It remains for us to consider the measures which may be adopted in those troublesome cases in which the breech refuses to descend, and becomes impacted in the pelvic cavity, either from uterine inertia, or from disproportion between the breech and the pelvis. The peculiar shape of the presenting part unfortunately renders such cases very difficult to manage.

Three measures have been chiefly employed: 1st, the forceps; 2d, bringing down one or both feet, so as to break up the presenting part, and convert it into a footling case; 3d, traction on the breech, either by the fingers, a blunt hook, or fillet passed over the groin.

Forceps.—The forceps has generally been considered unsuited for breech cases in consequence of its construction to fit the feetal head, which renders it liable to slip when applied to the breech. The objection, probably to a great extent true with reference to most forceps, seems not to hold good when the axis-traction forceps of Tarnier or Simpson is used. Lusk strongly recommends it, and Harvey, of Calcutta, has published six consecutive cases in which he employed this method of delivery, in three with complete success. Truzzi, who has written strongly in favor of the forceps in difficult breech cases, prefers it greatly to traction either by the fingers or the fillet when the breech is high in the pelvis, and recommends that, in order to secure a strong hold, the blades should be passed so that their extremities extend above the crests of the feetal ilia. I have only used it myself in one or two cases, but in these the results were extremely good, and delivery was effected with a facility which surprised me, and I can see no objection to a cautious trial of the instrument. [A better-fitting instrument is the special breech-forceps, with oval fenestræ, flat-edged blades, and long superimposed shanks, modelled to fit the sides of the breech over the trochanters and ilia.—ED.]

Bringing Down a Foot.—Barnes insists on the superiority of the second plan, and there can be no question that, if a foot can be got down, the accoucheur has a complete control over the progress of the labor which he can gain in no other way. If the breech be arrestd at or near the brim, there will generally be no great difficulty in effecting the desired object. It will be necessary to give chloroform to the extent of complete anæsthesia, and to pass the hand over the child's abdomen in the same manner, and with the same precautions, as in performing podalic version, until a foot is reached, which is seized and pulled down. If the feet be placed in the usual way close to the buttocks, no great difficulty is likely to be experienced. If, however, the legs be extended on the abdomen, it will be necessary to introduce the hand and arm very deeply, even u, to the fundus of the uterus, a procedure which is always difficult, and which may be very hazardous. Nor do I think that the attempt to bring down the feet can be safe when the breech is low down and fixed in the pelvic cavity. A certain amount of repression of the breech is possible, but it is evident that this cannot be safely attempted when the breech is at all low down.

Traction on the Groin.-Under such circumstances traction is our

only resource, and this is always difficult and often unsatisfactory. Of all contrivances for this purpose none is better than the hand of the accoucheur. The index finger can generally be slipped over the groin without difficulty, and traction can be applied during the pains. Failing this, or when it proves insufficient, an attempt should be made to pass a fillet over the groins. A soft silk handkerchief, or a skein of worsted, answers best, but it is by no means easy to apply. The simplest plan, and one which is far better than the expensive instruments contrived for the purpose, is to take a stout piece of copper wire and bend it double into the form of a hook. The extremity of this can generally be guided over the hips, and through its looped end the fillet is passed. The wire is now withdrawn, and carries the fillet over the groins. I have found this simple contrivance, which can be manufactured in a few moments, very useful, and by means of such a fillet very considerable tractive force can be employed. The use of a soft fillet is in every way preferable to the blunt hook which is contained in most obstetric bags. A hard instrument of this kind is quite as difficult to apply, and any strong traction employed by it is almost certain to seriously injure the delicate feetal structures over which it is placed. As an auxiliary the employment of uterine expression should not be forgotten, since it may give material aid when the difficulty is only due to uterine inertia.

Embryotomy.—Failing all endeavors to deliver by these expedients, there is no resource left but to break up the presenting part by seissors, or by craniotomy instruments; but fortunately so extreme a measure is but rarely necessary.

Examination of the Child.—After a difficult breech labor is completed the child should be carefully examined to see that the bones of the thighs and arms have not been injured. Fractures of the thigh are far from uncommon in such cases, and the soft bones of the newly born child will readily and rapidly unite if placed at once in proper splints.

## CHAPTER VI.

## PRESENTATIONS OF THE FACE.

Presentations of the face are by no means rare; and, although in the great majority of cases they terminate satisfactorily by the unassisted powers of Nature, yet every now and again they give rise to much difficulty, and then they may be justly said to be amongst the most formidable of obstetric complications. It is, therefore, essential that the practitioner should thoroughly understand the natural history of this variety of presentation, with the view of enabling him to intervene with the best prospect of success. The older accoucheurs had very erroneous views as to the mechanism and treatment of these cases, most of them believing that delivery was impossible by the natural efforts, and that it was necessary to intervene by version in order to effect delivery. Smellie recognized the fact that spontaneous delivery is possible, and that the chin turns forward and under the pubes; but it was not until long after his time, and chiefly after the appearance of Mme. La Chapelle's essay on the subject, that the fact that most cases could be naturally delivered was fully admitted and acted upon.

Frequency.—The frequency of face presentations varies curiously in different countries. Thus, Collins found that in the Rotunda Hospital there was only 1 case in 497 labors, although Churchill gives 1 in 249 as the average frequency in British practice; while in Germany this presentation is met with once in 169 labors. The only reasonable explanation of this remarkable difference is, that the dorsal decubitus, generally followed on the Continent, favors the transformation of vertex presentations into those of the face.

The mode in which this change is effected—for it can hardly be doubted that, in the large majority of cases, face presentation is due to a backward displacement of the occiput after labor has actually commenced, but before the head has engaged in the brim—has been

made the subject of various explanations. It has generally been supposed that the change is induced by a hitching of the occiput on the brim of the pelvis, so as to produce extension of the head, and descent of the face; the occurrence being favored by the oblique position of the uterus so frequently met with in pregnancy. Hecker attaches considerable importance to a peculiarity in the shape of the feetal head generally observed in face presentations, the cranium having the deliche-cephalous form, prominent posteriorly, with the occciput projecting, which has the effect of increasing the length of the posterior cranial lever arm, and facilitating extension when circumstances favoring it are in action. Dr. Duncan2 thinks that uterine obliquity has much influence in the production of face presentation, but in a different way to that above referred to. He points out that, when obliquity is very marked, a curve in the genital passages is produced, the convexity of which is directed to the side toward which the uterus is deflected. When uterine contraction commences, the feetus is propelled downward, and the part corresponding to the concavity of the curve is acted on to the greatest advantage by the propelling force, and tends to descend. Should the occiput happen to lie in the convexity of the curve so formed, the tendency will be for the forehead to descend. In the majority of cases its descent will be prevented by the increased resistance it meets with, in consequence of the greater length of the anterior cranial lever arm; but, if the uterine obliquity be extreme, this may be counterbalanced, and a face presentation ensues. The influence of this obliquity is corroborated by the observation of Baudelocque, that the occiput in face presentations almost invariably corresponds to the side of the uterine obliquity. A further corroboration is afforded by the fact that in face presentation the occiput is much more frequently directed to the right than to the left; while right lateral obliquity of the uterus is also much more common.

These theories assume that face presentations are produced during labor. In a few cases they certainly exist before labor has commenced. It is possible, however, as we know that uterine contractions exist independently of actual labor, that similar causes may also be in operation, although less distinctly, before the commencement of labor.

The diagnosis is often a matter of considerable difficulty at an early period of labor, before the os is fully dilated and the membranes ruptured, and when the face has not entered the pelvic cavity. The finger then impinges on the rounded mass of the forehead, which may very readily be mistaken for the vertex. At this stage the diagnosis may be facilitated by abdominal palpation in the way suggested by Hecker. If the face is presenting at the brim, palpation will enable us to distinguish a hard, firm, and rounded body, immediately above the pubes, which is the forehead and sinciput; on the other side will be felt an indistinct, soft substance, corresponding to the thorax and neck. When labor is advanced, and the head has somewhat descended, or when the membranes are ruptured, we should be able to make out the nature of the presentation with certainty. The diagnostic marks to be relied on are the edges of the orbits, the prominence of the nose, the nostrils (their orifices showing to which part of the pelvis the chin is turned), and the cavity of the mouth, with the alveolar ridges. If these be made out satisfactorily, no mistake should occur. The most difficult cases are those in which the face has been a considerable time in the pelvis. Under such circumstances the cheeks become greatly swollen and pressed together, so as to resemble the nates. The nose might then be mistaken for the genital organs, and the mouth for the anus. The orbits, however, and the alveolar ridges, resemble nothing in the breech, and should be sufficient to prevent error.

Considerable care should be taken not to examine too frequently and roughly, otherwise serious injury to the delicate structures of the face might be inflicted. When once the presentation has been satisfactorily diagnosed, examinations should be made as seldom as possible, and only to assure ourselves that the case is progressing satisfactorily.

Mechanism.—If we regard face presentations, as we are fully justified in doing, as being generally produced by the extension of the occiput in what were originally vertex presentations, we can readily understand that the position of the face in relation to the pelvis must correspond to that of the vertex. This is, in fact, what is found to be the case, the forehead occupying the position in which the occiput would have been placed had extension not occurred.

The face, then, like the head, may be placed with its long diameter corresponding to almost any of the diameters of the brim, but most generally it lies either in the transverse diameter, or between this and the oblique, while, as it descends in the pelvis, it more generally occupies one or other of the oblique diameters. It is common in obstetric works to describe two principal varieties of face presentation, viz., the

<sup>1</sup> Ueber die Schädelform bei Gesichtslagen.

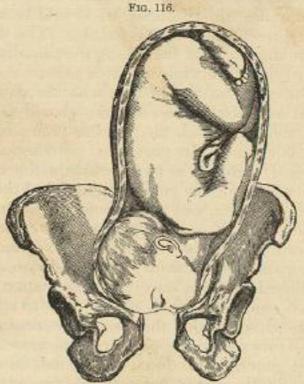
<sup>2</sup> Edin, Med. Journ., vol. xv.

right and left mento-iliac, according as the chin is turned to one or other side of the pelvis. It is better, however, to classify the positions in accordance with the part of the pelvis to which the chin points. We may, therefore, describe four positions of the face, each being analogous to one of the ordinary vertex presentations, of which it is the transformation.

The Four Positions generally met with.—First position (mento-dextra posterior, M.D.P.). The chin points to the right sacro-iliac synchondrosis, the forehead to the left foramen ovale, and the long diameter of the face lies in the right oblique diameter of the pelvis. This corresponds to the first position of the vertex, and, as in that, the back of the child lies to the left side of the mother.

Second position (mento-læva posterior, M.L.P.). The chin points to the left sacro-iliac synchondrosis, the forehead to the right foramen ovale, and the long diameter of the face lies in the left oblique diameter of the pelvis. This is the conversion of the second vertex position.

Third position (mento-læva anterior, M.L.A.). The forehead (Fig. 116) points to the right sacro-iliac synchondrosis, the chin to the left



Third position (M.L.A.) in face presentations.

foramen ovale, and the long diameter of the face lies in the right oblique diameter of the pelvis. This is the conversion of the third vertex position.

Fourth position (mento-dextra anterior, M.D.A.). The forehead points to the left sacro-iliae synchondrosis, the chin to the right foramen ovale, and the long diameter of the face lies in the left oblique diameter of the pelvis. This is the conversion of the fourth vertex position.

The relative frequency of these presentations is not yet positively ascertained. It is certain that there is not the preponderance of first facial (M.D.P.) that there is of first vertex (O.L.A.) positions, and this may, no doubt, be explained by the supposition that an unusual vertex position may of itself facilitate the transformation into a face presentation. Winckel concludes that, cateris paribus, a face presentation is more readily produced when the back of the child lies to the right than when it lies to the left side of the mother; the reason for this being probably the frequency of right lateral obliquity of the uterus. We shall presently see that, with very rare exceptions, it is absolutely essential that the chin should rotate forward under the pubes before delivery can be accomplished; and, therefore, we may regard the third and fourth face positions, in which the chin from the first points anteriorly, as more favorable than the first and second.

The mechanism of delivery in face is practically the same as in vertex presentations; and we shall have no difficulty in understanding it if we bear in mind that in face cases the forehead takes the place of, and represents the occiput in, vertex presentations. For the purpose of description we will take the first position of the face.

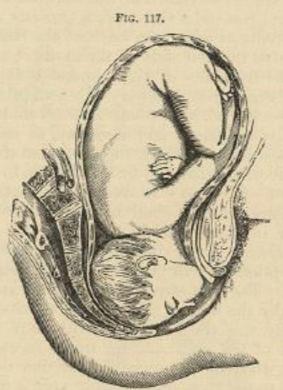
1. Extension.—The first step consists in the extension of the head, which is effected by the uterine contractions as soon as the membranes are ruptured. By this the occiput is still more completely pressed back on the nape of the neck, and the fronto-mental, rather than the mento-bregmatic, diameter is placed in relation to the pelvic brim. This corresponds to the stage of flexion in vertex presentations.

The chin descends below the forehead, from precisely the same cause as the occiput in vertex presentations. On account of the extended position of the head the presenting face is divided into portions of unequal length in relation to the vertebral column, through which the force is applied, the longer lever arm being toward the forehead. The resistance is, therefore, greatest toward the forehead, which remains behind while the chin descends.

2. Descent.—As the pains continue, the head (the chin being still in advance) is propelled through the pelvis. It is generally said that the face cannot descend, like the occiput, down to the floor of the pelvis, its descent being limited by the length of the neck. There is here, however, an obvious misapprehension. The neck, from the chin to the sternum, when the head is forcibly extended, measures from three and a half to four inches, a length that is more than sufficient to admit of the face descending to the lower pelvic strait. As a matter of fact, the chin is frequently observed in mento-posterior positions to descend so far that it is apparently endeavoring to pass the perineum before rotation occurs. At the brim the two sides of the face are on a level, but as labor advances the right cheek descends somewhat, the caput succedaneum forms on the malar bone, and, if a secondary caput succedaneum form, on the cheek.

3. Rotation is by far the most important point in the mechanism of face presentations; for unless it occurs, delivery, with a full-sized head and an average pelvis, is practically impossible. There are, no doubt, exceptions to this rule, which must be separately considered,

but it is certain that the absence of rotation is always a grave and formidable complication of face presentation. Fortunately it is only very rarely that this is not effected. The mechanical causes are precisely those which produce rotation of the occiput forward in vertex



Rotation forward of chin.

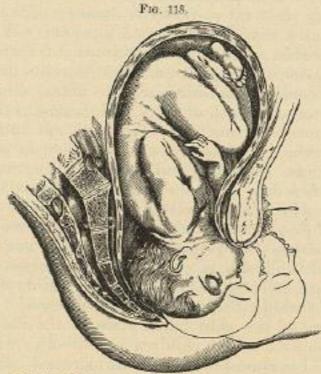
presentations. As it is accomplished, the chin passes under the arch of the pubes, and the occiput rotates into the hollow of the sacrum (Fig. 117); and then commences—

4. Flexion, a movement which corresponds to extension in vertex cases. The chin passes as far as it can under the pubic arch, and there becomes fixed. The uterine force is now expended on the occiput, which revolves, as it were, on its transverse axis (Fig. 118), the under surface of the chin resting on the pubes as a fixed point. This movement goes on until, at last, the face and occiput sweep over the distended perineum.

 External rotation is precisely similar to that which takes place in head presentations, and, like it, depends on the movements imparted to the shoulders.

Such is the natural course of delivery in the vast majority of cases; but, in order fully to understand the subject, it is necessary to study those rare cases in which the chin points backward, and forward rotation does not occur. These may be taken to correspond to the occipito-posterior positions, in which the face is born looking to the pubes; but, unlike them, it is only very exceptionally that delivery can be naturally completed. The reason of this is obvious, for the occiput gets jammed behind the pubes, and there is no space for the fronto-mental diameter to pass the antero-posterior diameter of the outlet (Fig. 119). Cases are indeed recorded in which delivery has been

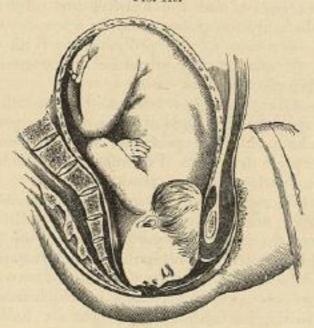
effected with the chin looking posteriorly; but there is every reason to believe that this can only happen when the head is either unusually small, or the pelvis unusually large. In such cases the forehead is



Passage of the head through the external parts in face presentation.

pressed down until a portion appears at the ostium vaginæ, when it becomes firmly fixed behind the pubes, and the chin, after many

Fig. 119.



Illustrating the position of the head when forward rotation of the chin does not take place,

efforts, slips over the perineum. When this is effected, flexion occurs, and the occiput is expelled without difficulty. The forehead is probably always on a lower level than the chin.

Dr. Hicks¹ has published a paper in which he attempts to show that this termination of face presentations is not so rare as is generally supposed, and he gives a single instance in which he effected delivery with the forceps; but he practically admits that special conditions are necessary, such as the "antero-posterior diameter of the outlet particularly ample," and a diminished size of the head. When delivery is effected it is probable, as Cazeaux has pointed out, that the face lies in the oblique diameter of the outlet, and that the chin depresses the soft structures at the side of the sacro-ischiatic notch, which yield to the extent of a quarter of an inch or more, and thereby permit the passage of the occipito-mental diameter of the head. It must, however, be borne well in mind, that spontaneous delivery in mento-posterior positions is the rare exception, and that, supposing rotation does not occur—and it often does so at the last moment—artificial aid in one form or another will be almost certainly required.

Prognosis of Face Presentations.—As regards the mother, in the great majority of cases the prognosis is favorable, but the labor is apt to be prolonged, and she is, therefore, more exposed to the risks attending tedious delivery. As regards the child, the prognosis is much more unfavorable than in vertex presentations. Even when the anterior rotation of the chin takes place in the natural way, it is estimated that one out of ten children is stillborn; while, if not, the death of the child is almost certain. This increased infantile mortality is evidently due to the serious amount of pressure to which the child is subjected, and probably depends in many cases on cerebral congestion, produced by pressure on the jugular veins, as the neck lies in the pelvic cavity. Even when the child is born alive, the face is always greatly swollen and disfigured. In some cases the deformity produced in this way is excessive, and the features are often scarcely recognizable. This disfiguration passes away in a few days; but the practitioner should be aware of the probability of its occurrence, and should warn the friends, or they might be unnecessarily alarmed, and possibly might lay the blame on him.

Treatment.—After what has been said as to the mechanism of delivery in face presentation, it is obvious that the proper course is to leave the case alone, in the expectation of the natural efforts being sufficient for complete delivery. Fortunately, in the large majority of cases, this course is attended by a successful result.

The old accoucheurs, as has been stated, thought active interference absolutely essential, and recommended either podalic version, or the attempt to convert the case into a vertex presentation, by inserting the hand and bringing down the occiput. The latter plan was recommended by Baudelocque, and is even yet followed by some accoucheurs. Thus Dr. Hodge' advises it in all cases in which face presentation is detected at the brim; but although it might not have been attended with evil consequences in his experienced hands, it is certainly altogether unnecessary, and would infallibly lead to most serious results if generally adopted. It may, however, be allowable in certain cases in

which the face remains above the brim, and refuses to descend into the pelvic cavity. Even then it is questionable whether podalic version should not be preferred, as being easier of performance, giving, when once effected, a much more complete control over delivery, and being less painful to the mother. Version is certainly preferable to the application of the forceps, which are introduced with difficulty in so high a position of the face, and do not take a secure hold, provided the face has not emerged from the mouth of the uterus. If it has passed through the cervix, version could not be effected without serious risk of rupture of the uterus.

Schatz has more recently suggested the rectification of face presentations at an early stage, before the rupture of the membranes, by manipulation through the abdomen. He raises the feetal body by pressure on the shoulder and breast through the abdominal wall by one hand, while the breech is raised and steadied by the other. By this means the occiput is elevated, and then the breech is pressed downward, when head flexion is produced by the resistance of the pelvic walls. Of this method I have had no practical experience, but it obviously requires an unusual amount of skill and practice in abdominal palpation.

When once the face has descended into the pelvis, difficulties may arise from two chief causes: uterine inertia, and non-rotation forward of the chin.

The treatment of the former class must be based on precisely the same general principles as in dealing with protracted labor in vertex presentations. The forceps may be applied with advantage, bearing in mind the necessity of getting the chin under the pubes, and, when this has been effected, of directing the traction forward, so as to make the occiput slowly and gradually distend and sweep over the perineum.

The second class of difficult face cases is much more important, and may try the resources of the accoucheur to the utmost. Our first endeavor must be, if possible, to secure the anterior rotation of the chin. For this purpose various manœuvres are recommended. By some, we are advised to introduce the finger cautiously into the mouth of the child, and draw the chin forward during a pain; by others, to pass the finger up behind the occiput and press it backward during the pain. Schroeder points out that the difficulty often depends on the fact of the head not being sufficiently extended, so that the chin is not on a lower level than the forehead; and that rotation is best promoted by pressing the forehead upward with the finger during a pain, so as to cause the chin to descend. Penrose believes that non-rotation is generally caused by the want of a point d'appui below, on account of the face being unable to descend to the floor of the pelvis, and that, if this is supplied, rotation will take place. In such cases he applies the hand, or the blade of the forceps, so as to press on the posterior cheek. By this means the necessary point d'appui is given; and he relates several interesting cases in which this simple manœuvre was effectual in rapidly terminating a previously lengthy labor. Any, or all, of these plans may be tried. We must bear in mind, in using them, that

<sup>1</sup> Obstet. Trans., 1866, vol. vii. p. 57.

<sup>2</sup> System of Obstetrics, p. 335.

Arch. f. Gyn., 1873, Bd. v. S. 313.
Amer. Supplement to Obst. Journ., 1876-77, vol. iv. p. 1.

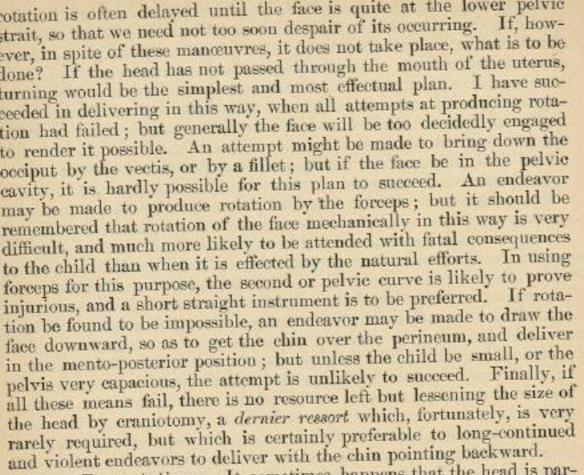
rotation is often delayed until the face is quite at the lower pelvic strait, so that we need not too soon despair of its occurring. If, however, in spite of these manœuvres, it does not take place, what is to be done? If the head has not passed through the mouth of the uterus, turning would be the simplest and most effectual plan. I have succeeded in delivering in this way, when all attempts at producing rotation had failed; but generally the face will be too decidedly engaged to render it possible. An attempt might be made to bring down the occiput by the vectis, or by a fillet; but if the face be in the pelvic eavity, it is hardly possible for this plan to succeed. An endeavor may be made to produce rotation by the forceps; but it should be remembered that rotation of the face mechanically in this way is very difficult, and much more likely to be attended with fatal consequences to the child than when it is effected by the natural efforts. In using forceps for this purpose, the second or pelvic curve is likely to prove injurious, and a short straight instrument is to be preferred. If rotation be found to be impossible, an endeavor may be made to draw the face downward, so as to get the chin over the perineum, and deliver in the mento-posterior position; but unless the child be small, or the pelvis very capacious, the attempt is unlikely to succeed. Finally, if all these means fail, there is no resource left but lessening the size of the head by eraniotomy, a dernier ressort which, fortunately, is very rarely required, but which is certainly preferable to long-continued

Brow Presentations .- It sometimes happens that the head is partially extended, so as to bring the os frontis into the brim of the pelvis, and form what is described as a brow presentation. Should the head descend in this manner, the difficulties, although not insuperable, are apt to be very great, from the fact that the long cervico-frontal diameter of the head is engaged in the pelvic cavity. The diagnosis is not

difficult, for the os frontis will be detected by its rounded surface, while the anterior fontanelle is within reach in one direction, the orbit and root of the nose in another.

Fortunately, in the large majority of cases, brow presentations are spontaneously converted into either vertex or face presentations, according as flexion or extension of the head occurs; and these must be regarded as the desirable terminations and the ones to be favored. For this purpose upward pressure must be made on one or other extremity of the presenting part during a pain, so as to favor flexion or extension; or, if the

parts be sufficiently dilated, an attempt may be made to pass the hand over the occiput and draw it down, thus performing cephalic version. The latter is the plan recommended by Hodge, who describes the operation as easy. Long, in an excellent



Brow presentation, subsequently converted into that of the face. (After Lusk.)

paper on this subject, has given figures to show that correction of the malpresentation by manipulation has given better results than any other method of treatment.' It is questionable, however, if a wellmarked brow presentation be distinctly made out while the head is still at the brim, whether podalic version would not be the easiest and best operation. If the forehead has descended too low for this, and if the endeavor to convert it into either a face or vertex presentation fails, the forceps will probably be required. In such cases the face generally turns toward the pubes, the superior maxilla becomes fixed behind the pubic arch, and the occiput sweeps over the perineum. Very great difficulty is likely to be experienced, and, if conversion into either a vertex or face presentation cannot be effected, craniotomy is not unlikely to be required. After birth the head will be unusually disfigured from the pressure to which it has been subjected, the swelling mainly forming over the forehead, between the root of the nose and the anterior angle of the greater fontanelle (Fig. 120).

## CHAPTER VII.

## DIFFICULT OCCIPITO-POSTERIOR POSITIONS.

A FEW words may be said in this place as to the management of occipito-posterior positions of the head, especially of those in which forward rotation of the occiput does not take place. It has already been pointed out that, in the large majority of these cases, the occiput rotates forward without any particular difficulty, and the labor terminates in the usual way with the occiput emerging under the arch of

In a certain number of cases such rotation does not occur, and difficulty and delay are apt to follow. The proportion of cases in which face-to-pubes terminations of occipito-posterior positions occur has been variously estimated, and they are certainly more common than most of our text-books lead us to expect. Dr. Uvedale West, who studied the subject with great care, found that labor ended in this way in 79 out of 2585 births, all these deliveries being exceptionally difficult.

Causes of Face-to-Pubes Delivery .- He believed that forward rotation of the head is prevented by the absence of flexion of the chin on the sternum, so that the long occipito-frontal (O.F.), instead of the short sub-occipito-bregmatic (s.o.b.), diameter of the head is brought into contact with the pelvic diameter; hence the occiput is no longer the lowest point, and is not subjected to the action of those causes

American Journal of Obstetries, 1885, vol. xviii. p. 897.
Cranial Presentations, p. 33.