNK.
Ir has already been stated that in presentations of the trunk, it is nearly always the right or left shoulder which occupies the passage. It is stated, by some authors, that they have felt the back and abdomen, but others think they were mistaken ; and most certainly such positions are extremely rare, if they actually do ever exist.
There are two presentations of the trunk, determined by the ever exist.
foetus lies, and denominated accordingly, right or left lateral presentation which the
Each of these presentations has two corresponding positiesentations.
side on which the child's head lies. If the head anding positions, determined by the called the right cephalo iliac position, ind if it be on the mother's right side it is the left cephalo iliac position. The mechanism be on the left side it is denominated them both, and in all their . The mechanism of spontaneous delivery is the same in that a description and their varieties, and so is the mode of rendering assistance, so at a description of one will suffice
Somed down first when the labor has lasted long without assistance, one arm will be lorced down first, and even appear externally. This used to be considered a separate presentation, and described as such, under the name of presentation of the hand and arm. There is no reason for describing it separately, however, and no andity in shoulders, and in differs in no essential particular from ordinary presentation of the
houlders, and must receive the same assistance.
What it is that produces presentations of the trunk, and other unfavorable parts, thet known, though they are generally thought to be owing to excessive motion in child, or obliquities of the womb.
Mme. Lachapelle met with sixty-eight cases of trunk presentation in fifteen thovsand six hundred and fifty-two labors, which is nearly the same as the face. The right side presents more frequently than the left, and the head is on the left side oftener than on the right, as it is in ordingry head, and the head is on the left side
As a general rule,
is generally considered absolue is always rendered in presentations of the trunk, and nature has effected delivery in such necessary. It is undoubtedly true, however, that are considered as delivery in such cases unaided, though rarely, and such instances are considered as extremely fortunate exceptions to the general rule. M. Ohailly her ; but other ancheur should never leave such cases to nature alone, but always aid ing ; bussistance ot authors trust to her a little more. The most usual mode of rendering assistance is to turn the child, and bring down the feet, a manceuvre which will In fully described hereafter.
In some cases the child turns itself, from the contraction of the womb, before it nes fole upper strait; and in other cases, when very small, or long dead, it will pass folded double. This self-turning, however, cannot take place after the escape of the waters, so that it seldom occurs when the membranes are broken.
hechantsm of dehivery in presentations of the trunk by spontantiou evolution.
This is the most usual mode for the feotus to escape, in each presentation, and ir

trunk has fully de
scended, and on
the heend is.
one arm.


FIGORI 177.-Descent of the showar a trank presen pation, at
very position. By referring to the above Figures, and accompanying descriptions, it will be readily understood.

Previous to the rupture of the membranes, the child's body les across, as formerly explained; but immediately after the ruples across, as formerly explained; but immediately after thore 176,
ture the shoulders descend into the pelvis, as seen in Figure hile the head remains above the pubes; the arm frequently, but not always, protruding externally
The shoulder then continues to descend, the body following bent up against the face, as seen in Figure $17 \%$.
Here the shoulder is protruded from the valva, the back being nearly folded, and the knees turned up against the face.
The whole trunk is now fully delivered, folded almost donble,
nd the legs and feet are turned up against the face. They needily follow, however, and then nothing is left but the head, peedires are the sides of it, as hown in Figure $1 \% 0$
The arm is generally very easily brought down, or it may re main and come with the head. The delivery of the head is effected the same as in presentations of the pelvis, and is seldom atr This is the way in which the delivery is effected by nature in such cases, and it will readily be conceived how dangerous it is to both mother

MECHANISM OF DELIVERY IN PRESENTATIONS OF THE TRUNK. 807
and child, and how seldom it can be accomplished. If the feetus be of full size, and the mother's pelvis no larger than ordinary, it is almost impossible for thi difficulty, the of the most serious after-results but equally great, owing to the she danger is the unnatural position it the unnty-seven such position it assumes. M. Velpeau tells us that in one hundred and thirty-seven such cases, one hundred and twenty-five of the children died. The umber of the mothers also, who either died or were made sufferers all their future lives, was undoubtedly great, though unknown.
It is evident, therefore, that presentations of the trunk are the most unfavorable known, and labor in them is but rarely spontaneous. Nature can but wer sut effect the delivery of the foetus herself, and even when she does it is with the seldom risk, both to it and the mother. The accoucheur should alvoys assist, the greatest he can, because even if nature can complete the delivery, it is with mieh iore, if The means of assisting, by turning, will be described in another chanter If the footus is not at full torm, and of corrso is inapter.
may be left to nature safely, but not otherwise.


