

ing affected by the emotions, all are aware. Uterine contractions may be set up reflexly by irritation of the breasts, and particularly of the nipples. It is probable that any powerful cutaneous irritation, as the application of heat and cold, may act in the same way.

The nerve-supply of the uterus is derived chiefly from the hypogastric and ovarian plexuses of the sympathetic system. Cohnstein<sup>6</sup> has shown that the uterine ganglia have to a certain extent an independent action, like the cardiac ganglia. There exists, as has been proven repeatedly, a centre in the medulla oblongata which presides over the uterine contraction. Thus the uterus is provided with a nerve apparatus to preside over contraction, very similar to that of the heart.

That uterine contractions occur at more or less regular intervals throughout gestation may then be taken as proven. The question then arises, What is the purpose of these painless rhythmical contractions of the uterus?

It is very probable that by these contractions the uterine circulation is accelerated, and thus the uterus supplements to a certain extent the action of the heart throughout pregnancy. In considering the circulation of the blood in the gravid uterus the thing that probably attracts particular attention is the arrangement of the venous system. The veins, especially in the middle coat of the muscular uterine walls, are simply enormous sinuses whose inner coat alone remains, being in direct contact with the muscle-cells. Thus these uterine veins are converted into large contractile sinuses, in which, no doubt, there must occur considerable retardation of the blood flow.

If I may be permitted, I would for the purpose of illustration compare the gravid uterus to a sponge held in the hand under a flowing faucet. As the sponge becomes filled and distended with water the hand is contracted upon it, and so the sponge is squeezed and emptied more or less of the water it contains according to the force exerted by the hand in squeezing it. When the hand is relaxed, the sponge again fills up, and so on. This, I take it, is very much what takes place in the gravid uterus.

The development of the embryo and its envelopes, as well as the hyperplasia of the uterus and its lining, are accompanied with tremendous chemical changes. It is certainly from the venous sinuses of the placental site that the embryo derives its chief nourishment, and into which its effete material is emptied. The ordinary circulation of the blood through the sinuses to a certain extent provides for change in the supply, but owing to the retardation of the blood-current from the dilatation of these sinuses there must be a certain residuum, which, as