urgently required, without any loss of time, as the technique is simple.

2. The technique involves less labour, and entails no sacrifice of rabbits—that is, it is economical.

3. Human blood can be used for the preparation of this medium when required for special purposes or for general use.

4. The fluid does not alter appreciably by age within the limit of four to six weeks, owing to the small surface exposed to evaporation.

5. A larger quantity of the culture fluid in each culture tube is available, so that when abundant cultures are required—for example, for the preparation of vaccine—this gives a decided advantage.

6. The culture fluid keeps sterile during the working period of six weeks more easily than does the N.N.N. medium in the tropical laboratories.

NOTES ON FOUR CAESAREAN SECTIONS.

BY

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The following four cases requiring Caesarean section fell to my lot within the short period of nine months; in each case, except No. 1, one or more craniotomies had been previously performed, the narrowed pelvis being caused by rickets.

Sterilization was done in each case by the following method: The tubes were clamped with small forceps close to the uterine cornua, the mesosalpinx transfixed by double ligature, one ligature tying off the proximal end of the tube close to the uterus, the other ligature being brought round the fimbriated end, thus removing the whole tube; the serous coat of the uterine end of the tube was stitched over. In two of the cases I was able to deliver the uterus, which I think is an advantage, although it needs a slightly longer incision; but there is less bleeding, as the uterine arteries can be easily controlled by an assistant and cloths are placed behind the uterus, completely shutting off the intestines. The placenta in all four cases was attached to the anterior uterine wall; this occurs in 75 per cent. of cases, but there is no difficulty in recognizing the placental tissue on incising the uterine wall. With regard to sutures for the uterus, I think No. 3 catgut for the main and No. 2 for the intermediate, both specially prepared to resist absorption for twenty-one days, is preferable to silk or Pagenstecher's material. Ligatures should not be tied too tightly, as the tissues of the gravid uterus are soft and easily cut through; a double hitch for the first half of the knot, and completed, followed by a single knot, is, I think, preferable to three single knots.

As to the time of operating, the best, in my opinion, is before the commencement of labour pains, the operation can then be conducted in daylight, adequate assistance secured, and the usual preparation for an abdominal operation can be carried out; the fear of haemorrhage and uterine inertia need not be considered seriously.

Sterilization was done in each case by the patient's desire, and I think the method described above is likely to prove satisfactory. It is stated that excision of a "portion" of the tube has been followed by pregnancy, even when the ovaries have been removed; this I can well understand, if a small portion of ovary has been left behind. This matter is fully referred to and discussed by A. J. Wallace and Sir W. Sinclair, in the *Journal of Obstetrics and Gynaecology of the British Empire*, 1907.

CASE 1.—S. L., aged 31, primipara, had arrived at full term. She was first seen by Dr. Anderson, of Bodmin, May 6th, 1911, who says, "There was no dilatation of the os, or other signs of labour. Next morning the pains were few and infrequent, and the os just admitted the tip of the index finger, but was too high up to make out the presentation; she was a short, rickety woman with a contracted pelvis; the antero-posterior diameter was $2\frac{1}{2}$ inches."

She was brought into the East Cornwall Hospital, Bodmin, and I was asked to see her with a view to Caesarean section. On May 8th I was able to confirm Dr. Anderson's notes, and performed an immediate Caesarean section. The child was dead, but the mother did well, the wound closing by primary

union. On the fourteenth day she developed slight thrombosis of the left femoral vein, which delayed her convalescence. She left hospital in six weeks quite well.

Case.	Age.	Date.	Doctor.	Previous Labours.	Convalescence.
1. S. L.	31	May 8, 1911	Dr. Anderson	Primipara	Good; child stillborn; in hospital six weeks.
2. L. W.	33	Sept. 28, 1911	Dr. Wagner	1 Craniotomy	Good; child strong; in hospital 24 days.
3. M. S.	30	Dec. 21, 1911	Dr. Hodge	3 Craniotomies	Uninterrupted recovery; in hospital 33 days.
4. L. G.	28	Feb. 3, 1912	Dr. Anderson	1 Craniotomy	Uninterrupted recovery; in hospital 30 days.

The Arris and Gale Lectures

ON

THE MECHANISM AND TREATMENT OF SHOCK.

DELIVERED AT THE ROYAL COLLEGE OF SURGEONS, MARCH 22ND, 1912.

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(Concluded from page 1072.)

LECTURE II.—PART II.

THE PELVIC ORGANS AND GENITO-URINARY SYSTEM.

Pelvic Viscera.

PELVIC and perineal structures do not share in the local vascular mechanism referred to in connexion with the abdomen proper. We have shown that all variations from these regions are eliminated by blocking afferent impulses. Blood-pressure variations, therefore, from interference with these structures are a true indication of the shock value. In the human subject sigmoidoscopy, with the accompanying inflation of the bowel, causes a definite rise in blood pressure of the pressor type. A study of the blood pressure, pulse, and respiratory-rate shows: (1) That the vasomotor variations are not due mechanically to increased pressure in the abdominal cavity. For the pulse and respiratory-rate are increased instead of being slowed, as

Diagram 2.—Proportion of afferent and efferent splanchnic nerve fibres mechanically stimulated by traction on mesentery in different situations.

would then be the case. (2) That direct stimulus to the bowel wall is not responsible. For our experiments have repeatedly demonstrated that manipulation of the bowel wall is without any ascertainable effects on the blood pressure. (3) That distension of the intestine induces tension upon the mesentery, and from the stimulus to this