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 cavity, 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 craniotomy, a *dernier ressort* which, fortunately, is very rarely required, but which is certainly preferable to long-continued and violent endeavors to deliver with the chin pointing backward.

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.

FIG. 120.

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

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 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.[1] It is questionable, however, if a well-marked 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 the pubes.

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,[2] 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

[1] American Journal of Obstetrics, 1885, vol. xviii. p. 897.
[2] Cranial Presentations, p. 33.

which produce forward rotation. Dr. Macdonald, who has written a thoughtful paper on the subject,[1] believes that the non-rotation forward of the occiput is chiefly due to the large size of the head, in consequence of which "the forehead gets so wedged into the pelvis anteriorly that its tendency to slacken and rotate backward does not come into play." Dr. West's explanation, which has an important bearing on the management of these cases, seems to explain most correctly the non-occurrence of the natural rotation.

The important question for us to decide is, How can we best assist in the management of cases of this kind when difficulties arise, and labor is seriously retarded?

Mode of Treatment of Such Cases.—Dr. West, insisting strongly on the necessity of complete flexion of the chin on the sternum, advises that this should be favored by upward pressure on the frontal bone, with the view of causing the chin to approach the sternum, and the occiput to descend, and thus to come within the action of the agencies which favor rotation. Supposing the pains to be strong, and the fontanelle to be readily within reach, we may, in this way, very possibly favor the descent of the occiput, and without injuring the mother, or increasing the difficulties of the case in the event of the manœuvre failing. The beneficial effects of this simple expedient are sometimes very remarkable. In two cases in which I recently adopted it, labor, previously delayed for a length of time without any apparent progress, although the pains were strong and effective, was in each instance rapidly finished almost immediately after the upward pressure was applied. The rotation of the face backward may at the same time be favored by pressure on the pubic side of the forehead during the pains.

Others have advised that the descent of the occiput should be promoted by downward traction, applied by the vectis or fillet. The latter is the plan specially advocated by Hodge;[2] and the fillet certainly finds one of its most useful applications in cases of this kind, as being simpler of application and probably more effective than the vectis.

Although any of these methods may be adopted, a word of caution is necessary against prolonged and over-active endeavors at producing flexion and rotation when that seems delayed. All who have watched such cases must have observed that rotation often occurs spontaneously at a very advanced period of labor, long after the head has been pressed down for a considerable time to the very outlet of the pelvis, and when it seems to have been making fruitless endeavors to emerge; so that a little patience will often be sufficient to overcome the difficulty.

Bataillard[3] advises the introduction of the antisepticized hand when rotation does not occur, with which the head is dislodged from the sacrum, and gently rotated forward. He relates many instances in which this manœuvre was successful. Should it fail, and further

[1] Edin. Med. Journ., 1874–75, vol. xx. p. 302.
[2] System of Obstetrics, p. 308.
[3] Ann. de Gyn., August, 1889.

assistance be required, there is no reason why the forceps should not be used. The instrument is not more difficult to apply than under ordinary circumstances, nor, as a rule, is much more traction necessary. Dr. Macdonald, indeed, in the paper already alluded to, maintains that in persistent occipito-posterior positions there is almost always a want of proportion between the head and the pelvis, and that, therefore, the forceps will be generally required, and he prefers them to any artificial attempts at rectification. Some peculiarities in the mode of delivery are necessary to bear in mind. In most works it is taught that the operator should pay special attention to the rotation of the head, and should endeavor to impart this movement by turning the occiput forward during extraction. Thus Tyler Smith says: "In delivery with the forceps in occipito-posterior presentations, the head should be slowly rotated during the process of extraction so as to bring the vertex toward the pubic arch, and thus convert them into occipito-anterior presentations." The danger accompanying any forcible attempt at artificial rotation will, however, be evident on slight consideration. It is true that in many cases, when simple traction is applied, the occiput will, of itself, rotate forward, carrying the instrument with it. But that is a very different thing from forcibly twisting the head around with the blades of the forceps, without any assurance that the body of the child will follow the movement. It is impossible to conceive that such violent interference would not be attended with serious risk of injury to the neck of the child. If rotation do not occur, the fair inference is that the head is so placed as to render delivery with the face to the pubes the best termination, and no endeavor should be made to prevent it. This rule of leaving the rotation entirely to Nature, and using traction only, has received the approval of Barnes and most modern authorities, and is the one which recommends itself as the most scientific and reasonable.

There are cases in which the pelvic curve of the forceps is of doubtful utility. When applied in the usual way the convexity of the blades points backward. If rotation accompany extraction, the blades necessarily follow the movement of the head, and their convex edges will turn forward. It certainly seems probable that such a movement would subject the maternal soft parts to considerable risk. I have, however, more than once seen such rotation of the instrument happen without any apparent bad result; but the dangers are obvious. Hence it would be a wise precaution, either to use a pair of straight forceps for this particular operation, or to remove the blades and leave the case to be terminated by the natural powers, when the head is at the lower strait, and rotation seems about to occur. Prof. Richardson[1] advises that when forceps are applied in persistent occipito-posterior positions, they should be introduced with the pelvic curve reversed. He claims for this method that the traction is chiefly exerted on the occiput, where it is most needed, which thereby descends and produces the necessary flexion of the chin on the sternum. The forceps are then removed, and, if the pains are sufficient, rotation forward is sure

[1] Medical Communications of the Massachusetts Medical Society, 1885, vol. xiii. No. 4.

to take place. Of this plan I have no personal experience. When there is no rotation, more than usual care should be taken with the perineum, which is necessarily much stretched by the rounded occiput. Indeed, the risk to the perineum is very considerable, and, even with the greatest care, it may be impossible to avoid laceration.

Bearing these precautions in mind, delivery with the forceps in occipito-posterior positions offers no special difficulties or dangers.

[**Version by the Vertex.**—The following are the teachings of several eminent American obstetricians upon the management of occipito-posterior positions:

1. "In primitive oblique occipito-posterior positions of the head Nature will almost without exception cause spontaneous rotation of the occiput to the symphysis pubis; but to favor this movement the bag of waters should be preserved."

2. "Spontaneous rotation, as a rule, does not begin until the head meets with resistance from the floor of the pelvis: hence no effort to force rotation should be made until Nature has proved herself inadequate."

3. "Where rotation forward is prevented, it is probably due to the position of the occiput having been originally directly backward, and only becoming oblique after the descent of the head into the pelvis, the position of the child's body preventing the anterior movement of its occiput; that is, the sixth position of Hodge has changed into a fourth or fifth, but will not without assistance become a first or second."

4. "If, then, rotation is not spontaneous after the head reaches the floor of the pelvis, version by the vertex will not take place, except it be forced by the vectis or forceps."

Use of the Hand in Occipito-posterior Positions.—The introduction of the hand for the purpose of effecting version by the vertex was strongly advocated by the late Dr. John S. Parry, of Philadelphia, whose hand was very small and thin, and could be used to great advantage. Prof. Ottavio Morisani, of Naples, is said to use his with even greater success, because of its smaller size. Large hands should not be used in primiparæ. By this manœuvre I once brought an occiput under the pubic arch of a primipara in three pains, after she had labored for hours to deliver herself.—Ed.]

CHAPTER VIII.

PRESENTATIONS OF THE SHOULDER, ARM, OR TRUNK.—COMPLEX PRESENTATIONS.—PROLAPSE OF THE FUNIS.

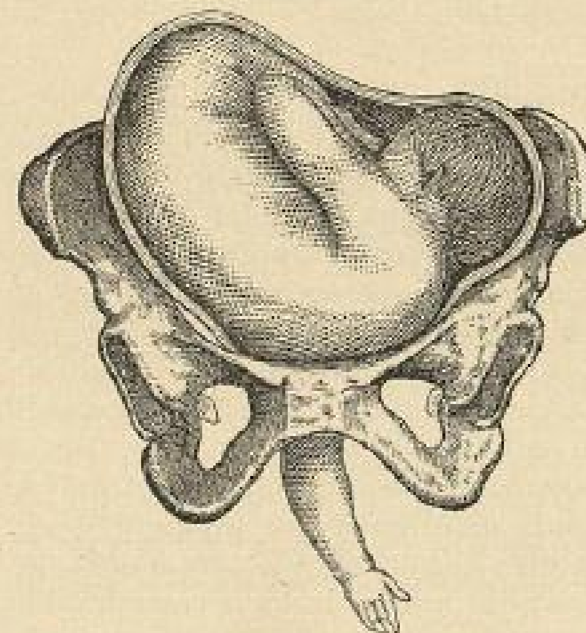
In the presentations already considered the long diameter of the fœtus corresponded with that of the uterine cavity, and in all of them the birth of the child by the maternal efforts was the general and

normal termination of labor. We have now to discuss those important cases in which the long diameter of the fœtus and uterus do not correspond, but in which the long fœtal diameter lies obliquely across the uterine cavity. In the large majority of these it is either the shoulder or some part of the upper extremity that presents; for it is an admitted fact that, although other parts of the body, such as the back or abdomen, may, in exceptional cases, lie over the os at an early period of labor, yet, as labor progresses, such presentations are almost always converted into those of the upper extremity.

For all practical purposes we may confine ourselves to a consideration of *shoulder* presentations; the further subdivision of these into *elbow* or *hand* presentations being no more necessary than the division of pelvic presentations into breech, knee, and footling cases, since the mechanism and management are identical, whatever part of the upper extremity presents.

There is this great distinction between the presentations we are now considering and those already treated of, that, on account of the relations of the fœtus to the pelvis, delivery by the natural powers is impossible, except under special and very unusual circumstances that can never be relied upon. Intervention on the part of the accoucheur is, therefore, absolutely essential, and the safety of both the mother and child depends upon the early detection of the abnormal position of the fœtus; for the necessary treatment, which is comparatively easy and safe before labor has been long in progress, becomes most difficult and hazardous if there have been much delay.

Fig. 121.



Dorso-anterior presentation of the arm (S.L.A.).

Position of the Fœtus.—Presentations of the upper extremity or trunk are often spoken of as *transverse presentations* or *cross-births;* but both of these terms are misleading, as they imply that the fœtus is placed transversely in the uterine cavity, or that it lies directly across the pelvic brim. As a matter of fact, this is never the case, for