it is well to define what is the exact meaning in which various terms are to be employed. By *full dilatation* of the os is meant, not obliteration, but only that degree which we know will permit the ready passage of the head; whilst the state in which the uterus and vagina are one continuous canal, should be designated as *complete obliteration* of the os. The term *os* itself should be confined to the lumen of the *cervix*, and the latter term be always employed when speaking of the state of the tissues which compose it. *Dilatation* also should be limited to speaking of the size of the os, while we speak of *expansion* of the cervix.

In reference to the puncture of the membranes, I have state practice is at variance with teaching. Whilst our books say that this should not be done except in rare cases, until the full dilation of the os, many practitioners have found that, by experience, they can recognize certain favorable conditions, especially in multiparæ, where it is of great advantage to evacuate the waters when the os is not more than half dilated. We have seen that formerly there existed a very exaggerated idea of the function of the amniotic bag; that its purpose was supposed to be the dilatation of the whole length of the parturient canal; and that it should be punctured when protruding at the external orifice. Modern opinion now regards the integrity of the membrane as no longer of any value after the full dilatation of the os; and it remains to be seen whether their true function should not be further curtailed, and that what at present is still empirical in practice, does not rest on pure scientific grounds. The question must be answered by direct observation, and not by any imaginary views regarding the action of "Nature's wedge," the fœtal head being quite as much a wedge of nature as the bag of waters.

In discussing obstetric problems involving the first stage, it has been too exclusively the custom to take the degree of dilatation of the os, and the softness or dilatability of the tissues, as the criterion of the amount of progress made in the process of labor. This, it is easy to show, is an error; and, in forming an opinion, we must take cognizance of something more. It is a matter of common experience to find that the membranes rupture spontaneously while yet the os is but slightly dilated, and that the head at once descends and comes into contact with the whole lower segment, the parturient ring being in close relation to the head. Again, it is likewise a matter of common experience that the membranes give way when the os is of the same size as in the first case, and yet the head does not come into close relationship with the parturient ring; the cervix of the lower uterine segment in this case has not in its upper part been expanded to the full diameter of the head. If the finger be introduced well through the os, it is possible to feel the head resting on a ring of firm tissue. Sir James Simpson describes this as an adventitious band of fibres which delays the first stage. It is nothing more than the unexpanded structure of the lower uterine segment. It is evident that, although the os was of the same size in both cases, yet that the mechanism of the first stage was, in the first instance, in advance of the second; and that the difference lay in the degree of expansion of the lower segment, not in the dilatation of the os.

Next, take what is also a matter of common experience, the condition of parts after delivery. The cervix is found hanging in the vagina open, loosely relaxed, and elongated; while above, the walls of the uterus are firm and contracted, barely admitting the finger. From this observation (see also Matthews Duncan on *Mechanism of Natural and Morbid Parturition*), together with an examination of Braune's section of the frozen body of a female in the second stage of labor, it is evident that what occurs in the process of the first stage, is not the mere opening up of a canal or tube which has been simply constricted in its middle; but, in addition to a constriction, there also exists a diaphragm, obstructing the lumen of the passage, and this obstruction is overcome by longitudinal as well as lateral stretching of this diaphragm. In easy labor, the constriction and diaphragm disappear simultaneously; but it frequently occurs that the disappearance of the first is in advance of the second, and the canal is dilated to its full, whilst the diaphragm has only been strained. No increase in the size of the os has taken place.

By studying the mechanism of the first stage, we can readily understand the production of these two effects of expansion and longitudinal stretching. By muscular contraction, the contents of the uterus are exposed to a uniform pressure. This force Schulz has called the "internal uterine pressure." It is exerted on the waters, and must, therefore, be equal in all directions; and, as the lower portion of the uterus is the weaker, it must yield. This, then, is the expansive force. But as the uterus also tends to shorten itself in its longitudinal diameter, there is also a longitudinal direction given to the force, whereby it becomes expulsive. This, from the tendency of the uterus to assume its original form, Schulz terms the "form restitution power; but, as its direction is in the axis of the uterus, I would speak of it as the *axial* force, a term more congenial to our language.

When the membranes are yet entire, this axial force can act only through the ovum as a whole, waters and fœtus; and, therefore, at a disadvantage in proportion to the quantity of the liquor amnii. When this is large, as in hydramnios, the disadvantage is at its greatest; the force, in fact, being entirely converted into the uniform internal pressure. When the relative proportion between the quantity of waters and the size of the fœtus is less as we find it normally, then the axial force is brought to bear on the fœtus; the fundus, acting on the breech, presses the child downward, and the head is brought to bear on the lower uterine segment. When the internal uterine pressure is greater than the axial, the waters are forced downward past the presenting part, which recedes. When, however, the axial force is the greater and can act through the fœtus, the contrary effect results; the water is forced upwards, and the head is brought into close proximity with the lower