

an undesirable movement while the head is passing through the conjugate. The rule, therefore, to make flexion at this stage of labor, by passing two fingers into the mouth or on each side of the nose, is not only a piece of meddlesome midwifery, but it entails the loss of much traction-power, and is a sheer waste of very precious time.

According as the pelvis is of average size or is narrowed in its conjugate diameter, I adopt two modes of extracting the wedge-shaped head; but the one that I shall first describe is the one that I invariably first employ. The woman may retain the lateral position, but, for reasons to be hereafter given, I much prefer her to lie on her back, with her hips brought to the edge of the bed. In a brim narrowed in its conjugate, the promontory is usually sharp and projecting. The sacral side of the after-coming head tends, therefore, to be bent in by this osseous point and to become fixed by it. Hence the extrication of the head as a whole can take place only when its pubic side revolves around the promontory and glides down over the smooth under surface of the pubic symphysis. Bearing this fact in mind, it is important that the sacral side of the head should become fixed at a point as high up as possible,—viz., as near to its vault as possible. To gain this end, the physician, after grasping the nape of the neck with one hand, and the ankles with the other, should make his first movement of traction in the axis of the outlet, for then the pubic side of the head will be tilted away from the inlet, while the sacral side will proportionately descend over the edge of the promontory, and affront the brim. This canting of the head can be very materially aided by an intelligent assistant, who will make very firm backward and downward pressure with both hands, through the now flaccid abdominal wall, upon the vault of the head. By this manoeuvre the promontory is made to indent the sacral side of the head at a point still higher up, and nearer to the vault, hence the arm of the lever, measured by a line drawn from the base of the skull to this fixed point, will be correspondingly lengthened,—a mechanical advantage not to be overlooked. If now, *without for a moment relaxing, but rather increasing, the original traction-force*, its direction be reversed, and the body of the child be swept backwards upon the coccyx, the neck being also forced downward and backward into the hollow of the sacrum, the sacral side of the child's head becomes deeply bent in, and the pubic side is made to revolve around the promontory and descend with the least expenditure of traction-force. In other words, the head is warped around the promontory. Should the neck be so short, or the pelvis so deep, that the physician cannot well grasp the nape, he may loop a thin muslin sling over it, and draw on the ends, which should meet in front of the chest.

Whenever this mode of traction fails to release the head from the grip of the brim, or the difficulty lies rather in the size of the head than in the narrowness of the pelvis, I have, on several occasions, succeeded by a pump-handle movement. Made with a steady and an unremitting traction, it will cause each side of the wedge-shaped head to descend alternately. The

range of oscillation should extend from the axis of the outlet anteriorly, to very firm pressure on the coccyx posteriorly. With a sharply-defined promontory this up-and-down movement does not ordinarily succeed, unless the parietal bone has been broken in or greatly depressed as a whole, and not simply indented. Otherwise, the sacral side of the head is held fast, and the pubic side will then librate around the indented, and therefore fixed, point, merely rising and falling, without any onward progress whatever. But in the breech-cases ordinarily met with, in which the sacro-vertebral angle is usually round and knobby, or in those of large heads and average pelves, this pump-handle movement will be found a very precious expedient.

To either method supra-pubic propulsion by the hands of an assistant is a very important adjuvant. It can with safety be made to any extent, and will greatly lessen the amount of traction-force necessary for delivery. As soon as the head has passed the brim, which it does usually with a distinct jerk flexion and rotation spontaneously take place, and the line of traction must then be changed to that of the outlet. When finally the head is about to clear the bony canal, the body of the child should be raised up in front of the pubes, according to Hodge's plan, and traction made directly upward in a line at a right angle to the mother's body. This final method of traction augments the flexion of the head, and obviates the necessity for putting two fingers into the child's mouth. When the face presses on the soft parts, two fingers passed up into the rectum will still further increase the flexion of the head, and will serve to protect the perineum from injury.

To sum up, then,—the mechanism of a forced delivery consists in propulsion and three movements of unremitting traction. That failing in propulsion and a pump-handle movement of traction. Of the three movements of traction, the first is made in the axis of the outlet, the second in the axis of the inlet, and the third in the curve of the obstetric canal.

I have been somewhat minute in these directions, because physicians, by continuing the backward traction long after the head has slipped past the brim, sometimes fail to deliver, and because by this faulty traction the chin hooks over the perineum and badly tears it. One word with regard to the perineum: In head-first labors due time can generally be given for its complete dilatation; but in head-last labors even seconds are too precious to be thus wasted. If, therefore, air cannot be communicated to the mouth or to the nostrils of the child through the gutter made by the physician's fingers, he must disregard the consequences to the mother and forcibly deliver by traction, or, this failing, by the forceps. Should the perineum be torn, as it usually will be in a fat primipara, a perfect union of the wound may be confidently looked for from the immediate introduction of wire sutures.

In both the previously-given modes of extraction I prefer the woman to be on her back, with her hips brought slightly over the edge of the bedstead, and each knee supported by an assistant. My reasons for this position in preference to the lateral one are: